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In this issue:

THE ASSOCIATION'S VIEW

on

THE PROPOSED STATUTORY DAIRY AUTHORITY

and

**TIMING THE INTRODUCTION OF THE TWO PRICE
QUOTA SCHEME**

•

S.A.D.A. INCREASES ITS SUBSCRIPTION

•

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FROM AUSTRALIA'S LEADING MANUFACTURER OF DAIRY FACTORY EQUIPMENT

THE SOUTH AUSTRALIAN DAIRYMEN'S JOURNAL



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**THE SOUTH AUSTRALIAN DAIRYMEN'S ASSOCIATION
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THE A.D.I.C.'s LONG TERM PLAN AND THE TWO-PRICE QUOTA SCHEME

THE STATUTORY DAIRY AUTHORITY

THE ASSOCIATION'S VIEW

Paragraph 4 of the Proposal for a Two Price Quota Scheme states

- 4.1 *There shall be a Statutory Dairy Authority in each State.*
- 4.2 *The constitution of any State Authority could be designed to meet the requirements of the particular State.*

Sub-paragraph 4.4 then gives power to the State Authority to

- (a) *Control all milk produced in the State:*
- (b) *Determine the level of each farm butterfat quota and allocate such quota to the farm concerned:*
- (c) *Approve or disapprove of the transfer of a farm quota to another farm:*
- (d) *Approve or disapprove of the transfer of a farm quota from one factory to another factory other than on July 1st in any year:*
- (e) *Determine any matter in relation to farm quotas in dispute between a dairy farmer and a manufacturer which has been referred to it.*

The first "power" is all-embracing, so embracing that it would be utterly presumptuous of the Australian Dairy Industry Council, the ostensible author of the Scheme, to make a demand of this nature on each State Government, if such was its intention. But it is not the intention of the A.D.I.C., nor is it necessary for the operation of the Scheme, to insist that each State set up an all-powerful administrative body of the type of the N.S.W. Dairy Industry Authority.

The A.D.I.C.'s intention is merely to require each State to establish a quota-administering section.

Nevertheless, the Draconian nature of the paragraph has been seen by some as requiring an all-powerful, far-ranging, dairy industry administration bureau in each State. The Association does not support this view, and has made the following submission to the Minister of Agriculture, the Hon. T. M. Casey, M.L.C.

1. INTRODUCTION

The South Australian Dairymen's Association has made a close study of the Two-Price Quota Scheme ever since the first proposal for a scheme of this nature was submitted to the Dairy Industry Committee of Enquiry in 1959 by a group of Agricultural Economists, headed by Professor Gruen, and on the many occasions since, when the scheme has been discussed by the Australian Dairy Farmers Federation (ADFF), the delegates from this Association have played a leading part in such discussions. During the same period the Association has also, from time to time, as changing conditions in the dairy situation demanded, published, in its Journal, analytical studies of the Two-Price Quota Scheme, and the effect that its application would have under the circumstances of the moment.

It was, therefore, only logical that the General Secretary of the Association was made a member of the Special Committee appointed jointly by the ADFF and the Australian Dairy Industry Council (ADIC) to examine the means whereby a scheme of supply-management would be devised for the industry, and to make a submission to the then Minister for Primary Industry, the Hon. J. D. Anthony.

It is from this informed position in relation to the intention and administration of the Two-Price Quota Scheme, and to its advantages and weaknesses, that the Association makes the following submission concerning the application of the Scheme to South Australia.

2. DAIRY SITUATION IN SOUTH AUSTRALIA

The annual production of milk in South Australia has stabilized over the last 10 years, at about 100 million gallons per year, as shown in the following tables:—

Year	000 Gallons
1961-62	95,504
1962-63	95,378
1963-64	97,523
1964-65	102,330
1965-66	98,398
1966-67	98,727
1967-68	88,822 (drought year)
1968-69	102,808
1969-70	106,160
1970-71	103,592 (preliminary)

Of this total, an increasing portion has been used as milk for consumption as liquid milk or table cream, the amounts used for this purpose having risen from approximately 30,104 thousand gallons in 1962-63 (statistics for this item in 1961-62 are not available) to approximately 33,100 thousand gallons in 1970-71 (preliminary).

The balance has been manufactured into dairy products of various kinds, of which cheese is the most important, economically and in quantity of commodity produced and quantity of milk used for its manufacture, the annual output being relatively stable at just less than 18,000 tons (40 million lb.). Butter is the product next in importance, its output being relatively stable at about 6,500 tons (14.5 million lb.), an amount somewhat less than the total annual consumption in this State.

Despite (or, perhaps, as in the writer's opinion, because of) a climate that, superficially, would appear to be less than conducive to a high level of productivity, the output per cow in South Australia is, generally (and has been with only three lapses to second place in the last 10 years), higher than that in any other State in the Commonwealth, the latest (1969-70) figure of 724 gallons being well above the Australian average of 583 gallons, with Victoria filling second place at 712 gallons.

The overall quality of the cheese produced in South Australia is unexcelled, the ready acceptability of our cheese on the almost hyper-fastidious Japanese market being now almost legendary.

The quality of South Australian butter is less satisfactory than that of its cheese, but the shortcomings of this commodity may be caused more by problems of transport (a condition which is being ameliorated as the consigning of cream from mixed farms and house-cows tends to diminish, whilst a growing portion of the State's butter is being made of cream from milk produced to market milk standards), and the necessity during part of the year to blend locally-made butter with stored butter from other States.

The standard of market milk is at least comparable with that in other States, and its ready acceptability, coupled with the enterprise of the processing companies concerned, make South Australia the source of market milk for such remote regions as Alice Springs, Broken Hill, Darwin and the North West of Western Australia.

3. DAIRY LEGISLATION AND ADMINISTRATION IN SOUTH AUSTRALIA

Although the quality of dairy produce in South Australia ranges from satisfactory to superior, it does not necessarily follow that no improvements are either desirable or necessary. Nevertheless the present position has been obtained within a system of dairy legislation and administration that is probably unequalled for its simplicity and smooth working, although again it must be realized that such a statement does not imply that no improvements should be sought.

(In this regard it is of interest to note that the current move to unify dairy administration in Western Australia will require the consolidation of the 6 milk acts, a situation that throw into strong contrast the relative simplicity of the South Australian legislation described below.)

In South Australia the supervision of all aspects of the production of milk for manufacture outside the Metropolitan Milk Supply Area, and the manufacture of dairy products, are the responsibility of the Dairy Division of the Department of Agriculture, using the powers granted to it by the Dairy Industry Act, whilst within the Metropolitan Milk Supply Area the supervision of the production of milk, and the processing of such milk as market milk or table cream, are the responsibility of the Metropolitan Milk Board, operating under the Metropolitan Milk Supply Act.

The orderly marketing of milk is carried out by the Metropolitan Milk Equalisation Committee Limited, a body unique in Australia, which with statutory support provided in the Metropolitan Milk Supply Act, administers, through a Directorate jointly composed of representatives of dairyfarmers and processing companies, the Milk Prices Equalisation Agreement.

The two major dairying Acts provide, with almost total absence of overlap, legislative control for the two broad divisions of the industry, market milk and processed dairy products, with a measure of effectiveness that is demonstrated by the higher standard of the industry, to which reference has been made, and the absence of disruption which is so often a feature of the dairy scene in other States.

Only in the area of dairy-farm licensing is there any major omission. Whereas the Metropolitan Milk Board, under the provisions of the Metropolitan Milk Supply Act, has absolute control over the licensing of farms in the Metropolitan Supply Area for the production of market milk, the provisions of the Dairy Industry Act are far less effective, insofar as licensing of dairymen under that Act is little more than registration, and is not accompanied by the degree of control and supervision that is given by the Metropolitan Milk Supply Act.

The growing demand for even higher quality in butter and cheese, for home as well as export markets, is being provided for by substantial upgrading in quality requirements, to the extent that, eventually, the standards for premises, equipment, stock, and the milk produced will equal those now applying to market milk, and consequently the licensing function and powers of the Department of Agriculture must be amended to provide the ability to ensure, through the control of licensing, that the milk produced and the dairy products made from such milk are in conformity with the standards laid down.

THE TWO-PRICE QUOTA SCHEME AND STATUTORY AUTHORITY

From the outset it should be realized that the purpose of the Two-Price Quota Scheme is to provide, when dairy product marketing conditions so necessitate, a disincentive to the production of dairy produce which can only be sold at an uneconomic price, or which, in the extreme case, must be stored as an unsaleable surplus returning nothing at all to the producer or the manufacturing company.

The essential feature of the Scheme is, as its title implies, the "Quota", a document which gives to the dairyfarmer to which it has been issued, the right to sell a nominated quantity of his product for a return which is derived from the high-priced home market and the better export markets.

The Quota received by each dairyfarmer represents his share, based on his past performance during a period yet to be determined (and subject, of course, to appeal by the dairyfarmer should he feel that special circumstances warrant a greater Quota than he has been granted), of the "State Butterfat Quota" allotted by the Australian Agricultural Council.

The allocation of each "Farm Butterfat Quota" is, consequently, no more than a mathematical exercise, whereby the State Butterfat Quota (less a predetermined portion to be held for allocation by the Appeal Committee) is divided among all dairyfarmers proportionately to their output during the base period.

This function, which has no counterpart in the present administration of the dairy industry in South Australia, does not require the application of any expert knowledge of the dairy industry, either of its technology or of the methods by which the industry processes and moves its product from farm to market place. It is, furthermore, desirable that the mathematical exercise referred to above be performed equitably and with strict impartiality; consequently it is essential that the body performing this function neither include, nor be representative of, the interests involved in the dairy industry.

The Association therefore holds, very emphatically, that the "State Dairy Authority" required by the Two-Price Quota Scheme should be an administrative function under the direct control of the Minister of Agriculture, staffed by the Public Service.

FUNCTION OF THE AUTHORITY

(i) Quota Allocation—

To the extent that the primary duty of the State Dairy Authority, as required by the Two-Price Quota Scheme, is the allocation, in strict conformity with stated principles, of Quota entitlements to all dairyfarmers, the Authority could be considered as performing a clerical function, if it were not for other features of the Two-Price Quota Scheme which, whilst not being essential principles of the Scheme, are necessary to protect it from breaking down through evasive practices.

(ii) Vesting—

The first safeguard is the requirement that all milk shall be vested in the Authority, in order to prevent over-quota milk from being diverted to market milk, to the detriment of the price structure (and quality!) of that commodity, and to remove from such milk the liberty that would otherwise be given to it by Section 92 of the Commonwealth Constitution to be trafficked across State borders to the detriment, in this case, of Quota-holders in the receiving State. The "vesting" requirement is, however, purely notional, and, apart from providing this protection, legal ownership by the Authority of the milk produced within the Quota is not essential to the Two-Price Quota Scheme. Consequently the necessity to "vest" the milk as the property of the Authority does not require qualifications additional to those of a clerical function.

(iii) Audit of Disbursements—

The second safeguard (which is not included in the functions of the "State Authority" as set out generally in Section 4, and in detail in Section 4.4, of the ADIC's Proposal, but which this Association considers to rank equally with the "vesting" requirement), is the debarring of factories from applying to the price paid for over-quota milk any form of incentive for output in the way of premium or bonus. The auditing necessary to ensure that this practice is not being followed cannot be exercised in isolation, but requires audit of the whole income and expenditure of each factory, including the disbursement of the "Dairy Industry Fund" which comprises the proceeds of the levies on all prescribed products and the Federal Government's financial assistance.

COMPOSITION AND QUALIFICATIONS OF THE AUTHORITY

The necessity for the Authority to audit over-quota payments and the disbursement of the Dairy Industry Fund will, therefore, require the Authority to have access to accountancy services, and, as it is believed by this Association that the size of the Authority should be the minimum necessary to carry out the original Quota allocation, to arbitrate on Quota transfer applications, and to revise the Quota allocations annually in accordance with the annual revision of the State Butterfat Quota, the most satisfactory composition of the Authority will be for it to be headed by a qualified accountants, with clerical assistance perhaps limited to a typiste-clerk, to which may be added an assistant, also with accountancy qualifications, should early indications of the work load so demand.

OTHER FUNCTIONS OF THE AUTHORITY

(i) Audit of State Grant—

The change from Commonwealth-wide dairy produce equalisation to the Two-Price Quota Scheme will be accompanied by a corresponding change in the form of Federal assistance, from the present Commonwealth Bounty to State grants, and it is probable that the Federal Government will no longer use bounty auditors in the Commonwealth public service to carry out the auditing of bounty

disbursement by the factories, but will expect the auditing of the disbursement of the State grant to be carried out by each recipient State, and, as the State grant will form part of the Dairy Industry Fund, the role of the Authority as an accounting/auditing function is thereby further endorsed.

(ii) Manufacturing Costs -- Collecting of Data—

To assist the ADIC and the Federal Government in determining the level of bounty to be paid each year, the Commonwealth Dairy Produce Equalisation Committee Limited is responsible for collecting data relating to the cost of manufacture of butter, and a study is now being carried out into the necessity, in view of recent marked increases in factor costs, for the Committee to resume collecting data relating to the cost of manufacture of cheese, this practice having been discontinued some years ago when it was found that cheese manufacture costs very closely equated butter manufacture costs on a Product-weight basis.

The introduction of the Two-Price Quota Scheme will be accompanied by the replacing of the bounty by State grants, and the diminution of the now pre-eminent role of the Commonwealth Dairy Produce Equalisation Committee Limited in determining levels of costs and returns. It is consequently submitted that the Authority should assume the function of collecting manufacturing cost data from dairy factories (this function being no more than a minor extension of the proposed functions of audit of disbursements and audit of State grants), and act as arbitrator in disputes between factories and their suppliers concerning payments made for milk.

COMPOSITION OF THE FARM QUOTA APPEAL COMMITTEE

The Association holds strongly to the opinion that the Authority should not sit in judgement on itself, and consequently believes that the Farm Quota Appeal Committee should be completely independent of the Authority. The Association holds, equally strongly, the view that the Farm Quota Appeal Committee should not comprise any representatives of interested groups such as dairyfarmers or dairy factories.

The Association furthermore points out that the mathematics of the Two-Price Quota Scheme are such that the Farm Quota Appeal Committee need not concern itself with the problem of allocating the balance of that part of the State Quota allotted to it after it has made such additional allocations as it has seen fit in the light of the appeals heard. The retention by the Committee of unallotted Quotas will not, in any way, be to the detriment of Quota holders.

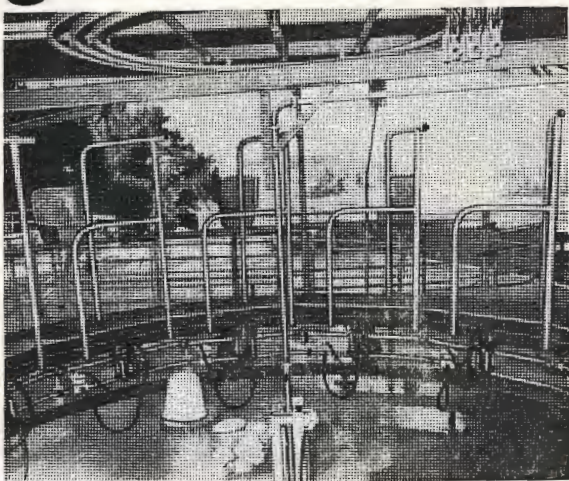
Consequently the Association recommends that the Farm Quota Appeal Committee comprise an independent Chairman appointed by the Governor, and an economist of standing in the field of agricultural economics, to which may be added, if the omission of a representative of the legal profession is considered by the Government to be undesirable, a member of the judiciary or magistracy.

COSTS OF AUTHORITY AND APPEAL COMMITTEE

Where a State Authority is set up by a State Government to control part or whole of the dairy industry within that State as a matter of Government policy, it appears reasonable that the cost of such Authority should be met either directly by the Government, or by means of a levy on the industry, collected by the Government.

In the foregoing proposal the Authority is seen as being constituted to carry out those functions, and only those functions, made necessary by, or following from, the introduction of a Two-Price Quota Scheme, and the Farm Quota Appeal Committee is, likewise, brought into being for no other reason.

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As the introduction of the Scheme will not be by the volition of either the State Government or the dairy industry in the State, the costs of administration of the Scheme, i.e. the costs of the Authority and of the Appeal Committee, should not be met by the State or by a direct levy on the industry, but should be a first charge on the proposed Dairy Industry Fund, and it is recommended that this provision be added to Clause 10.1 and 14.1 of the "Proposal". (It is accepted that such a charge would constitute an indirect levy on the industry.)

OBJECTIONS TO AN ALL-EMBRACING AUTHORITY

The Association considers that the proposal for a Two-Price Quota Scheme has been brought about solely by the possibility, amounting at the present time to a probability, that the eventual integration of the United Kingdom into the European Economic Community will result in Australia's having a surplus of dairy produce for which payable markets are not available, and the consequent necessity to provide, first, a production disincentive to be applied immediately the certainty of such a surplus is recognized, and second, a means whereby dairyfarmers will be able to make resource allocation from precise knowledge of the returns available.

The Two-Price Quota Scheme will, consequently, be introduced only when substantial deterioration of the economic status of dairyfarming appears inevitable (although the immediate or early introduction of the Scheme merits consideration).

The introduction of the Two-Price Quota Scheme is, consequently, completely unrelated to any need to restructure the industry, whether in respect to the functions of production, processing and marketing, the integration or rationalization of dairy legislation within a State, or the State-wide expansion of the market-milk supply region. If restructuring or reform of any of these aspects of the dairying industry in the State are considered to be desirable or necessary, such actions should be taken independently of, and unrelated to, the establishing of a Two-Price Quota Scheme.

SUMMARY:

1. The South Australian Dairymen's Association believes that the functions of the Statutory Dairy Authority in South Australia, as required by the Two-Price Quota Scheme should be restricted to those functions necessitated by, and following from, the introduction of the Scheme.
2. The staff of the Authority should be directly responsible to the Minister, should not be representative of the industry or other interests, and should be the minimum size necessary to carry out the functions of Quota allocation, transfer approval, and the auditing of factory disbursements including the Dairy Industry Fund. At least the senior appointee should be a qualified accountant.
3. The Farm Quota Appeal Committee should be completely independent of the Authority and of representation from the industry, and should comprise an independent Chairman, an economist and possibly a member of the judiciary or magistracy.
4. Costs of the Authority and the Appeal Committee should be a first charge on the Dairy Industry Fund.
5. Such reform or rationalization of the administration and legislation of the industry in South Australia as may be made necessary or desirable should be carried out at the appropriate time, unrelated to the existence, or imminence, of the Two-Price Quota Scheme.

S.A.D.A. RAISES SUBSCRIPTIONS

Although, when it was formed in 1935, the Association's annual subscription was set at a modest 10/-, with the successful adoption, in the following year, of orderly marketing, and negotiated returns of 8½d. per gallon for market milk and 1/1d. per pound butterfat for surplus milk, it was decided to raise the subscription to one guinea (\$2.10) for head office, and a district levy, which varied from district to district but averaged about 5/-.

And, except for increases in the district levies, which now average about \$1, the subscription has remained, for 36 years, at the same figure: still \$2.10 for the head office, plus a district levy.

During the intervening years the rising costs have been countered by increased revenue from other sources, particularly from the over-riding commission paid by the Association's approved insurance company, Federation Insurance, from interest on investments, and from profit from the Journal, as well as through sharing the costs of the office which has, for many years, been run as a joint secretariat in conjunction with the Milk Marketing Committee.

However, in 1968, the Executive Committee saw that costs were now overtaking income, and recommended to the Central Council that the subscription rate be increased, a proposal that was unanimously supported by the Council.

But by this time discussions concerning uniting with the U.F.G.A. were well under way, and it was agreed that no action should be taken, during those discussions, to implement the Council's decision, as to do so might be regarded as a gesture of bad faith, seeing that if unity was achieved, all SADA members would automatically become members of the UFGA, and liable to pay a subscription of \$10, or more, as it appeared to the Executive Committee that the portion of this fee which would be paid to the Dairy Section (which is what the SADA would become) might, eventually, be insufficient, and one of the conditions sought in the amalgamation talks was for the proposed Dairy Section to have the right to levy its members, over and above the general rate of subscription, in order to provide funds, additional to those granted by the UFGA, to meet the costs of a full time Section secretariat.

The unity discussions have now concluded, without result except that, in the meantime, the Association's reserves (and consequently its income) have run down even further, mainly because of rising costs, but partly because of the expense incurred (\$2,105) by the Association in the unity discussions with the UFGA.

The Central Council has now decided that the subscription rate should be a uniform \$7.00, with no District levies (district expenses now being paid directly from head office), the new rate being payable immediately a member's subscription becomes due.

It will help the Association greatly if members act promptly to pay the higher rate, either directly as due, or by signing new factory or bank authorities.

A statement of the advantages of Association membership, and of the gains which the Association has made on behalf of its members, even during the last year, which outweigh, many times, the cost of the subscription, could be made here, but if members are not already convinced of the Associations' worth, printed words are hardly likely to change their minds.

The subscription is, in any case, modest, and compares more than favourably with those of other primary producer organisations, such as the Tasmanian Farmers' Federation (\$30), the proposed \$30 fee for the West Australian Farmers' Union, and the sliding scale of our N.S.W. colleagues, the Milk Zone Dairymen, with a maximum fee of approximately the same amount as these two cases.

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REGISTRATION OF FARM TRACTORS

Few subjects are more misunderstood than the legal obligations concerning the registration of farm tractors (and trailers). The following reply, from the Registrar of Motor Vehicle, sets out, very clearly, the full situation.

A tractor may be driven without registration on roads within twenty-five miles of a farm occupied by the owner of the tractor on journeys to or from that farm for all or any of the following purposes, namely:—

- delivery of the tractor to the farm upon the acquisition of the tractor, or delivery of the tractor from the farm upon the sale or disposal thereof;
- removal of the tractor to a workshop for repairs, or return of the tractor to the farm from a workshop where repairs are carried out;
- drawing farm implements or carrying farm implements by means of an attachment designed for that purpose;
- proceeding to a place where farm implements are to be attached to the tractor for removal, or returning after delivery of farm implements;
- drawing a registered trailer between two or more portions of the farm.

It will be noted that an unregistered tractor may be used in such circumstances to draw a trailer **if the trailer is registered.**

Minimal registration fees apply to trailers, if they are registered under conditions applicable to primary producers.

Description	Fees: 12 mths.	6 mths.
Up to 20 cwt.	\$3.00	\$1.60
Over 20 cwt. not exceeding 30 cwt.	4.00	2.10
Over 30 cwt. not exceeding 40 cwt.	5.00	2.60
Over 40 cwt.	6.00	3.10

Stamp Duty is not applicable when registering a trailer.

Metrication and the Dairy Industry

DAIRY PRODUCTS

Unlike decimal currency, there will be no single day on which we change to metric weights and measures. They will become part of everyday living over a period that will give the public ample time to adapt to the change.

But gradualness applies only to the public. For commerce and industry, M-Day is approaching with unnerving speed, and the dairying industry for one, with its wide range of products in a variety of forms, is particularly vulnerable.

Chief worry is the extent to which packaging and filling machines can be adjusted to cope with the larger or smaller sizes that must accompany the change, for there are no cases where any metre measure is precisely the same as its imperial equivalent, and the problem is whether the range of adjustment in the equipment can cope with a metric measure that is meaningful and acceptable to the Metric Conversion Board.

Linked with this is the cost of changing all the transporting equipment — crates, racks and the like, much or all of which will need to be scrapped or altered to take the new units.

The biggest headache may be the milk trade — with perhaps \$50 million dollars worth of glass bottles to be scrapped and replaced with a new size, practically overnight, because technical problems prevent the gradual introduction of new sized bottles as the old ones are discarded.

But of more lasting importance is the question — How much bigger or smaller shall the new retail sizes be?

One litre is about $1\frac{3}{4}$ pints, one kilogram is just less than half a pound. Shall we convert to the nearest unit larger or the nearest unit smaller, or shall we use the full flexibility of the metric system, to come as close as possible to present sizes?

One thing is certain — There will be plenty of well intentioned advice to the public as to which industry has gained a sneaky price rise by conversion, and there is much merit in going up in pack size, and passing on to the consumer the proportionate saving that should result from putting more product in one package.

FARM MILK TANKS

The manufacture of farm milk tanks calibrated in gallons or pounds of milk has now ceased, and new tanks are being supplied with dipsticks graduated in litres.

The metric dipsticks will be used in conjunction with conversion tables now being prepared to allow conversion from litres to gallons or pounds of milk whilst the purchase of milk in bulk from farms continues to be in Imperial units (i.e. gallons or pounds).

CONVERSION TABLES

After conversion of bulk-purchasing to litres it is proposed by the Metric Conversion Board that, until all tanks are replaced or fitted with metric dipsticks, conversion tables be used to convert dipstick readings in gallons or pounds of milk from existing farm milk tanks to readings in litres.

The Metric Conversion Board believes that existing tanks could remain in use for some time without conversion, but that conversion or replacement will ultimately be necessary to comply with weights and measures legislation.

The M.C.B. is considering the establishing of panels in each State to organise the conversion of existing tanks on the most economical basis, and we can expect, eventually, some pressure for either an industry-wide change-over, or a factory-by-factory phasing-in of the new units.

But it should be noted that the M.C.B.'s proposal for future dipsticks to be calibrated in litres, for the reason that volume only can be measured by a dipstick (as a dipstick graduated in pounds or kilograms really measures volume which is converted into weight on the dipstick scale by using specific gravity multipliers 10.32 or 1.032), will require, at some time between the receipt of the milk and payment to the producer, a conversion from volume of milk in

litres to weight of butterfat in kilograms, **NOT BY DIRECT MEASUREMENT BUT BY THE USE OF THE CONVERSION FACTOR 1.032**, and there consequently seems to be no reason why **this factor, which is necessary if dipsticks are to be in litres**, should not be replaced by another single factor, 0.4536, to convert the pounds of milk in which the tanks are now graduated to the kilograms of butterfat on which payment will be made. In this way dairyfarmers in the milk supply area could be saved expenditure which may be as high as \$100,000.

New Aids for Dairy Husbandry

Two new devices aimed at raising the efficiency and the profitability of dairy farming have been introduced by an English company, **Mayday Agricultural Services Limited**, and are now available in Australia.

In order that our members may be assisted in making their own judgments, samples of the devices have been supplied to the Association by the Australian agents, **Sample Rural Services Pty. Ltd.**, of Sydney, and may be ordered through this office.

N I R D MASTITIS DETECTOR

This apparatus was developed by a British research organisation, the National Institute for Research in Dairying. During its research into the ever-present problem of mastitis the Institute found that the two methods most commonly used by dairyfarmers, either the strip-cup or else the feel of the udder whilst washing or stripping are far from positive, and, in the rushed atmosphere of the milking shed, are either used inadequately or abandoned altogether.

Even when they are used, the accuracy of the tests, particularly that of palpation of the udder, is very unsatisfactory, and either method can, if absolute cleanliness is not used, aid the transfer of disease from cow to cow, as well as **seriously slowing down the speed of milking**.

The Institute consequently set out to develop a method which avoided the necessity for the milker to handle the cow's teats and to provide a reliable means of indication of clinical mastitic which would not delay his normal routine.

Success in this aim has been achieved by the use of re-usable transparent filter tubes containing a specially formed stainless steel mesh, and experimental results have indicated a very considerable superiority over the strip-cup in early detection of clinical cases.

The Veterinary Officer attached to the N.S.W. Milk Marketing Authority's A.I. Centre at Berry is recommending their installation, and the value of the device is being assessed at the Northfield Research Centre.

Samples of the Detector may be seen at this office, and purchased through the Association. The listed retail price is \$9.00 per set.

MAYDAY ROTARY COW PLANNER

Although the basic function of this device is already being employed by many dairyfarmers through the use of either farm-built or commercially-available "cow-planners" constructed of pressed-wood board, the appearance and very sophisticated features of the Mayday Cow Planner most certainly recommend it for earnest study.

Made in clear "Perspex". 36 inches by 36 inches in size, and coded in six colours, with graphic symbols to identify the phases, the "cow-planner" appears to be a very workmanlike tool for effective herd management. The cows are represented by special plastic symbols which adhere to the dial of the "planner" whether wet or dry, and can be removed and replaced on the dial indefinitely without leaving a gummy deposit, or losing their adhesion, or damaging the dial. Each "planner" comes initially with a supply of 400 colour-coded symbols.

The "Mayday Cow Planner" can be seen at this office, and purchased through the Association. The listed retail price is \$80 per unit.

THE TWO PRICE QUOTA SCHEME - TIMING ITS INTRODUCTION

The Long Term Plan proposed by the Australian Dairy Industry Council (ADIC) contains provision for a Two Price Quota Scheme **to be introduced if necessary.**

The phrase is yet another, although probably the most noteworthy, example of the vagueness that permeates the whole of the Two Price Quota Scheme: a vagueness that surrounds the size of the total **Australian Butterfat Quota** ("all prescribed products sold on the Australian market plus the butterfat in a **determined quantity of the same products sold on export markets**"), the basis of the **State Butterfat Quotas** ("an average over a previous base period to be **determined**"), the allocation of the **Farm Butterfat Quotas** ("on a **basis to be determined**") and a multitude of factors in the administration clauses.

It is, therefore, only to be expected that each person and each organisation in the industry will interpret these clauses in accordance with his, or its, opinion concerning the necessity, the desirability (which may differ from necessity) and the possible effectiveness of the Scheme. Disregarding, for this argument, those who completely oppose the introduction of the Scheme under any circumstances, and those who consider that the legislation and the allocation of quotas should be introduced simultaneously when a crisis situation is almost upon us, as neither of these views are acceptable to the Federal Government, there remain three broad groups: those who consider that the legislation supporting the Scheme should be introduced immediately in each State, where it will be held in readiness to be introduced **if necessary**, in a crisis situation, with Quotas being allotted, hopefully, just before the crisis breaks; those who consider the legislation should be introduced immediately, Quotas allotted, and the full scheme put into effect as soon as possible; and those who consider the legislation should be passed now, Quotas allotted to every farmer (who will then know just where he stands if anything should happen) but not put into effect straight away, and the Scheme to be applied immediately the situation demands it, using the Quotas which have already been issued perhaps a year or more earlier.

The Central Council of the Association supports the last alternative, and its reasons for doing so, which are attached to the submission to the Minister of Agriculture (Hon. T. M. Casey, M.L.C.), published in the previous Journal, are as follows.

The introduction of the Two Price Quota Scheme as soon as possible will by removing the threat of a reduction in unit return which would result from either an influx of new producers (whether induced by a resumption of State sponsored development, or not) or a substantial increase in the output of existing producers, yet not prevent increased output for which export returns only will be received, whilst general rates of return are unchanged. At the same time the producers' equity in the home market will be preserved, permitting them to diversify, or reduce total production where such action is indicated by economic logic.

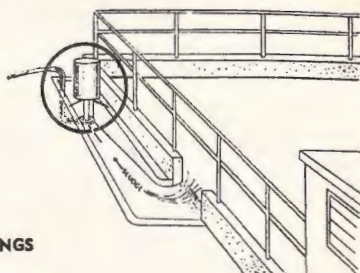
Nevertheless, the difficulty in introducing the Scheme, and the problems involved in administering the Scheme should not be underestimated.

The Association consequently holds the opinion that the Two Price Scheme should be introduced as soon as possible, but that the legislation necessary to support the Scheme, and the function of the Statutory Authority, should not extend beyond the setting and allotting of quotas, and the administration of the Dairy Fund.

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CHANGE IN DAIRY RESEARCH LEGISLATION

All Milk to Contribute to Levy

Continually rising production costs, and growing competition from substitute foodstuffs and other contenders for the customer's dollar make scientific research a vital link in the chain of the dairy industry's prosperity, the recognition of which, by both the industry and the Federal Government has led to the recent passing of legislation to provide funds for dairy research by a levy on all milk produced, instead of the levy on butter and cheese only, as at present.

Because of its wider base of collection, the new levy will bring in a considerably greater income, and, with the Federal Government's dollar-for-dollar contribution the amount available annually will rise from about \$775,000 currently, to over \$1 million in 1972-73.

But the increase in the funds available should not delay the long overdue revision of the direction which is being followed by dairy research. From the inception of the Research Fund in 1958 until the end of the present financial year over \$6½ million has been spent in total, of which \$2½ million has been in farm research such as pasture management and nutrition, and animal health and breeding, \$2¾ million on dairy manufacturing research, with a proportionately very minor amount on numerous other general projects of which marketing research is only one.

Even in the absence of a situation where additional production, and even, perhaps, greater efficiency, may be an embarrassment, cost-benefit analysis would almost certainly demonstrate that research into marketing techniques, consumer wants and habits, and the place of dairy products in the human diet are far more rewarding than further refinements of farm and factory methods that are often well-enough known but not as widely used. The imminence of a crisis in the output-disposal relationship makes a major switch in research goals from production to marketing imperative.

ADELAIDE METROPOLITAN MILK SUPPLY AREA

	PRODUCTION (000 gallons)					
	For Month		Daily Average		12 Months' Cumulative	
	1971	1972	1971	1972	1971	1972
January	4,958	5,065	160.0	163.4	59,266	57,437
February	3,822	4,112*	136.5	141.8	58,999	57,727

	MILK SALES (000 gallons)					
	For Month		Daily Average		12 Months' Cumulative	
	1971	1972	1971	1972	1971	1972
January	1,810	1,751	58.4	56.5	22,167	22,137
February	1,826	1,887*	65.2	65.1	22,190	22,200

	RATIO (Sales to Production, per cent)				C.M.B. (Cents)	
	For Month		12 Months' Cumulative		1971	1972
	1971	1972	1971	1972		
January	36.5	34.6	37.5	38.5	23.39	23.44
February	47.8	45.9	37.6	38.5	30.10	29.30

INTERIM PRICES TO LICENSED SUPPLIERS

(Prices are interim only, and subject to retrospective adjustment.)

1972	Basic	C.M.B.	Total	3.5%	4%	4.5%	5%
	(cents per lb. butterfat)			(cents per gallon at above test)			
January	40.00	23.44	63.44	22.91	26.19	29.40	32.74
February	43.51	29.30	72.81	26.30	30.06	33.81	37.57

LONDON PROVISION EXCHANGE QUOTATIONS

(Pounds Sterling per Ton)

	January		February	
	1971	1972	1971	1972
Butter—Choicest Australian (£S)	330	550	330	550
Cheese—Rindless Australian (£S)	295	440	295	480

AUSTRALIA**TOTAL MILK PRODUCED (million gallons)**

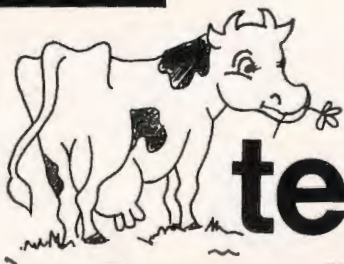
Six months ended DECEMBER

	N.S.W.	Vic	Qld.	S.A.	W.A.	Tas.	Aust.
1970	146.5	582.6	88.2	63.9	34.1	58.0	973.7
1971	134.0	562.5	80.2	61.5	35.8	60.8	935.2
% Change	-8.5	-3.5	-9.1	-3.7	+4.8	+4.8	-4.0

FARM VALUATION AND MILK VATS**Exclusion under New Regulations**

Farm milk tanks will be excluded from assessed annual values in proposed Regulations under the Valuation of Land Act soon to be put before the State Government.

This information was given by the Minister of Local Government (Hon. G. T. Virgo) in answering a letter sent by Legislative Council member Martin Cameron. In his reply Mr. Virgo stated that the new Regulations would provide that machinery, plant or equipment not fixed to the land, or fixed thereto only in such a manner as to render them capable of being removed from the land without structural damage to the land, would not be deemed to be "Fixtures" for the purpose of determining assessed annual values. In conformity with this definition, milk vats which rest on the land by their own weight would not be classed as fixtures for the purpose of rating valuations.

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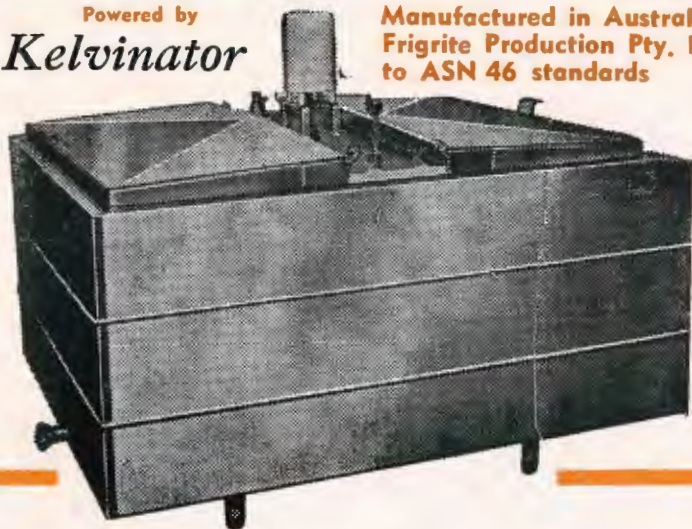
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Journal

The Official Publication of the



Published Bi-monthly

Vol. 11, No. 5

Adelaide, MARCH/APRIL, 1972



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Production Declining In Adelaide Milk Supply Area

Although heavy and continuous rains followed the long dry Autumn of 1970-1971, they came too late to reverse the decline which took that year's total milk production in the Adelaide Milk Supply Area below the highest-ever production recorded in the previous year.

In the current year there has been no such late rain, and the now widespread drought conditions are reflected in a further decline in production below even last year's reduced output.

Production from licensed producers in the Adelaide Milk Supply Area, sales of market milk, and the ratio between milk sales and production, during the last 10 years are as follows:

Year ended 30th June	Production (thousand gallons)	Sales	Ratio (per cent)
1963	41,039	18,928	46.1
1964	44,395	19,646	44.3
1965	48,500	20,245	41.7
1966	49,151	21,006	42.7
1967	50,887	21,156	41.6
1968	48,089 (1)	21,974	45.7
1969	53,229	21,638	40.7
1970	58,505 (2)	21,890	37.4
1971	58,026	22,375	38.6
1972	58,000 (3)	22,100 (3)	38.1

(1) drought year; (2) highest ever; (3) forecast.

THE CAROUSEL

The first CAROUSEL Rotary Milking Machine in the Southern Hemisphere has been installed at KENTISH DOWNS, PARAWA. The new building in which the machine is installed was opened on May 30th by the Director of Agriculture, Mr. Marshall Irving. In the cover illustration the owner of Kentish Downs, Mr. Ernest Wirth (extreme left) is seen with the Director and other visitors watching the milking of cows from the property's Friesian herd. Milk from this revolutionary (1) installation is supplied to the Myponga Cooperative Dairying Society's Factory.

Dairy Stabilization and Production Control

NEW FEDERAL LEGISLATION

Uncertainty, even confusion, continues to beset the dairying industry as it tries to resolve some of the conflicting ideas about production control, its form, administration, and necessity.

In the meantime, the Federal Government, faced with the urgency of renewing the Dairy Stabilization Scheme, has paid only brief attention to the industry's demands, and has passed new legislation, effective from July 1st, 1972, which contains no reference to production control, or to the industry's other requests.

THE A.D.I.C.'s LONG TERM PLAN

The Australian Dairy Industry Council's "Long Term Plan for the Australian Dairy Industry", submitted to the Federal Government late in 1971, contained a series of provisions for inclusion in the next 5-Year Dairy Stabilization Plan, which will, on July 1st, take the place of the present Plan which is now coming to the end of its fifth year of operation.

The provisions in the "Long Term Plan", eight in number, were published in complete detail in the September-October 1971 issue of this Journal, but because of the great importance of the "Plan" they are here repeated in summarized form . . .

THE PLAN'S EIGHT POINTS

- The licensing of all dairy farms, with no new licences to be issued, except with the agreement of the Australian Agricultural Council after consultation with the ADIC;
- The provision of financial assistance to the industry at least at the present level, for a period of 5 years;
- The prohibition of the importation of cheese;
- Control of the production and sale of cooking margarine coloured and flavoured to resemble butter;
- Control of the production and sale of imitation milk;
- Effective policing of table margarine quotas;
- Action to ensure uniform high quality of dairy production;
- Introduction, if necessary, of a Two Price Quota Scheme.

THE FEDERAL GOVERNMENT'S ATTITUDE

The Federal Government, after receiving the ADIC's Plan, confined its comments almost entirely to the eighth point, the Two Price Quota Scheme, the implication being that consideration of the other points, including the most important, the provision of financial assistance (i.e. the continuation of the subsidy) at not less than the present level, depended upon the full acceptance, by all State Governments, and by all sectors of the dairy industry, of the necessity for a production control scheme, and the passing, or at least the drafting, of legislation which would enable such a scheme to be applied immediately such action was considered necessary.

The Minister for Primary Industry (the Hon. Ian Sinclair) expressed the Government's attitude in these words: "From the Government's point of view I feel it is important for the industry to realize that it cannot expect full consideration of its financial proposals unless the Government can be assured that action is being taken that would at least ensure that an effective production restraint mechanism would be established, if not by July 1st, 1972, then within a reasonable time after that date, so that it would be available for use if required. This would involve acceptance of the proposals by the main industry organisations and the States, together with assurances from State Governments that they would initiate action to submit appropriate legislation to State Parliaments."

AGRICULTURAL COUNCIL AND QUOTA SCHEME

But the assurances from State Governments did not eventuate. The Australian Agricultural Council, which comprises the Ministers of Agriculture in all States, at its meeting on February 1st, accepted in principle the necessity to plan for a flexible scheme of production control which could be applied when necessary, but came to no decision other than a general agreement that **the immediate implementation of the quota proposals was not warranted** until market circumstances changed. The Victorian Government stressed the need for any scheme to have only temporary application, and although all States agreed to proceed with the planning of a mutually acceptable control mechanism so that it could be available if necessary, the Agricultural Council decided to give to the senior State dairy officers and Milk Boards the job of considering the industry proposals to see how they could be modified to suit the differing requirements of each State.

The States' dairy officers met in mid-March, just one month after the meeting of the Agricultural Council, and, with the assistance of senior members of the Federal Department of Primary Industry and the Bureau of Agricultural Economics, and Messrs. Athol Baird and Jack Clark representing the ADIC, attempted to reach agreement on the controversial points of the Two Price Quota Scheme. In this they were notably unsuccessful, as, before the day was over, they had before them not 1 Scheme but 3, as West Australia and Victoria had each chosen this late hour to submit Schemes of their own, or, more precisely, some fairly rough ideas on which, they claimed, workable schemes could be based.

THE WEST AUSTRALIAN PLAN

The West Australian plan was simple in concept and application. It proposed that each State which produced less dairy produce than it consumed, in terms of total butterfat, should be given a State Butterfat Quota for allocation to its producers in the form of Farm Quotas, equal to total consumption, with the deficit between this Quota and the amount actually produced in each subsequent year being divided, somehow, among the States which had produced more than their Quota. As the application of such a plan (which would, of course, be applied only in an over-production situation) would give to the producers in each deficit State the opportunity to increase production two-fold, in the case of W.A. and N.S.W., and to receive a higher return for their total output than they were receiving at present, the result of such a plan could hardly be termed "production restraint", and nothing further has been heard of it.

THE VICTORIAN GOVERNMENT'S PLAN

The Victorian plan was less revolutionary, being designed by its authors to achieve a satisfactory level of restraint on output, should such a need arise, by the allotting of quotas, called "Domestic Price Product Entitlements", not to some 50,000 dairy farms, as in the ADIC Scheme, but to dairy factories, of which there are probably no more than 200. The advantages claimed for this new proposal were:

- it ensured that, when world prices were depressed, or Australian exports increased due to an expansion of production by some Australian dairy factories, the greater part of the depression in returns would be borne by the factories which had increased their production;
- it provided a degree of protection for the level of returns in States which did not expand production, and thereby maintained a sound dairy manufacturing industry in those States;
- it ensured the stability of domestic market prices for manufactured dairy products;
- it provided a finite and predictable quantity of dairy production to which Commonwealth Government financial support could be applied;
- it provided a scheme which minimized the non-productive cost to the industry, including the implementation cost of legislation for individual farm quotas;
- it minimized the amount of legislation required (perhaps requiring no new legislation, but being implemented with only slight changes to existing Federal legislation); and
- it provided a scheme with maximum simplicity, without the need to set up, in each State, statutory dairy authorities which tended to remain when the necessity for the scheme had passed.

ATTITUDES OF INDUSTRY BODIES

The Victorian scheme was studied by the Australian Dairy Farmers' Federation, which finally resolved:

That after considering the Victorian proposal for a Domestic Price Product Entitlement Scheme for the manufacturing sector of the Australian dairy industry, this Federation reaffirms its support for the Two-Price Quota Scheme prepared by the ADIC, as it is strongly of the opinion that any quota entitlement scheme should

- (a) include in the Australian overall quota or entitlement a proportion of sales in addition to Australian sales;
- (b) provide for State Quotas;
- (c) provide for individual Farm Quotas;
- (d) provide for a restriction on the licensing of new dairy farms.

The ADIC was also requested to examine the Victorian Scheme, and appointed a special committee "to consider the Victorian proposal . . . in conjunction with the ADIC proposal for a Two Price Quota Scheme, and any other relative proposals, with a view to drawing up a plan suitable to the requirements of the dairy industry." No report of a result of this committee's deliberations has been received, but it is not likely, in view of the great amount of work that was put into the Two Price Quota Scheme, by the members of the ADIC, over a period of nearly a year, that the ADIC will make any radical changes in the form of its present Scheme, or incorporate any of the features of the Victorian proposal, in view of the Federation's strongly expressed opposition.

The Victorian Dairyfarmers' Association, on the other hand, although, originally, as a member organisation of the ADFF, it had supported the ADIC Scheme, and had not, as far as can be gathered, been involved in the drafting of the

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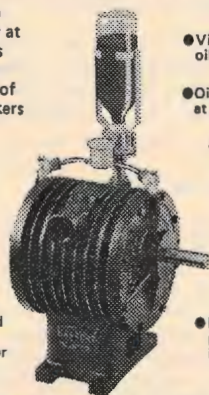
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new Scheme, appears to have been sufficiently persuaded by the Victorian Member of Agriculture (the Hon. G. L. Chandler) of the shortcomings of the ADIC Scheme that, at its Annual Conference, which was opened by the Minister, it rejected the ADIC Scheme and proposed to discuss further the Victorian alternative.

THE NEW STABILIZATION PLAN

In the meantime, whilst schemes and counter-schemes were being propounded and confounded, the end of the current 5 Year Stabilization Plan, the close of the Parliamentary Session, and the need for legislation to provide a new Stabilization were rapidly approaching, and eventually, on April 19th, the Minister for Primary Industry, apparently despairing of any early unanimity on a production restraint mechanism, introduced to Federal Parliament the Dairying Industry Bill, 1972, for a new 5 Year Stabilization Scheme to commence on July 1st, 1972.

The Bill contained far less than the ADIC had proposed in its submission to the Government; there was to be no "provision of assistance to the industry at least at the present level (of \$40.8 million)"; instead the Government had decided to allocate for each of the next five years a minimum of \$27 million as bounty on butter and cheese, with **the actual amount of Commonwealth assistance to be determined each year in the light of the needs of the industry**, taking into account the action taken by the States in the adoption of an effective scheme to control production.

The other items sought in the ADIC's submission were not included in the Bill, but were mentioned in the Minister's second-reading speech; like the financial assistance, they, too, would be conditional, and when the effective production control mechanism was settled, they would be spelt out as necessary in legislation.

BOUNTY RATES IN 1971/72

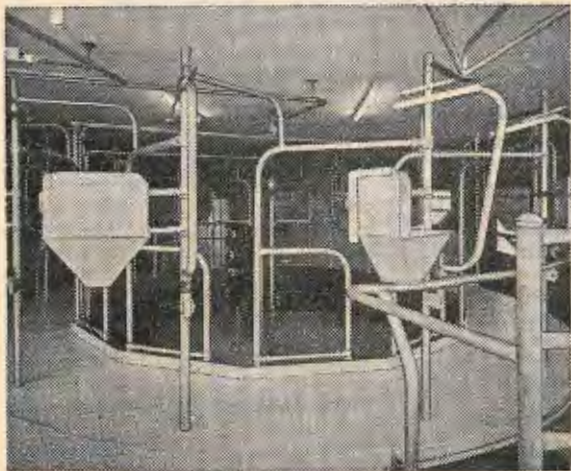
The Dairy Industry Bill 1972 has now passed both Federal Houses of Parliament, and become law, and the ADIC has submitted to the Minister for Primary Industry a case for financial assistance beyond the minimum bounty of \$27 million in the first year of the new 5 Year Plan which commences on July 1st. In the last year of the current Plan, which will end on June 30, 1972, the bounty of \$40.8 million represented approximately 9 cents per pound butterfat in butter and cheese. The new minimum bounty of \$27 m. represents a reduction of about 3 cents per pound butterfat, and if the ADIC fails to convince the Federal Government of the necessity for assistance beyond the minimum provision in the Plan, values in the coming 1972/73 season will be 3 cents lower than would otherwise be the case.

NIRD MASTITIS DETECTORS

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THE VICTORIAN PLAN

"A Domestic Price Product Entitlement Scheme"

At first glance the production control plan devised by the Victorian Department of Agriculture seems very much like any two-price quota scheme, the only difference being that the quota is issued to factories instead of dairy farms.

SIMPLICITY OF OPERATION

This difference is, however, a major one; in the first place, the implementation of the scheme is greatly simplified as it may require no more than the amending of several existing Federal dairy Acts for its introduction, so eliminating the need for the passing of uniform (or nearly uniform) legislation by the six State Governments, and this feature will also permit almost immediate introduction in the event of a crisis situation, and just as rapid withdrawal when the crisis has passed. In the second place the existence of perhaps no more than 500 "product entitlements" to about 200 factories, instead of about 50,000 farm butterfat quotas reduces to a relatively insignificant level the work of issuing, controlling and transferring the allocations, so eliminating the need for statutory dairy authorities to be set up in each State (and probably the need for an appeal tribunal also), and enabling the whole Scheme to be operated by the existing Commonwealth Dairy Produce Equalisation Committee, with little addition to the Committee's staff.

CONTENTIOUS FEATURES ELIMINATED

But there are other differences, less, perhaps, in magnitude, but important, nevertheless—as the activities of the factories are now readily supervised, it is believed that the vesting of ownership of the milk in the State Authority (in order to prevent "across the border" trading under the protection of Clause 92 of the Federal Constitution, to avoid the quota restrictions) will not be necessary—it is proposed that the "product entitlement" be based only on domestic consumption, not including some exports as in the ADIC Scheme—the scheme is limited to milk for manufacturers, and the vexed questions of the effect of market milk on the quota and the inclusion of table cream in the Australian Butterfat Quota do not arise.

VIC. OPPOSITION TO CLOSED INDUSTRY

All these points were stressed by the Victorian Minister of Agriculture, who, opening the Annual Conference of the V.D.A. said: ". . . the Two Price Quota Scheme . . . is based on individual farm quotas, which means direct control of production, with the effect of closing the industry, a principle which is not acceptable to the Victorian Government. We could see no basis for temporary operation of the ADIC plan . . . which is so complex that it is extremely difficult to see how it could be stopped and re-started according to the market situation."

BASIS OF ENTITLEMENT

The Scheme proposes, when conditions so demand, that each dairy factory be allotted a "Domestic Price Product Entitlement" for each of the three "Product Groups" (i.e. Butter and Butterfat, Cheese, Processed Milk Products) which it produces, the entitlement being proportionately based on the quantity of butterfat in each of the Product Groups manufactured by the factory during a base period to be determined.

On this "Entitlement" quantity the factory would receive a premium price for each separate Product Group based on the domestic market price plus Federal financial assistance (which would be restricted to home consumption only), whilst, for production over the Entitlement, the factory would receive the average export price for each Product Group.

The size of the "Entitlement" allotted to each factory would be determined, each year, by the Australian Agricultural Council, on the recommendation of the ADIC, for each Product Group, in relation to the estimated domestic demand for that Product Group, proportionately (as in the first year) to the factory's production in the base period.

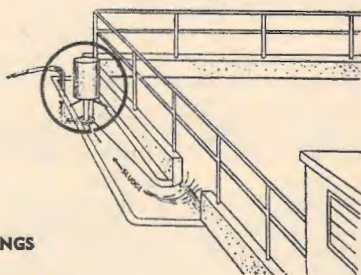
PAYMENT TO PRODUCERS

The "Entitlements", either singly or in total, would **not** be distributed by the factories to their suppliers. The suppliers would, instead, be paid for milk and cream supplied a price which reflected the average return from the factory's total output.

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EXPORT VALUES AND THE QUOTA SCHEME

Of all the unknown factors in the Australian Dairy Industry Council's proposal for a Two Price Quota Scheme, the one which, more than all the others (these are—the duration and termination of the periods on which State Butterfat Quotas and Farm Butterfat Quotas will be based, the minimum butterfat content of "prescribed products", and the extent to which market milk shall be "taken into consideration" when farm quotas are determined), prevents the evaluation of the effect of the Scheme on dairyfarmers' incomes is the quantity of exported dairy produce to be included, along with the Australian market requirements, in the Australian Butterfat Quota.

In the original "Gruen Plan" (and again in the Victorian plan published elsewhere in this Journal), the total national Quota, to be allotted annually, to all dairyfarmers proportionately to past performance, was the estimated total quantity required by the Australian domestic market. For this amount dairyfarmers would be paid the Quota price, plus Commonwealth bounty (except that the purpose of the Gruen Plan was to eliminate the bounty eventually), with all production over their individual quotas returning only the average value of all exports (and all unsaleable surplus stocks).

THE DISINCENTIVE PRINCIPLE

A scheme of this nature would give the greatest possible differential between the prices received for Quota and over-Quota milk, and, consequently, provide the greatest incentive to reduce production, or at least the greatest curb on increasing production. The ADIC, however, considered that, to prevent the disruptive effect that would follow if the combination of a small Quota (relative to normal production levels) and a large price differential induced dairyfarmers to reduce production drastically, the national Quota should include some exports as well as the requirements of the domestic market. In so doing their chief aim may well have been the preservation of portion of the dairy export market, but an additional effect was to reduce the differential between the Quota price and the over-Quota price, and correspondingly reduce the disincentive effect of the Two Price Scheme.

EXPORTS IN THE AUSTRALIAN QUOTA

There can be no doubt that the dairy industry generally believed that it was the intention of the ADIC to include in the Australian Butterfat Quota the quantities of dairy produce exported to the "better" markets, whether they were better because of the higher returns received, or because they were more stable or more capable of expansion, and the term "viable markets" was freely used to define the exports which were thought to be intended for inclusion, with the home market requirements, in the Quota.

The ADIC's Scheme does not, however, qualify in any way the exports to be included in the Australian Butterfat Quota, either as regards quantity or destination, other than by the reference "a determined quantity of the same products sold on export markets". Nevertheless, the belief is firmly held within the industry that our more important markets are the ones which will be included in the Quota.

AVERAGE RETURNS ONLY IN THE QUOTA

In fact the operation of the ADIC's Scheme is such that, in determining the quantity of exports to be included in the Quota, no attention need be given to assessing either which export markets are the most profitable or which are the most likely to be viable, as the contribution made by the export component in the Quota will be the **average return of all exports**.

Similarly, at the other end of the scale, dairy produce which must be sold on less profitable export markets, or "dumped" for what it will bring (perhaps even for non-edible uses), or stored indefinitely as unsaleable surplus, will return, to the dairyfarmer, not its true value (which, in some cases, may be less than the combined costs of processing, shipping and storing, and so represent a loss to the producer) but, again, the **average return of all exports**.

EFFECT ON PRICES

Thus the accumulation of surplus stocks or the sale of surplus at "dumping" prices, even though the produce is outside the Quota quantity, will reduce the Quota return, whilst the winning of a long-term highly profitable export market returning rates comparable with the domestic market will not increase the Quota return, but will raise the price paid for over-Quota milk.

THE PROPOSED CHANGE IN CALCULATION

It would seem far more reasonable, and equitable, if the export quantity included in the Australian Butterfat Quota were to be related to the better-paying, more permanent markets, so that the price paid for milk produced within Quota was related directly to the value of the products sold on the markets making up the Australian Butterfat Quota, whilst products made for milk supplied over the Quota would ultimately yield a return to the dairyfarmer which reflected the prices actually received for them.

In this way the differential between the prices for Quota milk and over-Quota milk is increased to an amount that is as near as possible to the actual returns from the markets concerned, and hence the degree of disincentive that is contained in the Scheme is related to the value (or absence of value) of the over-Quota product.

The Association has prepared a proposal for a revision of the ADIC's Two Price Quota Scheme to incorporate the foregoing principle, with the Australian Butterfat Quota being determined by adding to the domestic market requirements such exports, returning to the Dairy Industry (i.e. for the Quota premium) the actual value received, as will give a total price for Quota milk equal to a pre-determined return to producers.

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FROM AUSTRALIA'S LEADING MANUFACTURER OF DAIRY FACTORY EQUIPMENT

Milk Prices Up In Two States

Increases in the prices of market milk have recently been announced by the New South Wales Dairy Industry Authority and the West Australian Milk Board, the increase in the latter case being the last price revision to be made by the Board, whose functions will shortly be transferred to a single Dairy Authority.

In N.S.W. the new retail prices will be—**milk in pint bottles**: 14 cents for a single pint, 27 cents for 2 pints; **milk in cartons**: 15 cents per pint carton, 29 cents per quart carton. Out of the general increased 8 cents per gallon, dairyfarmers in the Sydney-Newcastle-Wollongong area will receive 2.95c, taking them to 56.67c gallon, factories will receive a combined increase of 2.80c to a total of 22.35c, vendors will receive another 2c, although the total working margin is not stated. Outside the Sydney-Newcastle-Wollongong area the return to dairyfarmers will range from 53.67c to 54.95c, with a possible deduction of up to 3c when high distribution costs were incurred through extension of the supply areas.

In W.A. the new price is 12 cents **per pint bottle**, the dissection being: dairy farmer, 46.4c per gallon, cartage from farm 2.4c, collection, treatment and bottling, 23.2c, vendor 24.0c.

MILK and ATOMIC FALL-OUT

Whatever may be one's opinion on the desirability of the French nuclear test or on the effect of radio-active fall-out on this and succeeding generations, one thing is certain, that press and radio commentators will refer frequently to the effect of the fall-out on milk.

And almost equally as certain will be an unfavourable reaction against milk and dairy products from those who are led to believe that milk will be harmfully contaminated.

The irony of the situation is that in the presence of radio-active fall-out, milk may be considered to be one of the least harmful foods.

Radio-active fall-out is harmful, the degree of harm depending on its density, the type of isotopes which it contains, and the period of time that has elapsed since the reaction which created it. The damage it causes depends on its composition, and can be somatic (damaging to the organism itself) or genetic (damaging to succeeding generations), or both. In some cases, as with ordinary wounds, the organism may be able to cure the damage, in other cases the curative function of the organism is itself damaged or destroyed by the radiation. The extent and the severity of the damage depend on the degree of exposure to the source of the radiation.

But few (if any) people will be subjected to direct exposure to radiation from a scientific test with a nuclear device, and, equally, few (if any) will suffer spectacular damage either directly or indirectly. The effects which are being predicted by scientists to follow from the French tests will not be sudden or spectacular, but will take place slowly, and unspectacularly and the results will tend, for the present generation, to be not death but shortening of life, with a greater incidence of leukaemia, anaemia and malignant tumors. Tragically, the effects on growing organisms are greater than those on static organisms, and the young suffer most in the extent of damage and the speed of its onset, whilst in the case of generations yet unborn, the damage is pre-existent, permanent and irreversible.

The sources of exposure are: by breathing contaminated air; by eating contaminated vegetable or animal material as food; by drinking contaminated water; the contamination in each case being by microscopically small particles of relatively short-lived, radio-active isotopes created from the material of which the exploding device was made, at the instantaneous moment of explosion. Of these isotopes, the two major culprits are strontium 90 (causing tissue damage in the living organism) and caesium 137 (causing genetic damage to descendants).

Strontium 90 has chemical properties that are in many ways similar to those of calcium, and is taken up by vegetation from contaminated soil and water, at the same time as the plant takes up calcium, and is deposited in the stem and leaf of the plant together with the calcium that is a normal constituent.

The use of such plants as foodstuffs exposes the eater to radiation through the deposition of Sr^{90} in the bone structure, along with the calcium.

But the cow, too, having grazed on pasture contaminated with fall-out, has the Sr^{90} deposited in her skeletal structure too, and part only of the ingested material passes into the milk, which may, consequently, be regarded almost as having been "filtered".

[The following article, reprinted from the May 1972 issue of the magazine "Butter & Cheese" is self-explanatory.]

Sorry Queenslanders, You Can't Claim The World's Longest Milk Run

The title should have gone to South Australia's long-distance runner, AMSCOL, with a 2,400 mile milk run.

One of the problems of reporting records claimed by other people is the chance that the record-claimers haven't checked their information.

'Butter and Cheese' was caught this way in its last issue. Mr. David Higbed, General Secretary of the South Australian Dairymen's Association Incorporated, has written the following in rebuttal of our statement that "Queenslanders held the record for the world's longest milk run".

"I have no doubt that jealousy, due to the fact that South Australian cows, in the driest State in the driest continent in the world, out-produce their sisters everywhere else in Australia (the lapse, at 707 gallons, to second place behind Victoria's 708 gallons for 1970/71 is just to give us a breather after the record breaking run in 1968/69, when we were the first State ever to break the 700 gallon barrier with 708, and a sizzling 724 in the following year, so that we are now the proud holders of the title "over 700, 3 in a row") causes this State to be so consistently disregarded by the members of the exclusive Eastern States Dairy Club. We in South Australia have now learned to console ourselves with the knowledge that our own superiority more than makes up for outward show.

"But there is no reason why this proud self-effacement should allow us to be trodden underfoot by downright lies, and I write in haste to set the record straight, although we will not demand a public apology.

"The cause of our unwanted concern is your paragraph "Longest Milk Run in the World" in the February issue of "Butter and Cheese", in which you make the preposterous claim that the longest milk run in the world is the 800 mile trip from Malanda to Mt. Isa, "more than 800 miles away". BIG DEAL!

"Overlooking, for the moment, the fact that the Adelaide Milk Supply Co-op. Ltd. no longer sends fresh milk (frozen in 4 gallon cans) to Kuwait at the head of the Persian Gulf, a conservative 8,000 miles, to South Australian dairy companies 800 miles is no more than a warm-up canter around the track, with 3 companies, Amocol (above), Metro Milk Co-op., and Golden North, all sending milk to Alice Springs, 1050 miles away.

"It is from this point that the pacemakers drop out and the real long distance runner (Amocol) takes over; supplying Katherine (1770 miles) which is the intermediate staging point for its runs to Darwin (a further 210 miles, totalling 1980), Wyndham (2120 miles), Kunanurra (2200) and Hall's Creek (2400 miles). I gather from Mr. Frank Beauchamp, the General Manager of Amocol that the reason why they do not go further than 2400 miles to the top end of W.A. is because they run out of land at that stage of the trip.

"I trust that we can expect a correction in the next issue of 'Butter and Cheese'."

Therefore, we must apologise to all those self-effacing South Australians who may have been offended last issue. We also commiserate with those Queenslanders who so happily thought they had the world's longest milk run. Next time a record comes up we will check it out with David Higbed. After all, he must be some kind of record holder himself with the length of his opening sentence.

(Incidentally, David Higbed and the editor of "Butter and Cheese" are good friends, and the bite to his whimsy is not vicious.)

—The Editor, "Butter and Cheese".

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PRICES & STATISTICS

ADELAIDE METROPOLITAN MILK SUPPLY AREA

	PRODUCTION (000 gallons)					
	For Month		Daily Average		12 Months' Cumulative	
	1971	1972	1971	1972	1971	1972
March	3,748	3,885	120.9	125.3	58,890	57,864
April	3,469	3,549	115.6	118.3	58,686	57,944

	MILK SALES (000 gallons)					
	For Month		Daily Average		12 Months' Cumulative	
	1971	1972	1971	1972	1971	1972
March	2,084	1,993	67.2	64.3	22,320	22,109
April	1,921	1,862	54.0	62.1	22,330	22,050

	RATIO (Sales to Production, per cent)				C.M.B. (Cents)	
	For Month		12 Months' Cumulative		1971	1972
	1971	1972	1971	1972	1971	1972
March	55.6	51.3	37.9	38.2	34.43	32.29
April	55.4	52.5	38.0	38.1	33.83	31.39

INTERIM PRICES TO LICENSED SUPPLIERS

(Prices are interim only, and subject to retrospective adjustment.)

1972	Basic	C.M.B.	Total	3.5%	4%	4.5%	5%
	(cents per lb. butterfat)			(cents per gallon at above test)			
March	43.51	32.29	75.80	27.38	31.29	35.20	39.11
April	43.51	31.39	74.90	27.05	30.92	34.78	38.65

LONDON PROVISION EXCHANGE QUOTATIONS

(Pounds Sterling per Ton)

	March		April	
	1971	1972	1971	1972
Butter—Choicest Australian (£S)	330	550	350	550
Cheese—Rindless Australian (£S)	295	480	295	480

AUSTRALIA

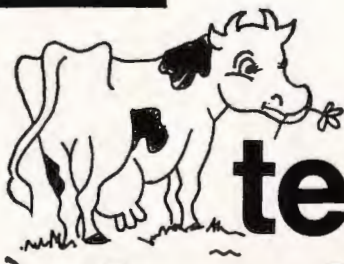
TOTAL MILK PRODUCED (million gallons)
Eight months ended FEBRUARY

	N.S.W.	Vic	Qld.	S.A.	W.A.	Tas.	Aust.
1971	200.1	745.2	123.0	77.7	40.5	78.7	1,265.8
1972	186.8	720.6	116.5	76.0	43.1	82.7	1,226.3
% Change	-6.6	-3.3	-5.3	-2.2	+6.4	+5.1	-3.1

FINAL VALUE AND RETROSPECTIVE FOR 1969-70

The long-awaited finalization of the 1969-70 season has now been announced by the Commonwealth Equalisation Committee, the value in terms of a Final Basic Price being equivalent to 43.88 cents per lb. butterfat.

This value will be passed on to producers by the payment, with the June 1972 Account Sales, of a retrospective payment to licensed producers of 0.56 cents per lb. butterfat (equalised) on all milk produced during 1969-70. No retrospective payments can be expected for later years until September.

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Adelaide, MAY/JUNE, 1972

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JERVOIS (Mr. Roger Vogt) WEDNESDAY, 20th SEPTEMBER

MEADOWS (Mr. Geoff. Oliver) THURSDAY, 21st SEPTEMBER

BALHANNAH (Mr. Rupert Camac) FRIDAY, 22nd SEPTEMBER

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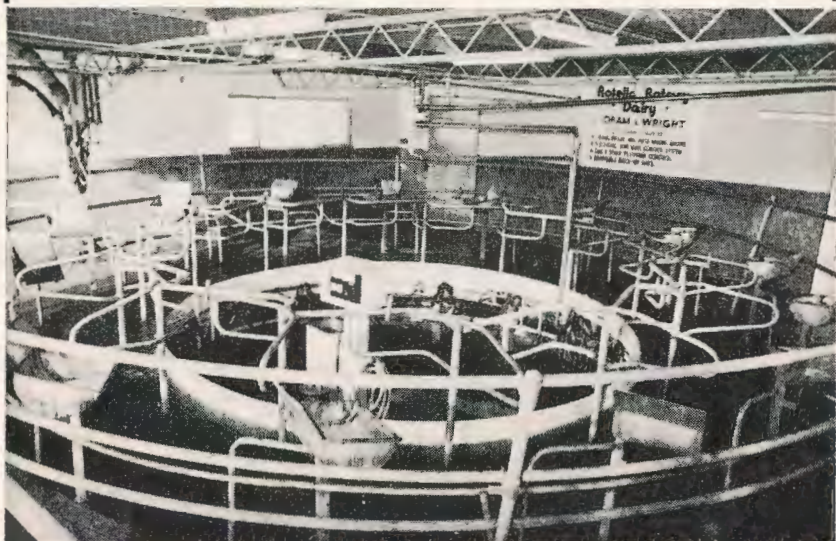
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The renewal of concrete floors in dairies by a method sufficiently rapid to enable it to be carried out between milkings will be demonstrated to dairy-farmers at a succession of field days to be held in major dairying areas.

In the past the renewal of a worn or deteriorated concrete floor has required the breaking-up and removal of the existing floor, and the relaying of a completely new floor consisting of concrete bed and trowelled top layer, a process which generally required several days of highly co-ordinated schedule, and necessitated the isolation of the area whilst the work was being carried out. Although many farmers have, no doubt, in desperation, tried to re-surface a worn but otherwise sound concrete floor, they have invariably discovered that the new surface, no matter how well laid and carefully cured, would quickly crack and crumble at the edges and gradually loosen and come away, even when the under-surface had been heavily keyed in the hope of increasing adhesion.

The use of cement additives such as latex-based and epoxy compounds, although initially more satisfactory, only extended the period before eventual deterioration again occurred.

A cement-based product has now been developed which, when used with a bonding agent, allows a floor to be re-topped in very thin sections, as little as $\frac{1}{4}$ inch, tapering out to wafer thickness if necessary, with the new surface setting harder and being more resistant to attack by corrosive substances than the original surface.

The product, which is readily mixed to a workable consistency, remains trowellable for about 30 minutes, but sets hard in about 70 minutes, permitting floors to be trafficable the same day, if necessary. Thus on dairy farms it is possible to re-surface the worn areas in milking bails between the morning and afternoon milkings.

The techniques involved are simple, and can be done by any dairy farmer or building tradesman, provided that the preparatory steps are carefully followed.

The complete procedure, from old floor to new surface, will be demonstrated on dairyfarms on the dates shown below. **The time of commencement is 9.30 a.m. in each case.**

TUESDAY, SEPTEMBER 19, Mr. John Goodrich's property, INMAN VALLEY.

WEDNESDAY, SEPTEMBER 20, Mr. Roger Vogt's property, JERVOIS.

THURSDAY, SEPTEMBER 21, Mr. Geoff. Oliver's property, MEADOWS.

FRIDAY, SEPTEMBER 22, Mr. Rupert Camac's property, BALHANNAH.

CENTRAL COUNCIL PROCEEDINGS, 15th JUNE, 1972

LONG TERM PLAN FOR DAIRY INDUSTRY: DAIRY STABILISATION

The Secretary reported that the Dairy Industry Bill 1972 had now passed both Houses of Federal Parliament. This legislation provided for a new 5-year Plan, with a subsidy in each year of at least \$27m. on butter and cheese, and an additional subsidy of \$800,000 for process milks. The actual amount of Commonwealth assistance would be determined in each year in the light of the needs of the industry and taking into account the action taken by the States in the adoption of an effective scheme to control production, but it would not be less than \$27m. per year.

The dairy industry's proposal had called for a Stabilisation Scheme for the next 5 years incorporating 8 points, the first of which was a level of subsidy not less than the present level of \$40.8m. The Federal Government had, subsequently, offered a minimum subsidy equal to the rate ruling prior to the devaluation of sterling in 1968, with the possibility of more to come if the industry could prove hardship, but subject of the industry's having been able to persuade the States to agree on some acceptable form of production control. In the second reading speech with which he introduced the legislation the Minister for Primary Industry (Hon. Ian Sinclair) had stated that "when the effective Production Control mechanism is settled those points of the Plan that are additional to the bounties provided for in this Bill will be spelt out as necessary in "legislation". The Minister's reference was to the other 6 points, namely:

- (i) **Licensing of Dairy Farms and the Closing of the Industry;**
- (ii) **Prohibition of Cheese Imports;**
- (iii) **Policing of Table Margarine Quotas;**
- (iv) **Prohibition of Coloring and Flavoring in Cooking Margarines;**
- (v) **Prohibition of Imitation Milks, and**
- (vi) **Uniform Quality Standards.**

Of these only the second could be the subject of Federal legislation. For the rest, the Minister might more appropriately have promised that he would use his good offices with the State Governments concerned, but he had given no such undertaking, and the attitude of the Federal Government had not been clarified.

Mr. Faggotter asked whether any progress had been made concerning legislation prohibiting the coloring of cooking margarines.

The Secretary replied that, despite the recent favorable ruling of the High Court, State Governments other than those of Victoria and Tasmania had not shown any great interest in the subject, and he did not expect any early action, if any, in this area.

Mr. Camac said that it was useless to expect State Governments to take any action unless the industry pushed for the appropriate legislation.

Mr. Temby then read a comment made by Senator Webster in Federal Parliament, concerning the margarine industry and its effect on butter consumption,

pointing out that the organisation most responsible for the growth of cooking-spread margarine was the international giant corporation, Unilever, the margarine sales of which had increased by 1,100 per cent, while those of its competitors had increased by only 82 per cent.

The Secretary said that one of the most disturbing aspects of the cooking-spread situation was the use of tallow which, because of the standards imposed on abattoirs by the U.S. Department of Agriculture, was required to be branded "inedible", but was apparently regarded by the trade in Australia as being suitable for the manufacture of cooking margarine, and from which it was alleged that the "inedible" label was removed before use. This matter was now being investigated by the Association to ascertain what action should be taken.

Mr. Diener said that this latest revelation appeared to increase the health hazard that already existed with cooking-spread margarine, owing to the use, in the fractionating process, of detergents which were known to be a cause of cancer, and, despite the State Government's previous inaction, these matters ought to be brought to the attention of the Premier. Although there was a possibility that the Premier might offer to trade the prohibition of cooking-spreads for a lifting of all quota restrictions on poly-unsaturated margarines, this was a risk that might be worthwhile taking, as the quantity of table margarine coming across the border considerably exceeded the South Australian quota.

Mr. Spicer then moved—"that action be taken to obtain the necessary technical information on which an authoritative case may be based."

He said that the first action to be taken should be to obtain the regulations which were used by the United States for the manufacture of margarine from tallow produced in that country. When all the evidence was available it should be referred to the Australian Dairy Farmers Federation for action at a national level.

Mr. Warner seconded the motion, but said that we should not assume that the regulations applied by the U.S. Department of Agriculture to tallow produced in this country were the same as those used in the United States in connection with the manufacture of margarine from its own tallow.

The motion was then carried.

TWO PRICE QUOTA SCHEME—PROGRESS REPORT

The Secretary stated that since the previous meeting of the Central Council, a meeting of heads of Dairy Divisions of State Departments of Agriculture had been held to consider implications of the ADIC Two Price Quota Scheme. Messrs. M. Irving, G. Itzerott and B. Hannaford had represented South Australia.

At this meeting both W.A. and Victoria submitted new, alternative proposals. The W.A. proposal was for a State Quota based on State consumption, and as this would give W.A. and N.S.W. a quota equal to twice their present production, at returns about 50 per cent above present prices, it must be regarded as being unrealistic. The Victorian scheme proposed the allocation of quotas to dairy factories in the form of "Domestic Price Product Entitlements", and the payment, by each factory, to its suppliers of an equalised price. This scheme had subsequently been rejected by the Australian Dairy Farmers' Federation, and the ADIC had submitted a report to the Federal Minister which did not favor the Victorian scheme, on the grounds that it gave no equity to dairyfarmers in the form of individual quotas based on past performance.

The Victorian Minister of Agriculture had addressed the Victorian Dairy Farmers' Association, and that Association had now withdrawn its support from the ADIC Scheme and was studying alternatives, including the Victorian scheme. It was difficult to know what step would be taken next, and how soon; the likelihood was that, some time in the not too distant future, a further meeting of Departmental heads would be held.

Mr. Spicer said that it appeared necessary for all of us to re-study the many plans that had been put before the dairy industry since the Gruen Plan was first proposed. This Association had, some years ago, supported the Gruen Plan, and the principles that we supported in that Plan were now lost.

Mr. Gerlach said that he, too, felt that we should always be prepared to study anything that might seem to be an improvement on the Plan that we now supported, and he consequently moved **"that details of the Victorian Scheme be sent to each delegate for study, and eventual consideration by the Central Council."**

He felt that a major drawback in the ADIC Scheme was the extreme complexity that would accompany the issuing of individual farm quotas, and the trafficking of quotas among dairyfarms, with the necessity of constant supervision on the part of an Authority. A plan such as the Victorian Scheme might also allow us to examine means whereby our produce could be stored against eventual shortages, a proposition that seemed unlikely if farm quotas were to be used.

Mr. L. Schubert said that as the Victorian Scheme proposed the allocation of "Entitlements" relating to each particular dairy product, it avoided the problems that might occur if factories decided to change from one commodity to another and gave assurances, that were not present in the ADIC Scheme, that the home market for each particular commodity would be fully supplied. As our factories were cheese factories, there appeared to be merit in the quotas being allotted to the factories, and he therefore seconded the motion.

The motion was then carried.

ADIC TWO PRICE QUOTA SCHEME—AUSTRALIAN BUTTERFAT QUOTA

The Secretary reported that a major defect in the ADIC Two Price Quota Scheme was the fact that, although the Australian Butterfat Quota would contain, in addition to the home market requirements, the requirements of the better export markets, the value returned by the export market component of the A.B.Q. would be the average export value, and not the actual value received from the markets so included. Conversely, production in excess of the ABQ which would be exported to less satisfactory markets would not return to the industry the actual values received, but would be averaged (equalised) with the returns from the better export markets. Thus a severe downturn in the export market situation, or, worse still, the existence of a large unsaleable surplus, each of which might yield a negative return to producers after factory costs, shipping, storage etc., had been met, would result in a quite appreciable reduction in the premium price for quota production, whilst the returns from over-quota exports would not move as sharply as the downturn should indicate. If the ADIC Two Price Plan was to reflect realistically the actual value of returns from the varying markets, it should be amended to provide for the export component of the ABQ to be taken in at actual value, and, correspondingly, for exports above quota to return their true value to the industry. The ADIC claimed that such a practice would be industrially and politically unacceptable. The Association did not support this view, and a case in support of the revision was being prepared at the direction of the Executive for referral to the ADFF.

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Mr. Temby said that, although it had been stated that the size of the levy to be paid into the Dairy Fund, if such a Scheme were proposed, would be politically and industrially unacceptable, it should be realized that the obligation to pay a levy could be legally enforced, and once the principle of a levy had been accepted by the industry generally, there could be no valid objection to paying a levy merely because it appeared to be relatively large.

Mr. Spicer stated that the greater the differential between the prices paid for quota and over-quota milk, the more dramatically was brought home to the producer the unprofitability of additional production, and any alteration to the Scheme which increased this differential should be supported.

In reply to a question from Mr. L. Schubert as to how long it would be before the price differential were revealed, the Secretary stated that the greatest differential would exist between the opening prices for quota and over-quota milk declared at the beginning of the season, and that this differential would have the effect of ensuring that there was no initial incentive to increase production.

Mr. R. Schubert said we should be aware of the problems that could be encountered in the supply of market milk, if too great a disincentive were applied in a way that would induce a sudden reduction in production, and further consideration should be given to the possibility of staggered openings, in order that quota cut-off points would be spread throughout the year for individual farmers.

Mr. L. Schubert said that, paradoxically, the absence of a quota scheme during this period of rising prices, had prevented farmers from utilizing their own excess production for raising calves, and, because of the very high costs of milk replacements, fewer calves were being reared, and the market for calves was over-saturated and underpriced.

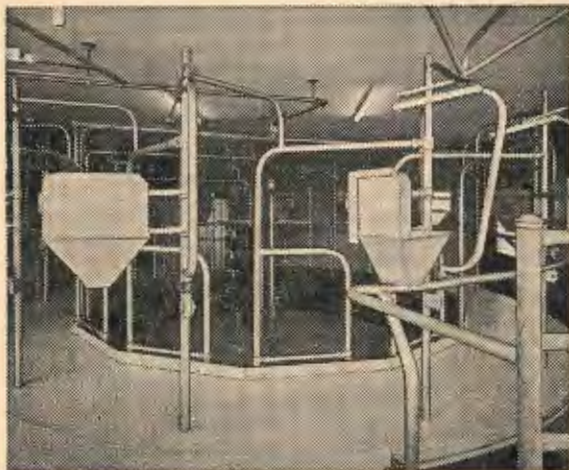
BASIC PRICE

The Secretary reported that, since the previous meeting of the Council, further discussions had been held with the Merchants, and, by negotiation, the Basic Price had been increased to the present rate of 40.46c lb. b.f. This price had been offered by the Merchants for the period May to September, 1972 inclusive, to be followed by a further examination, prior to the setting of a new price in October, 1972, based on manufacturing and cartage costs calculated as soon as possible after the 30th June, 1972. The Executive Committee had accepted, without prejudice, the Basic Price of 44.46c for the period May to July only, and was seeking further discussions, with the possibility of independent arbitration, for a more satisfactory formula which could include earnings received by Merchants and not taken into the interim cheese value from which the Basic Price was calculated.

He believed that the Merchants had been alarmed by the rapid increases in costs, particularly wages, which had taken place last year, and which had not been reflected in the official Manufacturing Allowance, and had overlooked that the difference between the assessed cost of manufacture allowed in the Formula and the actual cost of manufacture had always existed, and had been at least partly off-set by the difference between the interim value for cheese and the actual returns received by Merchants for cheese, including all allowances and recoveries.

He considered a satisfactory Formula could be devised by using the Merchants' own cost of manufacture and a value for cheese which included additional recoupments, and although the consequent Basic Price might appear to be somewhat lower than prices paid for milk for cheese in the South East and in other States, there were good reasons for this difference which could be quiet readily explained.

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DAIRY RESEARCH

The Secretary reported that legislation had now been passed by the Federal Parliament by which levies for dairy research would be imposed on all milk produced, in lieu of the previous levies on butter and cheese only, whilst the authority for determining projects to be undertaken had been removed from the overall responsibility of the Australian Dairy Produce Board, and placed in the hands of the Dairy Research Committee, which comprised practically the same representation as in the previous Committee plus representation of market milk interests. It remained to be seen whether the priorities adopted by the Committee under the new arrangement would be better than those in the past; it was hoped that a much greater degree of importance would be given to the consumption of dairy products, rather than to expansion of their production. As far as South Australia was concerned, the Executive Committee had held several meetings with the officers of the Research Centre at Northfield, concerning projects being undertaken and proposed, and it had been agreed that Conferences would be held between the Executive and the Research Officers in July and November of each year, in order that new projects and progress on current projects might be examined.

Mr. Temby asked when we were going to get an assessment of the value of Research Projects already undertaken by the Australian Dairy Produce Board.

The Secretary stated that this hinged on work that he was doing in analysing the allocation of funds since the institution of the Research Programme in 1957. The latest details of allocation available were those for 1970/71, and he expected to receive the allocations for '71/72, and the allocations under the new arrangements for '72/73, within a few weeks. However, from the information already to hand, it was obvious that, insofar as the overall economic welfare of the industry was concerned, there were grave errors in the allocation of funds, most of which appeared to be directed toward increasing production in areas that were not truly dairying areas, with a very small portion devoted to research into marketing and consumption patterns.

RE-DIVISION OF DISTRICTS

The Secretary reported that, during the negotiations concerning the proposed amalgamation with the UFGSA, the Secretaries of the two organisations had been instructed by their respective Executive Committees, to draw up a proposal for dividing the Central Region which covered the Adelaide milk supply area, into Branches to comprise Dairy Commodity Committees, these being the equivalent of the present S.A.D.A. Districts. Although the unity proposals had now lapsed, the revision of the S.A.D.A. District organisation had been long overdue, and the work done by the Secretaries had provided a working basis for a re-division of the area covered by the Association's membership. The present District organisation had changed over the years, and there were now gross inequalities in sizes of Districts, with Districts ranging from membership in excess of 200 to membership of less than 40. A proposal for a redistribution had now been sent to all Delegates to the Central Council, the proposal being based on the same criteria that had been used by the Secretaries in their earlier work, namely the distances to be travelled to meetings, Local Government boundary areas, main roads, and community of interest. The major changes in the proposal were for the division of the present Upper Torrens Valley District into two, each with a membership of approximately 100, and the division of the combined Clarendon and Meadows Districts into three new Districts, each having a membership of approximately 100, the proposed names for the new Districts being Meadows, Echunga and Clarendon. In the Secretaries' plan the River Murray District had been divided into two, but, following the publication of the Secretaries' Plan, the River Murray District had expressed a wish to remain as a single District with Branches, and this wish had been carried out in the proposal.

Mr. Oliver said that, speaking as a member of the District that would be most affected by the proposals, he considered that experience had shown that the smaller, more local Branch meetings were better attended, and the proposed smaller Districts might give a greater degree of identification to the members.

Mr. Turner said that the Proposal had been before the Central Council for a considerable time now, and Districts had had ample opportunity to consider its implications. He therefore moved: "that this Central Council accept in principle the proposed redistribution of Districts, and that the redistribution be adopted from the date of the next Annual Meeting of the Central Council, subject to such amendments as may be made by the Executive Committee in the event of any objections to the proposal being lodged by Districts".

Seconded by Mr. Diener and carried.

The Chairman added that, as in the past, individual preferences would always be recognised where members wished to be attached to a District other than that in which they were situated geographically.

UNITY

The Secretary stated that the "Farmer & Grazier", in its last issue, had published the Draft of the Unity Proposals, stating that this was done in response to many requests from members. Unfortunately the Draft as printed had been incomplete, by the omission of the sub-paragraph relating to the signing and sealing of the Draft by the S.A.D.A., the impression given by the Draft as published being that the U.F.G.S.A. had, in fact, been the only party to have agreed to the Draft. He had written a letter to the Editor of the "Farmer & Grazier", asking that the omission be corrected.

MILK PRODUCERS' LICENCES

The Secretary stated that two meetings had been held with the Milk Board, at which representatives of the Merchants were present, and one conference with the Minister and representatives of the Milk Board, concerning the continuation of the Milk Board's policy of freezing producers' licences. The Milk Board's power to refuse licences was subject to doubt, and consequently the Board had now rescinded its decision, made in August, 1970, not to issue any further licences, and licences would in future be granted to new applicants provided certain very stringent requirements are met.

The Executive Committee had decided that, in order to close the apparent loophole in the Act, the Minister be requested to give the Board undoubted power to refuse licences. At a conference with the Minister, attended by representatives of the Milk Board, it was decided that, rather than raise the subject at this time, when there was considerable confusion and lobbying in relation to the dairying industry, it would be preferable to amend the Metropolitan Milk Supply Act and the Dairy Industry Act simultaneously at the same time as the legislation relating to the Two Price Quota Scheme was being introduced to the State Parliament, and, at this conference it had been agreed that it was inopportune at present to legislate for additional powers to be conferred on the Milk Board to control the issue of licences, in view of the probable necessity to amend the Act in conformity with Legislation required to implement any Federal Control Plan.

However, it should be noted, that at the time when this Conference was held, it had been expected that legislation to initiate the Two Price Quota Scheme would have been presented to Parliament within the next few months. As it was now uncertain when legislation would be introduced, the matter of restriction of licences was, once again, wide open. Since the Board had announced its intention of issuing new licences, only two new licences had been granted.

Mr. Easton said that, although the Board had decided to recommence issuing licences, the conditions that would now need to be met were far more stringent than in the past, and, for this reason alone, we would not expect to see a very large number of applicants able to come up to the Board's standards.

METRIC CONVERSION

The Secretary reported that, as far as dairy products were concerned, very little progress had been made concerning the metrication of commodities. It appeared, at the moment, that bottled milk would be in 600ml, 300ml, 200ml units, whilst cartoned milk would be in 500ml and 1 litre packs. However, we should not rule out the possibility of 1 litre bottles.

It was originally intended that butter be packed in a basic unit of 500gm, with subdivisions of 375, 250, and 125. There was now considerable pressure for a basic pack of 450gm. or 454gm., being nearly equivalent to the present 1 lb. pack, but it was considered most unlikely that any success would be achieved with this proposed change, although the Eastern States were alleged to be very strongly in favor.

In the case of both butter and milk there were substantial technical problems involved in the phasing-in of the new packs, and, as far as milk was concerned, in New Zealand it was proposed that 600ml. and 1 pint bottles be used simultaneously, phasing out the pint bottles in 20 months, with the New Zealand Milk Board meeting the cost of the additional milk in the 600ml. bottles. The adoption of a similar scheme in South Australia would involve a loss to the producers of approximately \$186,000 per year during the phasing out period.

Mr. R. Schubert said that the margarine industry had already stolen a march over the dairying industry by putting its product in 12 oz. tubs, thereby giving the appearance of a lower price. Under the new legislation the dairy industry would have the opportunity to use a 375gm. pack, which was an approximation to 12 oz. but it would be necessary for us to follow as closely as possible whatever size pack the margarine industry chose.

The Secretary said that, as far as farm milk tanks were concerned, it was proposed by the Metric Conversion Board that all farm tanks produced after 1st April, 1972 be fitted with dipsticks calibrated in litres, and that, some time in the future, whether on a common date for the whole industry or factory by factory, farm tanks now in use would be equipped with the new dipstick calibrated in litres. For a very great number of reasons, the chief of which was cost, as the calibration of a new dipstick would cost approximately \$80 at present, it seemed reasonable for the industry to resist this expensive undertaking, and to request permission to use a conversion chart rather than be put to the expense of recalibrating every dipstick now in use. Although there was some scientific backing for a dipstick calibrated only in volumetric measure, as the factory needed to convert, at some time during its calculations, to a weight basis, there appeared to be no objection to introducing the weight basis earlier in the milk processing cycle, and it was at this stage that a conversion chart could be used. Alternatively the conversion could be made at the farm as soon as the milk was loaded on to the tanker.

Mr. Kretschmer said that his District had discussed this matter, and he consequently moved—"that this Association support the use of Conversion Charts during the life of all farm bulk tanks now in use, and equipped with imperial dipsticks".

Seconded by Mr. R. Camac.

Mr. Warner said that originally the Jervois factory was proposed to be one of the first to change over to metric measure dipsticks, but it had now been decided to retain the imperial measure dipsticks for the present because of several unknown factors, not the least of which was cost. In the meantime it was proposed to use a chart for conversion at the factory, and there seemed to be no reason why the use of such a conversion chart should not become universal where tanks were now calibrated with imperial dipsticks. At the same time the Association could consider whether it would encourage the use of meters; although there were a few problems still to be ironed out, the time was very near where accurate meters would be available for use on tankers.

Mr. Faggotter said he doubted, from enquiries made many years ago by Myponga, whether Mr. Warner's appraisal of acceptability of meters was correct; there still seemed to be problems involved with the measuring of entrapped air.

Mr. Oliver said that, regardless of the Department of Weights and Measures' attitude to the use of the Conversion Chart, it should be realized that the transaction was between the producer and the factory, and if both parties were agreeable to using a Conversion Chart, no notice need be taken of the official viewpoint.

The motion was then carried.

BUTTER QUALITY

The Executive Committee had proposed that, in order to lift the quality of South Australian butter, which it considered might be, in part, responsible for the position of South Australia as having the lowest consumption of butter per head in Australia, they cream should not be used in butter intended for blending for domestic sale, but should be confined to commercial packs. The latest Ashby Survey had indicated that Adelaide had again resumed its place at the foot of the table of consumption per 100 households, and no other explanation had been submitted for this situation. So far no reaction had been received from the Butter Manufacturers' Association concerning this proposal.

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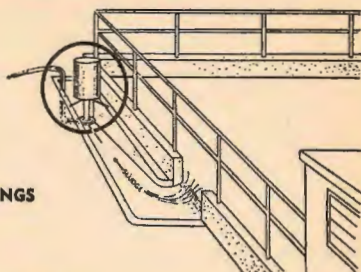
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BUTTER AND CHEESE MARKETING FUNDS

It was noted that the Executive Committee had examined the various proposals relating to the setting-up of a Cheese Marketing Fund, similar to the Butter Marketing Fund, which had now been in existence for 5 years, and had forwarded to the Australian Dairy Farmers' Federation a motion "that consideration be given to the setting up of a Cheese Marketing Fund, to be financed from the funds of the Commonwealth Equalisation Committee, for the following purposes:—

- (i) subsidising brand advertising and other approved, allied promotional activities by cheese marketers, proportionately, at a rate to be determined, to the expenditure undertaken by the marketers on their own account;
- (ii) financing such other promotional activities as may be approved by the ADFF".

The Executive Committee had also submitted a motion proposing a change in the method of allotting the Butter Marketing Fund, the motion being—"that consideration be given to changing the allotting of the Butter Marketing Fund, from a grant of 0.75c per lb. unit sale additional to the level of expenditure undertaken prior to the introduction of the Fund to—

- (i) subsidizing brand advertising and other approved allied promotional activities by butter marketers, proportionately, at a rate to be determined, to the expenditure undertaken by the marketers on their own account;
- (ii) financing such other promotional activities as may be approved by the ADFF".

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Best described as a rotary herringbone, the new dairy compares more than favourably in price with existing commercial units on the market. The makers of the dairy plan to market their brainchild throughout Australia. A spokesman for the company said the unit had already attracted considerable interstate enquiry.

Basically the dairy consists of a 4 ft. wide circular steel platform. This is driven by a small variable speed electric motor through a friction wheel acting on the underside of the platform.

The platform is carried on 15 small wheels, one under each bail. Cows enter the platform through an automatically controlled gate, which opens when a respective bail is in place to accept the cow. Each bail is fitted with a feed trough into which pellets and molasses is automatically dropped as each cow enters. The feeders can also be manually operated to give individual cows extra feed if required.

The cows are held in position by special gates which are automatically locked behind them as another cow enters the platform from behind. When the cow has entered the bail the operator washes and stimulates her udder using warm water on tap near the entrance and applies the teat cups. The speed at which the platform revolves can be controlled to suit varying conditions. On average the unit completes one revolution every six to seven minutes.

All operations including reversing the platform, operating the backing gate and the vacuum operated entrance and exit gates are controlled from a console in the milking pit.

The unit is designed so that once the operator enters the pit at the beginning of milking he does not have to leave until the last cow has left the platform.

The new dairy required the development of a special milking machine, which is mounted under the platform. One of the main differences with the milking machine is its specially designed combined vacuum and collector tank instead of two separate containers. The collector tank is fitted with two electronic probes which sense the level of milk in the vessel, automatically starting and stopping a pump which conveys the milk to the milkroom. The milk leaves the revolving platform through a specially designed gland and slip ring.

At present the dairies are being made in three basic sizes: a 10, 15 and 20 cow unit.

The makers are offering their new dairy as a package including shed, yards and the necessary internal equipment. On this basis the 15 cow unit (without bulk milk vat) is being quoted at about \$16,000. This price includes everything else like yards, milking machine and backing gate.

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BULK TANK METERS

How Long Before Adoption?

Milk meters are used in several of the world's major dairying countries, where they operate with apparent satisfaction and a degree of accuracy which is claimed to exceed that of dipstick measurement.

Because of the high cost and inconvenience of converting all the dipsticks now in use in Australia to metric measurement (although the policy of the S.A. Dairymen's Association is to oppose the compulsory recalibration of dipsticks, in favor of conversion charts), the Metric Conversion Board is seeking the views of the Institute of Dairy Factory Managers /Secretaries, and the Dairy Equipment Manufacturers Association, on the possibility of approval for the use of milk meters being granted within 2 years, and their consequent adoption by the industry.

The Association has closely followed the development of milk meters and their increasing use in Europe, but does not consider itself able to express an authoritative opinion at this time, and consequently sought information from the Warden of Standards in the Weights and Measures Department.

The Warden has replied as follows:

"Milk meters are used in at least Germany, France, Denmark and Scotland. They are not in use in Australia because they are not as yet pattern approved for trade use. Until this approval is given they cannot be used. I should point out that there are certain problems with milk meters, not all of which are associated with Weights and Measures, or pattern approval. These are: the high cost of purchase and maintenance (*the figure of \$7,000 per meter has been quoted.—Ed.*), the relatively poor accuracy of ± 1 per cent, the fact that the unit has to be primed before use. With regard to the last point: in Europe they are allowed to prime the meter with water, but Australian health authorities are apparently not so generous."

In reply to a further query as to why meters should not be used for milk when the verifying of farm tanks was done with a meter, the Warden stated:

"All farm tanks are verified by our master meters. This is not inconsistent: the meters we use are the Rolls-Royce of meters, they are pattern approved for use on **petroleum products and water**, and have an accuracy factor of ± 0.025 per cent. They are **forty times** more accurate than the milk meters referred to above; however, they could not be approved for trade use for measuring milk because of the nature of their component parts."

PRODUCTION CONTROLS—DAIRY INDUSTRY

(Statement by the Hon. Ian Sinclair, Minister for Primary Industry)

"The Australian Agricultural Council has decided to ask State Directors of Agriculture and Commonwealth officials to meet urgently and confer on proposals to introduce a production control scheme for the dairying industry."

The decision to hold the meeting was made after the Council discussed the proposals for production control. The Australian Dairying Industry Council has proposed that a two tier production quota scheme be introduced to the industry.

The Victorian Government, on the other hand, has proposed a different scheme based on dairy factory intake and factory usage of milk.

Mr. Sinclair said it was hoped that the meeting of the officials would be held within the next month.

From the meeting, which will exhaustively examine the proposals for production control and other relevant aspects, it is hoped an early report will become available for the consideration of all Ministers of the Council.

These considerations, it is expected, will be discussed with the leaders of the component sectors of the dairy industry.

WORLD DAIRY RECORD

On 16th October last year, Skagvale Graceful Hattie, an eight-year-old cow owned by Tenneson Brothers, Seldro Woolley, Washington State (U.S.A.), upon completing her fifth lactation, shattered the world's milk production record.

In 365 days on twice a day milking, "Hattie" produced 44,019 pounds of milk, tested 3.4 per cent and produced 1,505 pounds of butterfat. This is the highest milk record ever made by any cow regardless of the number of times milked daily. Her average production for the 365 days was a phenomenal 120.6 pounds per day!

Also during lactation, "Hattie" broke the world's 305-day record, producing 37,933 pounds of milk and 1,318 pounds of butterfat with a 3.5 per cent test.

Her lifetime milk production in five lactations now reads 171,879 pounds—an average of 34,375 pounds per 365-day lactation. Her average milk production per day in 1,846 days is 93 pounds per day!

In telling about "Hattie's" accomplishment Tenneson said: "She has made her record being fed a commercial 12 per cent grain mix, hay and pasture! Nothing else! She was milked in an elevated milking parlour with the rest of the herd with no hand stripping. She will be one week short of being six months pregnant when she finishes her record and, as has been the case every single time, she conceived on first service."

COWYARD MUCK A THING OF THE PAST

"The Arkansas Fiddler" is a song about a hill-billy who couldn't mend the roof of his cabin when it was raining and didn't see the need to when it was fine, and with so many things to do in Spring and Summer, many dairyfarmers may feel the same about tackling the problems which have plagued them every winter for years, mucky cowyards and boggy tracks.

The reluctance may often be due less to disinclination than to doubt as to how the work could be done to effect a permanent cure at less than ruinous cost, with concrete, road-metal or bitumen the most obvious, and costly answers.

It sounds almost too good to be true to learn that the application of a chemical (sulphonated petroleum/water soluble oil) to a finely-worked soil base, is capable of providing a permanent, traffic resisting surface which is being widely used for the making of roads, airfields, and similar applications when previously an expensive process of foundation and topping would have been regarded as the only appropriate technique.

The process is simple, but success depends on the degree of care with which it is carried out, and a strict schedule of soil working (to a fine tilth), application of the stabilizer in a 1:1000 solution, maintenance of surface wetness for 3 days, with a subsequent heavy watering and rolling is essential for the best results.

The stabiliser can also be used successfully on dam walls and in controlling sand dunes.

Although no instances of its use on South Australian farms can be cited, an enquiry to this office (phone 51 3034) would enable contact to be made with the local distributor.

THE SOUTH AUSTRALIAN

DAIRYMEN'S ...

Journal



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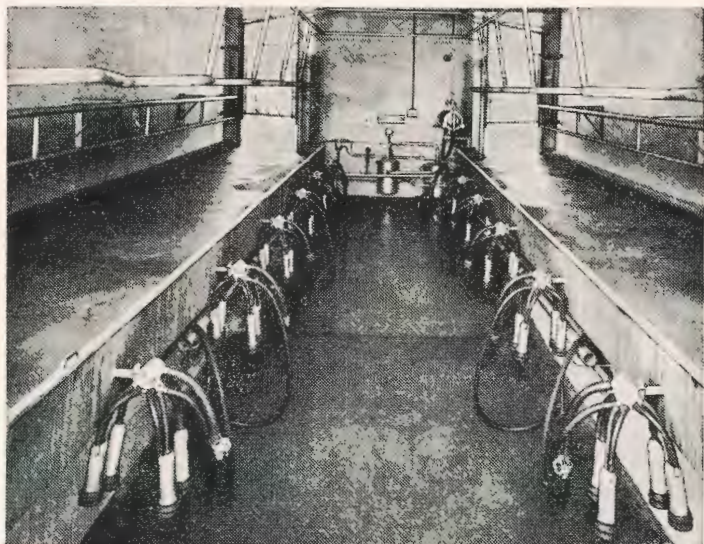
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THE SOUTH AUSTRALIAN DAIRYMEN'S JOURNAL



Published by

**THE SOUTH AUSTRALIAN DAIRYMEN'S ASSOCIATION
INCORPORATED**

Aston House, 13 Leigh Street, Adelaide, 5000. 51 3034

President:

General Secretary:

N. M. GREEN, Esq., J.P. DAVID J. HIGBED, B.Ec.

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General President's Annual Report For the Year ending 30th June, 1972

With each year, as shown only in part by the number of meetings held or attended, the Association's activities increase; not because of growing problems but by greater participation in the management of the industry, directly and through representation on the various bodies by which dairying is administered in this State, reflecting the standing of the Association and the recognition of the part played by the dairyfarmer in a progressive and economically important industry.

The producers' contribution to both the progress and the economics of the industry can be demonstrated by a review of statistics relating to the growth of output and productivity during the last 25 years in the Adelaide milk producing area.

PROGRESS IN 25 YEARS

In 1947 the 3,125 dairyfarmers licensed by the Metropolitan Milk Board, in its first year of existence, produced 22 million gallons of milk, averaging 7,040 gallons per farm. In the year just completed 1,666 dairyfarmers, little more than half the original number, produced 58 million gallons, the average of 34,600 gallons per farm being almost 5 times that of 25 years ago.

The value of the region's output has, of course, been increased both by the greater production and by changing values, the estimated final value of \$20 million (\$12,000 per average farm) for the year under review greatly exceeding the modest \$2½ million (\$800 per farm) value of production in 1947/48.

But greater productivity and higher values have been accompanied by rising costs, and although the net income of the average producer today is far higher in monetary terms, and probably higher in terms of real value also, than those of 25 years ago, the strain of managing, single-handed and year-round, as most dairyfarmers in the region still do, the average herd of 50 milking cows is such that the possibility of further gains in productivity is diminishing. Consequently the main counter to continued rising costs must now come from higher average returns.

NEW VINTAGE CHEESE LAUNCHED

A new extra-matured rindless VINTAGE CHEESE, manufactured at the company's Murray Bridge factory, was introduced to Adelaide recently at a special tasting arranged by Southern Farmers' Co-operative Limited. The Manager of the Dairy Produce Division of Southern Farmers, Mr. R. K. J. Barker, said that the cheese, which had been matured for at least 12 months, would be sold in 1 lb. packs, and he believed it would become very popular with Australian consumers, as there was a growing market for a fully matured cheese.

OUTPUT AND SALES

Although higher prices, commensurate with higher costs, for market milk and for milk for manufacture, should continue to be sought, an increase in the proportion of output sold as market milk is equally effective and does not tend to suppress sales as do price increases. In this respect the total combined sales of 22,131,000 gallons of market milk and cream, representing 38.4 per cent of the year's total milk production, are disappointing when compared with the peak of 22,372,000 gallons sold in the previous year, with a ratio of 38.6 per cent, especially as 1971/72 was the second year of the Metropolitan Milk Board's sales promotion program. Although the experience of other States with the promotion of milk gave no cause for optimism, the Association was prepared to support, for a 3-year trial period, the Board's proposal, and the program's first year was given some credit for an increase in milk sales of 2.2 per cent above those of 1969/70, a year in which a record output of 58,505,000 gallons combined with a disappointingly low sales total of 21,890,000 gallons (1966/67—21,156,000; 1967/68—21,974,000; 1968/69—21,638,000 gallons) to give the lowest-ever ratio of 37.4 per cent.

At least part of the fall in sales must, however, be blamed on the strike of dairy factory employees in September, 1971, and the consequent loss of over 100,000 gallons of recorded milk sales.

The very heavy financial burden which producers suffered through having to dump many thousands of gallons of milk, and the grave risk of permanent damage to milk marketing, have demonstrated the vulnerability of producers who are not parties to the dispute and the necessity to meet future crises of this nature with a scheme which will distribute the losses more equitably.

CREAM MARKETING

The position of cream marketing is more encouraging, and the Association's action in mounting a massive cream marketing campaign has been fully vindicated by the results.

Sweet cream sales are now $2\frac{1}{2}$ times greater than prior to the campaign, and continue to climb, the total of 2,683,000 pints in the year under review being 8 per cent higher than in 1970/71. Nevertheless it must not be forgotten that the price now received by the producer for sweet cream is less than that received in 1958, when Victorian cream first invaded the South Australian market, and the Association has asked the Milk Board for a review of the producers' price.

CHEESE SALES AND RETURNS

As in previous years, the greater part of the producers' output has been used for the manufacture of dairy produce, particularly cheese, and again the high quality of the cheese produced by the factories within the Adelaide Milk Supply Area, reflecting in turn the quality of the milk and the growing use of refrigerated farm tanks which are now installed in all but one-quarter of the farms in the area, has resulted in a continued demand for both cheddar and fancy cheeses for the export markets supplied through the Australian Dairy Produce Board. Chief among these has been the highly critical Japanese market, which, following the revaluation of that country's currency and the general upward trend in world dairy prices, now returns values exceeding those of the domestic market two years ago.

The domestic market is, nevertheless, far more profitable to the producer than even the highest priced export market, and although export markets continue to receive priority from the Companies to whom our milk is sold, there are welcome signs of growing attention to the local market which must surely offer greater returns to both producers and processors.

Prices for cheese have, during the year, been at unprecedentedly high levels, with all exports sharing the buoyancy of the Japanese market to which reference has already been made, with the price on the London market, once our most important outlet, reaching a record 480 pounds sterling per ton, compared with a range of from 260 to 315 pounds during the previous year, whilst wholesale prices for cheese for local consumption have also been raised substantially.

PRICES FOR SURPLUS MILK

For producers in the Adelaide Milk Supply Area the higher cheese prices have resulted in a basic price for milk for manufacture considerably higher than in past years, but not correspondingly higher, as increased manufacturing charges, particularly labor costs, led the dairy companies, at the beginning of the year, to abandon the formula which, with some amendments, had been used since 1952 to calculate the basic price from the Commonwealth Equalisation Committee's official values. Negotiations for a new method of determining the basic price have continued throughout the year, and although differences of opinion have, at times, been evident, I believe that we are close to obtaining an agreement which should safeguard the interests of both sections.

The opening value for 1972/73 of 44.57 cents per pound butterfat, at the farm gate is, despite a reduction of nearly one-third in the amount of Commonwealth bounty, the highest opening price ever received and will, almost certainly, eventually exceed the record final basic price of 51.92 cents in 1958/59. *(The 1958/59 price of 51.92 cents is equivalent to 77 cents in terms of purchasing power at 1971/72 prices.)*

MILK PRODUCERS' LICENCES

But however satisfactory may be the price for our surplus milk, relative to earlier years, it falls far short of production cost, which can be met only if a substantial portion of output is sold as market milk. The Association consequently viewed with concern the decision of the Milk Board, in March, to revoke the policy it had adopted late in 1970, by announcing that it would resume the issuing of new milk producers' licences. Although the Board's change of policy was the result of doubt about its legal power in this respect, the Association believes that action to give the Board undoubted power to control the number licences should not be long delayed. The closing of both the market milk and manufacturing milk sectors of the dairying industry should be the precursor to any production control scheme, and the interests of those at present engaged in the industry should take precedence over those seeking to enter it.

PRODUCTION CONTROL

Despite the continued insistence of the Minister for Primary Industry, the possibility of the introduction of a production control scheme is still conjectural. The Two Price Quota Scheme submitted to the Federal Government by the Australian Dairy Industry Council, despite its ostensible support by the industry generally, contains too many obscurities to permit its adoption without considerable refinement and revision, particularly in respect to market milk and to the export component of its "Australian Butterfat Quota", and we must hope that the forthcoming conference of Directors of Agriculture may succeed where the industry has, so far, failed. Their success cannot, however, be complete, because of the Victorian Government's opposition to the ADIC Scheme, and its support for a much simpler but less equitable "factory entitlement" scheme. The Association will, I believe, be examining the extent to which the Victorian Scheme can be modified to provide equity for the producer, to permit a compromise without which the agreement by all States to legislate for some form of production control appears impossible.

THE ALLOCATION OF COMMONWEALTH BOUNTY

Whatever control scheme finally emerges, it is certain to be introduced only when necessitated by a serious deterioration in the market situation. Whether such a deterioration will result from the complete integration of Great Britain into the European Economic Community, and if so, how soon, cannot at this moment

DAIRY NEWS AND VIEWS ON A.B.C.

Up-to-the-minute news, comments and statistics are presented by the Association's General Secretary in the Australian Broadcasting Commission's Country Hour, in "Agricultural Comment", through 5CL on alternate Mondays, with particular emphasis on the latest prices declared for the Adelaide milk producing area.

be forecast, but it is certain that if a market crisis does occur it will be related to butter, rather than to cheese. In view of the possibility of such an eventuality, the payment of uniform rates of bounty for butter and cheese is surely unwise, when the return from non-fat products is boosting the total payment that can be made by butter factories, and so simultaneously diverting milk supplies from factories making cheese for which there is a certain and expanding market, to factories making butter for which home and export markets are declining or uncertain. A higher bounty for cheese would enable domestic prices to be maintained without further increases and consequent consumer reaction, and would provide factories with the assurance necessary for long-term export contracts to be negotiated with confidence.

THE MARGARINE SITUATION

Cheese, furthermore, has no substitute, whereas butter is increasingly vulnerable to competition from margarine, which, in its various forms, has made substantial inroads into the spread market, apparently uncurbed by the quota restrictions which apply to table margarine. Although the present quota quantities have remained unchanged since 1956 there is, with the occasional exception of what is probably a contrived deficiency of poly-unsaturated margarine, no apparent shortage of margarine, and it is obvious that the quantitative legislation by which quotas for table margarine are imposed, and the qualitative regulations relating to the ingredients of cooking margarine, have failed to halt the drift from butter. The time has come to examine whether these restrictions should be removed entirely, and free access to margarine of all types allowed to those who wish to avail themselves of it, either because of the cheapness of the cooking margarine or because of the imagined health benefits of the poly-unsaturated table margarines, provided each type was sold on its merits without artificial coloring to assist it to counterfeit butter. Although this exchange may not be readily achieved, our views are known to the Minister of Agriculture. We commend his proposals concerning the labelling of the two types, and will await with interest the results of the forthcoming meeting of Directors of Agriculture.

ACTIVITIES OF THE ASSOCIATION

The Association, either directly or through its representation on various industry bodies, has been active, at both State and Federal level, in all matters to which reference has so far been made, in addition to an even greater number of subjects, of perhaps lesser importance or immediacy, which have occupied its attention during the year. The work of the Executive Committee in interpreting policy and initiating action has required, in recent years, an increased frequency of meetings, and regular monthly meetings of the Executive, with provision for other special meetings, are now held.

The range of business contained in the agendas of both the Central Council and the Executive Committee covers every aspect of dairying, both market milk and dairy manufacture, and many matters relating to primary industry generally, and it is unlikely that unity with the United Farmers and Graziers' Association would have broadened this range, or added any subjects which have not already received the Association's attention. The continued existence of the two organisations can, consequently, only mean duplication of effort and the possible risk of differing viewpoints. Nevertheless the decision of the Association in October, after nearly 3 years of discussion and negotiation, not to amalgamate with our fellow organisation, was not taken lightly, and is not to be regarded as a rejection of the principle of unity. The Association believes that one voice to speak for the whole dairying industry in this State is desirable and any proposal intended to achieve this result will be given earnest and sympathetic consideration.

APPRECIATION

In determining its policies the Association does not work in isolation, but draws on the knowledge, experience and opinion of a very large number of people and organisations involved in or connected with the dairy industry, including the Minister of Agriculture (the Honorable T. M. Casey) and his staff, the Department of Agriculture, the Metropolitan Milk Board, and the Wholesale Milk Buyers' and Distributors' Association, to all of whom, on behalf of the Association, I give thanks for their co-operation and assistance.

I express my appreciation, also, to the Central Council delegates, to the Executive Committee, and to the staff, for their help to me and to the Association which has now completed its 38th year of service to its members and the industry.

—N. M. GREEN, General President.

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SEASONAL PROSPECTS FOR HAY SUPPLIES

At the time of going to press the outlook is unfavourable for both meadow and cereal hay. The Board of the Chaff Cutters' and Hay Merchants' Organisation has advised the Minister of Agriculture that there could be a shortage of baled and sheaved hay if one inch of rain does not fall in the hay growing areas (Roseworthy to Hamley Bridge) before mid-October.

The Chaff Cutters' buying price for new season's hay is \$28 per ton delivered into the Mill, and could be higher if conditions do not improve.

The Organisation has asked the S.A. Dairymen's Association for its co-operation in determining a buying price for baled and sheaved hay, in the event of a shortage, so that stocks can be made available at reasonable prices to consumers, and to avoid a repetition of the 1967 situation, in which, because there was no liaison, dairymen became concerned and offered prices for baled hay far above those that were necessary, resulting in a much higher price for all consumers.

REPORT OF ANNUAL GENERAL MEETING

Financial Year to be Changed: Constitution Revised

Several changes in administration, including a new date for the financial year, a widening of the avenues of investment for funds, and a redistribution of Districts were adopted at the Association's 37th Annual Meeting which was held on 24th August, 1972.

ELECTION OF OFFICE HOLDERS

Mr. Norman Green, of Monteith, was re-elected General President of the Association, and **Mr. David Turner**, of Inman Valley, was re-elected Senior Vice-President.

Messrs. Tony Kenny, of Ponde, and Garth Temby, of Jervois, were nominated for Junior Vice-President, with **Mr. Kenny** being re-elected to this office.

Seven delegates—Messrs. M. Diener (Willunga), C. Easton (Clarendon), J. Gerlach (Gawler), A. Kretschmer (Onkaparinga), G. Oliver (Meadows), G. Temby (Jervois) and K. Turvey (Milang) contested the ballot to elect four other members of the Executive Committee, the elected candidates being **Messrs. Kretschmer, Oliver, Temby and Turvey**.

CHANGE IN FINANCIAL YEAR

The Executive Committee reported that it had considered a proposal from the Meadows District that the Association's financial year, which is, at present, from 1st July to 30th June, be changed, to commence on 1st April and close on 31st March, the reason for the proposed change being to avoid the necessity to hold the Annual Meetings of Districts at a time when the annual meetings of other organisations were being held, and when the weather was often unpleasant.

The recommendation of the Executive Committee, that the Association's financial year be change to commence on 1st April in each year, was adopted by the Central Council, and consequently the next Annual Meeting of the Council will be held in April, 1973, with the Annual Meetings of Districts being held during March.

AMENDMENT TO CONSTITUTION

Under the present provisions of the Constitution, the Association's funds could be invested only in securities which were permitted by law to be trustee securities, mainly governmental and semi-governmental bonds and debentures, which return a relatively low rate of interest, although the security of the principal invested is virtually guaranteed.

In order to give the Association wider powers of investment, to obtain higher interest rates, and particularly to take advantage of the offer to take up shares in Federation Insurance Limited (see May/June, 1972 issue), the Executive Committee had given the one month's notice of motion required by the Constitution for a proposed amendment, recommending the adoption of revised rules that had been drafted by the Association's solicitor.

The Central Council passed the motion by the necessary two-thirds majority, and the following amendments have now been made to the Constitution.

Clause 32(c) in any shares, debentures, bonds or deposits in any limited company where such shares, debentures, bonds or deposits are approved in writing as suitable and proper investments for the Association by two members of the Stock Exchange of Adelaide who are not members of the same firm.

- 32A Any investment in shares, debentures, bonds or deposits referred to in clause 32 (c) of this Constitution shall only be made
- (i) after notice of intention to make such investment has been given for a meeting of the Central Council at which such proposed investment is to be considered; and
 - (ii) after a resolution specifically in relation to each such investment has been passed by the Central Council at a meeting at which not less than two-thirds of those present and entitled to vote have approved such resolution.
- 32B At no time shall the amount of funds invested by the Association in those shares, debentures, bonds or deposits referred to in Clause 32 (c) of this Constitution exceed 40% of the total funds of the Association invested in any form of investment.

REDISTRIBUTION OF DISTRICTS

At the previous meeting of the Central Council, held on 15th June, 1972, the proposed redistribution of Districts had been considered and accepted in principle, the redistribution to be adopted from the date of the Annual Meeting, subject to such amendments as might be made by the Executive Committee in the event of any objections to the proposal being lodged by Districts.

As no objections had been lodged, the original proposed redistribution became effective from 24th August, 1972.

The redistribution was the first to be undertaken since the Association was formed, although during this time Districts have been added, as dairying expanded in some areas, and existing Districts have been closed down where dairying declined. The changes resulting from the redistribution are confined almost entirely to the Upper Torrens Valley, Meadows and Clarendon Districts.

Originally Upper Torrens Valley contained six Branches, but changes in the region have reduced these to two: Spring Valley, with a membership of approximately 70, and Torrens Valley, with a membership of approximately 108. Prior to 1959 the Meadows District contained 5 Branches: Meadows, Echunga, Kangarilla, Macclesfield, and Clarendon, but in that year Clarendon was declared a separate District. The approximate membership of these Branches are now: 72, 45, 41 and 46 respectively, with the membership of the Clarendon District standing at 28.

The redistribution establishes Spring Valley and Torrens Valley and separate Districts, whilst in the Meadows region, the Meadows Branch becomes a District in its own right, Echunga and Macclesfield are joined to become a separate District, and the Kangarilla Branch and the Clarendon District also become one District.

No change has been made in the River Murray District, which originally had 7 Branches, but now has 5, as the Branches are too small to be constituted as Districts, and as the District is some 35 road miles in length, from Cowirra to Monteith, with settlements on each side of the river, it is not considered practical to group the settlements in any satisfactory way.

RATIONALISATION OF MILK PICK-UP TO BE INVESTIGATED

Mr. Winter formally moved the motion from the River Murray District "that the Association favour the adoption of rationalization of milk pick-up." He said that that subject had first been brought up at the Mypolonga Branch in a request that the matter be investigated; members were not absolutely clear as to the way in which such a scheme could be instituted, and the extent of the gains which might flow to the producers. However, as the Association had, on other occasions, expressed itself in favour of what were believed to be the savings from rationalization, the River Murray District Committee had submitted a motion in those terms.

The motion was seconded by Mr. Ancell, who said that the Upper Torrens Valley District had, some years previously, supported a similar move, although it was not clear as to whether the matter had received the support of the Central Council.

Mr. Warner said that at an earlier Central Council meeting it had been reported that the Board of Directors of the Metropolitan Milk Equalisation Committee had decided to appoint a Sub-Committee to investigate the subject of rationalization, and although the River Murray District's motion expressed the view that the Association supported such action, without any investigation into the advantages and disadvantages which might follow, this motion would at least have the effect of speeding up the work of the Sub-Committee.

Mr. Fulton then moved, as an amendment, the motion submitted by the Upper Torrens Valley District: "that in view of rising transport costs, in spite of claimed reductions through bulk milk pick-up, the S.A.D.A. endeavour to arrange Conferences with the wholesalers to investigate methods of rationalization." The amendment was seconded by Mr. Usher and carried.

NO FURTHER PROGRESS ON PRODUCTION CONTROL SCHEMES

At the previous meeting of the Central Council it had been decided to send to each delegate details of the Victorian Government's "Domestic Price Product Entitlement Scheme, "so that the proposal might be considered by the Council, and compared with the ADIC Two Price Quota Scheme.

In discussing the Victorian scheme, Mr. Kenny said that, although its simplicity appeared to be strongly in its favour, it contained grave dangers to the producers, not only in the possibility of expansive programs being followed by factories, but also in the possibility of factory economies being achieved by disregarding the rights of producers who might be located in what a factory could consider as uneconomic areas, in which case the factory might be in a position where it could offer inducements to its more favourably situated producers to expand at the cost of their less fortunately situated colleagues. For this reason it seemed desirable that if the claimed simplicity and economy of the Victorian Scheme were to be exploited, it should not put any producers at risk.

Mr. Gerlach said that, although Mr. Kenny's point was an important one, at least equally important was the method which would be used by the factories to spread, over all their producers, the economic burdens that would arise from over-production. Although it contained serious deficiencies, the ADIC Plan was at least clear on this point.

Mr. Spicer said that it was accepted that the Victorian Scheme did not require the allocation of quotas to individual dairyfarmers, but it was not beyond our ability to provide a suitable means whereby this could be done, and the Victorian Scheme improved to a point where it would meet our requirements. Apart from this deficiency, the Victorian Scheme had a great deal in its favour, and he considered it would be far easier to provide the necessary revision to the Victorian Scheme than to have the many deficiencies in the ADIC Plan corrected.

Mr. Temby said that the Victorian Scheme was intended to be a Scheme directed at the factories, and the allocation of farm quotas within the Victorian Scheme might not be all that simple. The producer's equity in a quota based on past performance was of prime importance in any scheme, and the producer's right to such equity should, in any scheme, be recognized by the full negotiability of the farm quota. Fully negotiable quotas would enable the industry, particularly in South Australia, to be relocated when, for example, it was threatened by water-catchment protection regulations or other factors.

Mr. Turvey said that the most important factor, and one which tended to be overlooked, was the timing of the introduction of the Plan; if this was left to the factories, the economic level of the industry could decline to an alarming extent before a demand was made for a production control scheme.

It was then agreed that further consideration of the subject of production control be deferred until more information is received.

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LABOR AWARD FOR S.A. DAIRYFARMS

Probably because the great majority of dairyfarmers in this State are owner-operators or family partnership, and not employers, no award has previously existed to regulate rates of pay and conditions of work for persons employed on dairyfarms in South Australia, and any requests to the Association for guidance in this field have been answered by referring to the Victorian award.

A new award has now been negotiated for rural workers in South Australia, based largely on an existing Federal award, and, although it is entitled "Pastoral Industry (South Australia) Award", its scope extends to "all employees employed in connection with the management, rearing or grazing of sheep, cattle, horses or other livestock, the sowing, raising or harvesting of crops, the preparation and treatment of land for any of these purposes, and the shearing and crutching of sheep", so that dairyfarming, although not specifically mentioned, is included in the "... management, rearing or grazing of . . . cattle . . ."

The Award, like all such awards, is comprehensive, and, in its present form, fills 41 pages and contains 72 clauses, but the summary printed below provides probably all the basic information necessary to guide dairyfarmers.

Nevertheless some aspects of the Award may require explanation or interpretation, and it is recommended that members who wish to know more about the Award than is contained in the summary printed below, or who have queries concerning special applications of the terms of the Award should telephone this office for the information required.

An order making the Award a "common rule", and hence applicable to all employers and employees in the industry, was made on 27th September, 1972, and is effective from that date.

PASTORAL INDUSTRY (SOUTH AUSTRALIA) AWARD

SUMMARY OF TERMS APPLYING TO DAIRYFARMS

1. **EXCLUSIONS**—Members of the employer's family, managers, domestic servants and bonofide students working as part of their course of study are excluded. Bonafide sharefarmers are likewise excluded.
2. **CONDITIONS OF EMPLOYMENT**—Weekly or daily; if weekly, then employment is terminated by one week's notice on either side given at any time during the week, or by payment or forfeiture of one week's wages as the case may be. Nevertheless the employer may dismiss any employee without notice for inefficiency, misconduct, etc., in which case wages shall be paid up to the time of dismissal.
3. **HOURS OF WORK**—For employees hired by the week, the ordinary hours shall be 44 per week, either on 5 days, Monday to Friday, or 5½ days, Monday to Saturday. Overtime above those hours may be adjusted by allowing equivalent time off within 3 weeks after the overtime is worked, or at some other mutually agreed time, except that the employee may elect to be paid for the overtime instead of taking equivalent time off. In this case the rate of pay for overtime is time-and-a-half, except for work performed on Sunday (other than milking, when the rate is time-and-a-half) when the rate is double-time.
4. **PUBLIC HOLIDAYS**—Employees shall be allowed as holidays without deduction of pay: Christmas Day, Commemoration Day, New Year's Day, Anniversary Day (Australia Day), Good Friday, Easter Monday, Anzac Day, 3rd Monday in May (Adelaide Cup), Queen's Birthday and Labor Day, or such other week days in place of the above as are mutually agreed beforehand. If the employee is required to work on a holiday and is not given another day off in place, he shall be paid double-time.

5. **ANNUAL LEAVE**—Three weeks' leave with pay for every completed year of service. For service less than a full year, the employee shall be paid three-fortyninths of the pay earned for ordinary time for the period of his service.
6. **SICK LEAVE**—One week's sick leave with pay for each year of service, accumulating and available for a period of five years from the end of the year in which it accrues.
7. **ADULT WAGE RATES**—Although the following wage rates have been set, in the case of adult male there is an over-riding requirement that he shall not be paid less than a minimum wage of \$51.10 per week of 44 hours.

Without Keep:	Per Week \$
Less than 1 year's experience	46.40
More than 1 years' experience but not a General hand	47.00
General Hand, who has had at least 2 years' experience and is capable of performing efficiently without supervision any task which might normally be required of him	48.70

With Keep:

The above rates less \$10.94 per week.

Daily Engagement:

Minimum of \$9.28 per day.

8. JUVENILE WAGE RATES—

Juvenile rates are based on a sliding scale proportionate to the adult rate.

Without Keep:	Age	Percentage of Adult Rate	Amount \$
At 15 years of age		45	20.90
" 16 " " "		50	23.20
" 17 " " "		55	25.50
" 18 " " "		65	30.15
" 19 " " "		75	34.80
" 20 " " "		90	41.75

With Keep:

The above rates less \$10.94 per week.

THE NEXT BEST THING TO A COMPUTER

The Department of Agriculture has frequently drawn the attention of dairy-farmers to the advantages of using a "Cow-Planner", and a Bulletin explaining how a handyman dairyfarmer (are there any other types?) can make a "Cow Planner" from hardboard is available from the Department.

Those farmers who have gone to the trouble involved in this "do-it-yourself" project, or who have purchased one of the "Planners" which were available commercially for a time, speak favourably of the device, but admit that it has some shortcomings.

We believe that these shortcomings have been eliminated, and the usefulness and versatility of the "Cow Planner" greatly enhanced by an English-made version, constructed entirely of heavyweight "Perspex", coded by color-printing and symbols, and available from the Association's office where a sample can be inspected.

Admittedly the cost is high, with a list price of approximately \$80, but the makers, Mayday Agricultural Services, suggest that the information provided by

the Planner may enable the investment to be recouped very soon after it is put into use.

The Planner provides an "at-a-glance" guide to the breeding sequence and other husbandry schedules of the whole herd, and a brief daily reference to the to the 9 sq. ft. "herd management tool" will record—

- the date of each calving;
- whether a cow has been observed in heat;
- if so, the date when she should be ready for service;
- the dates and number of return services, and a check on problem cows;
- cows that have been observed in calf;
- the drying-off date for each cow;
- when "steaming-up" (pre-calving feeding) should commence;
- the predicted date of calving.

All colors and symbols are printed on the reverse side of the transparent chart, to prevent scratching or soiling (notes can be written with soft-nib pens, and later be readily removed), and each cow is recorded by a colored disc, on which an identifying number can be written, and which can be applied or removed indefinitely without losing its self-adhesive (electro-static) property.

HERD SIZES IN THE ADELAIDE MILK SUPPLY AREA

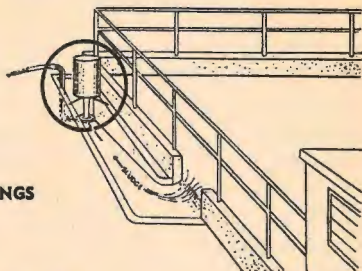
The following table, prepared by the Metropolitan Milk Board, shows the relationship between herd sizes and the number of licensed dairy farms during each of the last six years.

No. in herd (excluding heifers)	No. of herds at the date shown					
	30.6.67	30.6.68	30.6.69	30.6.70	30.6.71	30.6.72
1— 5	43	47	33	34	17	10
6— 10	117	92	97	65	53	36
11— 15	141	147	114	102	79	55
16— 20	202	176	154	122	104	92
21— 30	439	421	349	294	246	218
31— 40	369	363	359	329	309	258
41— 50	293	268	267	246	228	241
51— 60	197	201	204	203	220	199
61— 70	132	124	151	168	185	195
71— 80	69	70	91	105	119	122
81— 90	40	43	54	76	57	72
91—100	33	35	31	36	46	51
101—110	13	17	24	26	26	27
111—120	10	9	10	20	13	18
121—130	9	12	14	8	10	10
131—140	3	3	3	12	12	17
141—150	2	1	3	7	10	6
151—160	1	1	4	5	8	5
161—170	—	—	1	3	2	4
171—180	1	—	1	3	2	6
181—190	—	—	—	1	1	3
191—200	1	—	1	—	1	1
Over 200	—	4	1	2	1	4
	2115	2034	1966	1867	1749	1650
Information not supplied	3	8	—	—	9	16
No milkers at present	4	—	2	3	2	—
Total	2122	2042	1968	1870	1760	1666

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OVERSTOCKED, ANYBODY?

Perhaps You Could Try It This Way

Milking frequencies greater than twice daily are rarely used in Australia but the practice is sufficiently common in the U.S.A. at least to make it necessary for the Dairy Herd Improvement Association in that country to apply a compensating factor to bring all cows under test to a common "twice-a-day milking" basis for summarizing the performance of DHIA sires.

Through the years various investigators have made numerous studies to determine the effect of frequency of milking on total milk production. While the results of these studies are not in complete agreement, there is sufficient evidence to indicate that, on the average, at 2 years of age a cow will produce approximately 20 per cent more milk if she is milked three times a day than if she is milked only twice a day; at 3 years of age she will produce approximately 17 per cent more; and at 4 years of age and over, she will produce approximately 15 per cent more. Similarly, at 2 years of age a cow will produce approximately 35 per cent more milk if she is milked four times a day than if she is milked only twice a day; at 3 years of age, she will produce approximately 30 per cent more; and at 4 years of age and over, she will produce approximately 26 per cent more. These percentages are used as a basis for adjusting production records of cows milked more than twice a day to a twice-a-day milking basis.

MILK TANK METRICATION

ADFF Adopts SADA Policy:

"DON'T GO METRIC ON OLD DIPSTICKS"

This Association's consistent opposition to changing the dipsticks used in existing bulk milk tanks to metric measures (see Jan./Feb. 1972 issue of this Journal, page 12) has now been adopted as the policy of the Australian Dairy Farmers' Federation.

At its meeting in Melbourne on August 30, the Federation passed the following resolutions:

"That this Federation is opposed to the recalibration of dipsticks for existing farm bulk milk tanks and recommends to the Metric Conversion Board that metric conversion charts should be introduced for use with existing dipsticks until 1980.

"That it be a recommendation to State Constituent Organisations—

1. That the above resolution be taken up with State Government Authorities and
2. That dairy farmers be advised not to proceed with the recalibration of existing dipsticks pending acceptance by the Metric Conversion Board."

Delegates at the meeting agreed that, while the principle of metric conversion was supported, the conversion of farm bulk milk dipsticks was not necessary for three reasons:

1. Possible use of flow meters on bulk milk tankers in a relatively short time could make the recalibrated dipsticks redundant.
2. In view of this, and in view of the fact that conversion of existing dipsticks was not mandatory for at least several years, it would be inadvisable for farmers to be involved in what could probably be an unnecessary expense.
3. The existing dipsticks, calibrated in gallons or pounds weight can be used quite satisfactorily in the interim, providing bulk milk tanker drivers have a suitable conversion chart.

In addition it was explained that the methods used in measuring the quantity of milk and butterfat were not of a high order of accuracy, and the use of conversion charts which gave a metric equivalent for each calibration on a dipstick would interpose into the present 3 step calculation, a fourth step which would be almost absolutely precise, and would not affect the accuracy of the final result by even the slightest amount.

Therefore, until the situation concerning meters is resolved, the A.D.F.F. holds the unanimous view that dairy farmers should not undertake any conversion of farm bulk milk tank dipsticks. New bulk milk vats would, of course, be sold with metric calibration, and this was supported.

The Federation believed that, by taking this stand, individual dairyfarmers could be saved \$70 to \$80 each, at present costs, a saving that, on a national basis, could total up to \$2,500,000.

MASTITIS DETECTION WITH IN-LINE FILTERS

J. B. HOYLE and F. H. DODD

National Institute for Research in Dairying, Shinfield, Berks, U.K.

1. Clinical mastitis is usually detected by examining the fore-milk on a black disc or other surface, and stockmen do not often notice the disease until clots are present in the milk; some stockmen may notice the disease by means of udder palpation whilst machine stripping.

Disadvantages of both methods are that they aid the transfer of disease from cow to cow, and add to the milkers' work routine so reducing the number of cows milked per hour.

Furthermore even in herds with half the cows infected, a clinical case will be found less than once in 250 examinations, and stockmen tend to abandon the use of the foremilk cup, so that clinical cases pass unnoticed.

2. The requirements were therefore to avoid the necessity for the milker to handle the cow's teats and to provide a reliable means of indication of clinical mastitis which would not delay his normal routine.
3. The requirements could be met by means of an in-line filter/indicator but its type, construction and efficiency needed further investigation.

Initially Johnson & Johnson "Rapid-Flo" filter holders were used, incorporating single service black cellulose fabric filters. These were effective but had disadvantages in that foam was retained in the clamshell filter holders, obscuring visibility, and fitting new fabric filters took time.

Various designs of sock filter were considered, but were not easy to handle. However, once it was shown that a $1\frac{1}{2}$ mm stainless steel mesh "Expamet" filter would retain mastitis clots, it was possible to produce a reusable filter, having the mesh set at 22° to the axis of a $\frac{1}{2}$ in. bore clear plastic tube 5 inches long: this could be inserted in the long milk tube between the claw and the line or jar. The effectiveness of such filters was compared with the use of the foremilk cup.

4. In an experimental herd of 60 cows, 27,000 cow milkings were observed. Abnormalities graded according to severity were observed and recorded by one or both methods on 727 occasions. Of the 156 clinical cases, 102 lasted more than one milking, and in 83 of these clots completely cover the filter at least once. In very severe cases the clusters fell off due to loss of vacuum. If the 22 cases found on the in-line filters only and the 23 cases found with the fore-milk cup only are ignored, 25 cases were first detected by the filters and 14 with the fore-milk cup; the remainder were detected simultaneously.
5. The simple "in-line" filters described were accepted by the stockmen, could be cleaned easily by backflushing with a water jet, and the tests indicated that clinical mastitis was detected at least as readily as with the fore-milk cup. They are now being made by injection moulding and should prove to be a cheap and efficient way of detecting the occurrence of clinical mastitis.

The mastitis detectors described in the above article are available from the Association's office, or from J. H. Schubert & Son, Lobethal. They are in sets of 6, but, additional single detectors will be supplied to members with dairy sheds equipped with more than 6 units.

PRICES & STATISTICS

ADELAIDE METROPOLITAN MILK SUPPLY AREA

PRODUCTION (000 gallons)

	For Month		Daily Average		12 Months' Cumulative	
	1971	1972	1971	1972	1971	1972
July	4,531	3,717	146.2	119.9	57,770	56,817
August	5,066	4,381	163.4	141.3	57,522	56,132

MILK SALES (000 gallons)

	For Month		Daily Average		12 Months' Cumulative	
	1971	1972	1971	1972	1971	1972
July	1,891	1,907	61.0	61.5	22,389	22,147
August	1,869	1,911	60.3	61.6	22,414	22,189

RATIO (Sales to Production, per cent)

	For Month		12 Months' Cumulative		C.M.B. (Cents)	
	1971	1972	1971	1972	1971	1972
July	41.7	51.3	38.8	39.0	26.36	30.98
August	36.9	43.6	39.0	39.5	23.54	27.63

INTERIM PRICES TO LICENSED SUPPLIERS

(Prices are interim only, and subject to retrospective adjustment.)

1972	Basic	C.M.B.	Total	3.5%	4%	4.5%	5%
	(cents per lb. butterfat)			(cents per gallon at above test)			
July	44.57	30.98	75.55	27.29	31.19	35.09	38.98
August	44.57	27.63	72.20	26.08	29.80	33.53	37.26

LONDON PROVISION EXCHANGE QUOTATIONS

(Pounds Sterling per Ton)

	July		August	
	1971	1972	1971	1972
Butter—Choicest Australian (£s)	460	430	480	430
Cheese—Rindless Australian (£s)	355	480	375	480

AUSTRALIA

TOTAL MILK PRODUCED (million gallons)

	Twelve months ended JUNE							
	N.S.W.	Vic	Qld.	S.A.	W.A.	Tas.	Aust.	
1971	276.2	899.0	167.6	103.6	54.9	98.1	1,600.2	
1972	265.3	874.2	167.3	101.6	58.6	100.9	1,568.4	
% Change	-3.9	-2.8	-0.2	-2.0	+6.4	+2.8	-2.0	

AUSTRALIAN IMPORTS OF CHEESE (by types, in tons)

Month of JUNE

	For Month		12 Months' Cumulative			For Month		12 Months' Cumulative	
	1971	1972	1971	1972		1971	1972	1971	1972
Cheddar	64	26	784	971	Feta	88	18	843	1014
Dutch	64	60	744	592	Kasseri	22	15	85	161
Italian	21	26	254	323	Pastes-Cheddar	36	24	299	113
Swiss	19	18	136	192	Pastes-Other	31	28	533	447
Blue	24	41	294	306	Other	141	118	1728	1496
Camembert	9	20	118	164	TOTAL	519	393	5808	5780

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THE SOUTH AUSTRALIAN

DAIRYMEN'S . . .

Journal

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CHEESE DISPLAY AT THE CARNIVAL OF AUSTRALIAN CHEESE—
NOAH'S ARKABA HOTEL, GLEN OSMOND ROAD, FULLARTON.

Photograph by courtesy "Stock Journal"

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THE THERMODURIC COUNT

A NEW STANDARD FOR DAIRYFARMS

Bacteriological standards for milk have been included in the Regulations under the Metropolitan Milk Supply Act since 1951, but they have not previously been used as the basis for regular testing of farm milk.

The Metropolitan Milk Board recently announced that it intended to introduce routine tests for bacteriological standards in relation to thermoduric organisms, and sought the opinion of the industry on the way in which the tests could best be carried out.

The Executive Committee, after considering the subject and conferring with the Board and the dairy companies, supported the proposal subject to certain conditions to which the Board has consented, and which are included in the proposed schedule of implementation set out on the following pages in an explanatory article written for the Journal by the Chairman of the Metropolitan Milk Board (Mr. B. D. Hannaford).

Mr. Hannaford's explanation refers to conditions in South Australia and the measures which the Board proposed to adopt in order to implement the regulations.

In Victoria the Department of Agriculture is taking similar action, and the latest issue of that State's "Dairyfarming Digest" is devoted entirely to an explanation of the thermoduric count, the reasons for the introduction of the test in that State, and the measures which may be adopted by dairy farmers to ensure that their milk complies with the standards.

With the permission of the Victorian Department of Agriculture, we reprint in the pages following Mr. Hannaford's statement, those parts of the article in the "Digest" which apply to the South Australian conditions, and in the next issue we will reprint a "trouble-shooting" chart for the detection and correction of problem areas.

CARNIVAL OF AUSTRALIAN CHEESE

October is "Australian Cheese Carnival" time, when the Australian Dairy Produce Board undertakes a major cheese promotion campaign, in conjunction with cheese manufacturers and marketers, and other sections of the dairy industry. Since its introduction in 1968 the "Carnival" has resulted in a dramatic upsurge, during October, in sales of Australian cheese, which demonstrates the potential cheese market in Australia which could be exploited if this effort could be continued throughout the year.

The Carnival in 1972 took on a new look when the Noah chain of hotels and motels throughout Australia joined with the dairy industry in promoting cheese in each of the units in the chain, the national launching of the Carnival taking place at Noah's Kosciuszko Chalet.

In South Australia the Carnival centred on Noah's Arkaba Hotel, where a display of Australian cheese (pictured) was opened by the Minister of Agriculture (Hon. T. M. Casey, M.L.C.) as the beginning of a week in which the hotel featured cheese, tastings, and special cheese dishes.

WHY A BETTER QUALITY TEST FOR REFRIGERATED BULK MILK?

(B. D. Hannaford, Chairman, Metropolitan Milk Board)

In the Spring of 1960, 65 Jervois Co-op. Dairying Society Ltd. producers installed unrefrigerated bulk milk tanks. Bacteriological quality was maintained by twice a day collection during the spring, summer and autumn months, and Methylene Blue tests were made on at least 5 days per week on the milk supplied by each producer. However, by the 30th June, 1964 it became evident that some of the producers realised the hazards with unrefrigerated milk and as a consequence approximately one third installed refrigeration units.

Refrigerated bulk collection was introduced by Southern Farmers Co-op. Ltd. at Murray Bridge in October, 1965 and by Myponga Co-op. Dairying Society Ltd. in February, 1966. From these small beginnings the movement from cans to refrigerated bulk milk collection has continued and the number of refrigerated farm milk tanks installed each year was:—

1965/66	.....	.....	.....	.....	.....	.....	.....	82
1966/67	.....	.....	.....	.....	.....	.....	.....	242
1967/68	.....	.....	.....	.....	.....	.....	.....	241
1968/69	.....	.....	.....	.....	.....	.....	.....	106
1969/70	.....	.....	.....	.....	.....	.....	.....	158
1970/71	.....	.....	.....	.....	.....	.....	.....	196
1971/72	.....	.....	.....	.....	.....	.....	.....	136

At the end of June, 1972, 1,091 producers were using refrigerated farm milk tanks and 53 unrefrigerated tanks were still in operation. These 1,144 producers are estimated to supply between 85 and 90 per cent of the total milk production. (1,666 licences were operative at 30th June, 1972.)

Since the advent of bulk collection it became evident that the Methylene Blue Reductase Test was not suitable for refrigerated milk and in November 1967 the test was discontinued for milk handled in this way.

The test was replaced by a Preliminary Incubation Methylene Blue Test with an advisory standard of 2½ hours. The incubation period adopted was 24 hours at 60°F (15.6°C).

There is no doubt that producers are guided by the bacteriological standards which are set and tend to adjust their dairy sanitation to meet these standards.

The change from cans to refrigerated bulk milk tanks altered the bacterial populations of the milk from predominantly gram positive rods and cocci to one in which gram negative rods predominate. Many of the latter group of bacteria attack the protein and fat in the milk causing flavour defects. Thus the bacteriological problems have not disappeared with the advent of bulk collection. Like most developments some problems are eliminated but others are created.

There is no doubt that the advisory Preliminary Incubation Methylene Blue Test has been useful as a guide to the bacterial quality of the milk, but is now clearly apparent that a more stringent regulatory standard is required, as with all advisory tests there is a small minority of producers who do not respond as desired.

It is apparent that if the Board is to have a disciplinary policy for milk supplied by producers using refrigerated farm milk tanks based on bacteriological quality the regulatory standard suitable is the laboratory pasteurisation count commonly known as "The Thermoduric Count", for which provision has already been made in the Metropolitan Milk Supply Regulations. The standard as set down is 30,000 colonies per ml., which is well within the reach of every producer provided that efficient methods of hygiene are maintained.

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The Board has consulted the industry (including your Association) on this matter and the method of implementation of the new test will be as follows.

1. Sampling and testing procedure to commence on or before 1st January, 1973 for all Treatment Plants and on or before 1st July, 1973 for Milk Reveal Depots.
2. Suspension of producers not to be introduced before 1st January, 1974.
3. Testing to be carried out by the plate count method as set out in the Regulations.
4. Each producer with bulk milk tanks including Jervois producers to be tested once every two months and each load in tankers once a month. Results of all tests are to be forwarded to the Board and the producer.
5. Position to be reviewed in September, 1973 in the light of experience gained in South Australia and the procedure being carried out in Victoria. Frequency of testing, testing methods, sampling and method of suspension to be considered in making the review.
6. The Preliminary Incubation Methylene Blue test will continue to be applied to producers as an advisory test as before, but the position will be reviewed in September, 1973.

During the interim period of testing (which has already commenced at some Treatment Plants) follow up work will be carried out by the Board's District Supervisors.

The Thermoduric Count will achieve two important objectives. It will provide producers, treatment plants and the Board with a useful indication of the standard of hygiene required where refrigerated farm bulk milk tanks are installed. It will also greatly assist the treatment plants to comply with the standards which their finished products must now meet.

WHY BETTER QUALITY — WHY A NEW TEST?

—R. I. HOWEY, Chief of the Division of Dairying, Victoria.

There are two main reasons for the need to obtain the best possible quality product in the dairy industry.

The first is the need to ensure that inferior quality will not be a marketing liability on the local and export markets, both of which are increasing their competition and their high standards.

The second and equally important reason is the public awareness to quality standards and especially the quality of foods.

The Australian Dairy Industry Council is well aware of the implications for the dairy industry for these reasons, as is indicated by Point 7 of their Long-term Plan for the dairy industry. **Appropriate action by State authorities to ensure at all levels uniform high quality of dairy production.**

The proposed introduction of the Thermoduric Count as an additional test for grading farm milk supplies is part of the general programme in Victoria, and indeed throughout Australia, to ensure that all aspects of dairy production and processing are conducted at the highest practicable standards.

Many dairy farmers will have noticed that in recent years the field staff of the Department of Agriculture have required farmers to comply with the regulatory provisions concerning facilities and techniques. Most will have been affected by the programme for the elimination of copper from milking machines. They will also be well aware of the programmes for the elimination of tuberculosis and brucellosis and for the control and prevention of mastitis.

Similarly, standards in dairy factories have been considerably improved both by Departmental initiative and also by voluntary action by dairy factory management in improving standards above the present minimum requirements. Currently, the preparation of a uniform Australian Code of Practice for Dairy Factories, covering both facilities and manufacturing techniques, is nearing completion. Additional regulatory quality standards for both local market and exported dairy products are being introduced and it appears certain that further standards will be progressively introduced over the next few years.

QUALITY AND MARKETS

With the entry of the United Kingdom into the E.E.C. early in 1973 a new era will commence in the export marketing of Australian dairy products. The U.K. has tended to be less discriminating towards many quality standards than are some of our present alternative markets. When the U.K. market is no longer available, the Australian dairy industry will depend more heavily upon export markets which demand rigid quality standards. Even in 1971/72, when there was a shortage of dairy produce in world export markets, there was no relaxation of the stringent quality requirements for the Japanese and South East Asian markets.

When more competitive market conditions return, the emphasis on quality will be even greater. The maintenance of Australia's markets will depend both on achieving the quality standards demanded and on matching the performance of our competitors.

The local market for Australian dairy produce is both the most stable and the most profitable. Quality has become an increasingly important factor in maintaining or expanding this market in the face of competition from other foods. Victoria produces about 80% of Australia's exports of dairy produce and also supplies considerable quantities of dairy products, particularly butter, to several other States. The importance to the Australian dairy industry of quality of Victorian production cannot be over-emphasised.

QUALITY AND COMMUNITY DEMANDS

In recent years, communities have given increasing attention not only to the quality of finished food products but also to the conditions under which they are produced and processed. The most publicised example of this is the demand by American consumers that the conditions under which meat is prepared for export to the United States should meet stringent hygienic requirements.

The Americans are not the only community which is conscious of the need for high standards. There are frequent references in the Australian news media to unsatisfactory conditions as and when they are detected.

The dairy industry must ensure that it avoids such damaging adverse publicity. It can do this by implementing improvements to facilities and techniques as they are developed.

... and why a new test?

When the Methylene Blue Test was introduced about 20 years ago, milk collection from dairy farms in Victoria was unrefrigerated, in cans. Under such conditions, poor cooling of milk and delays in transporting milk to factories were factors in milk quality which were almost as important as cleanliness of production. Where production standards were poor, the temperature of the water-cooled milk was high enough to allow bacteria which were active reducers of methylene blue to multiply and cause the milk to fail the test. The faster rate of multiplication of some types of bacteria changed the proportions of the various types between the time of production and the time of testing.

Failure in the Methylene Blue Test indicated to the farmer that his cleaning and/or his cooling procedures were unsatisfactory and that improvements to one or both were required.

With the introduction of bulk collection of refrigerated milk, which now applies to about three-quarters of the milk produced in Victoria, milk is refrigerated on the farm and kept cold until it arrives at the factory. There is little multiplication of active reducers of methylene blue so that **milk having very high numbers of bacteria at the time of production can still pass the Methylene Blue Test.** This factor, combined with increasingly stringent bacteriological standards for finished dairy products, has made it extremely difficult for manufacturers and processors to make products which meet all current specifications.

Many dairy farmers will know that it is relatively easy to produce refrigerated bulk milk which grades choice on the Methylene Blue Test. Suppliers to some factories will have noticed that other tests such as the Direct Microscopic Count are being used to grade milk for suitability for market milk purposes.

In a research programme carried out by the Gilbert Chandler Institute of Dairy Technology, the results of various bacteriological tests on milk were compared with assessments (made at the time the samples were taken) of cleanliness of equipment on the farm and sanitation aspects of milking. The Thermoduric Count related very well to these assessments.

Because of the available additional tests, the Thermoduric Count is also one of the simplest to carry out, and because thermoduric bacteria are causing quality problems in a number of finished dairy products, the Thermoduric Count was selected as a highly useful additional grading test for farm milk supplies.

The Thermoduric Count will achieve two important objectives. It will provide farmers, factories and Departmental field staff with a useful indication of the standard of production on dairy farms. It will greatly assist manufacturers and processors of milk to comply with the standards which their finished products must now meet.

RELIEF MILKING

at week-ends; experienced; modest charges. Phone: 51 3034.

THE THERMODURIC COUNT a new standard for dairymen

(These articles were written and compiled by C. Bevan, senior milk supply officer, Department of Agriculture, D. Cox, senior milk products officer, Department of Agriculture, I. Hubble and G. McDonald, of the Gilbert Chandler Dairy Institute of Technology, and L. Brady, dairy technologist with South Gippsland Milk Industries, Korumburra.)

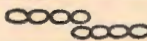
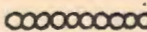
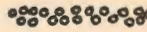
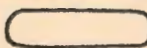
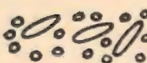

What are thermoduric bacteria?

Thermoduric means resistance to heat, and, to the dairy industry, thermoduric bacteria are minute organisms that survive pasteurisation temperatures and times (160°F for 15 seconds).

Temperatures of 212°F (boiling), or higher, are needed for their destruction, but it is not feasible to pasteurise at these temperatures because the milk will burn.

TYPE OF BACTERIA

Thermoduric bacteria belong to a range of bacterial families, which, like human families, have different living and eating habits.

Family	Shape	Description
Belacocci		Cocci cells in short chains (3 - 4)
Streptococci		Spherical cells in chains
Micrococci		Small separate spherical cells
Butyric acid producers Spore-formers (anaerobic and aerobic)		Spore forming rods (sweet curdling)
Microbacteria Corynebacteria		Small spherical cells which may change to ellipsoidal shape
Lactobacilli Propioni-bacteria		Rod-like bacteria often in chains

IMPORTANCE OF THERMODURIC BACTERIA ON MILK QUALITY

Most thermoduric bacteria have no effect when the milk is stored below 45°F (7.2°C). But, above this temperature, these bacteria grow and adversely affect the keeping quality of pasteurised milk and milk products. The situation is undesirable, but one which occurs commonly in the routine production of bottled milk and milk products.

Many of the thermoduric bacteria attack specific portions of milk. In other words many of these bacteria have specialised eating habits.

Why do bacteria (including thermoduric bacteria) survive in milk?

Bacteria can only live where they might survive. And the conditions they need include temperature, water, oxygen and a food supply.

Thermoduric bacteria grow best at a temperature of 86°F-89.6°F (30°-32°C). Slower growth of these bacteria occurs for a temperature range above and below this. There is a need to keep thermoduric bacteria numbers down.

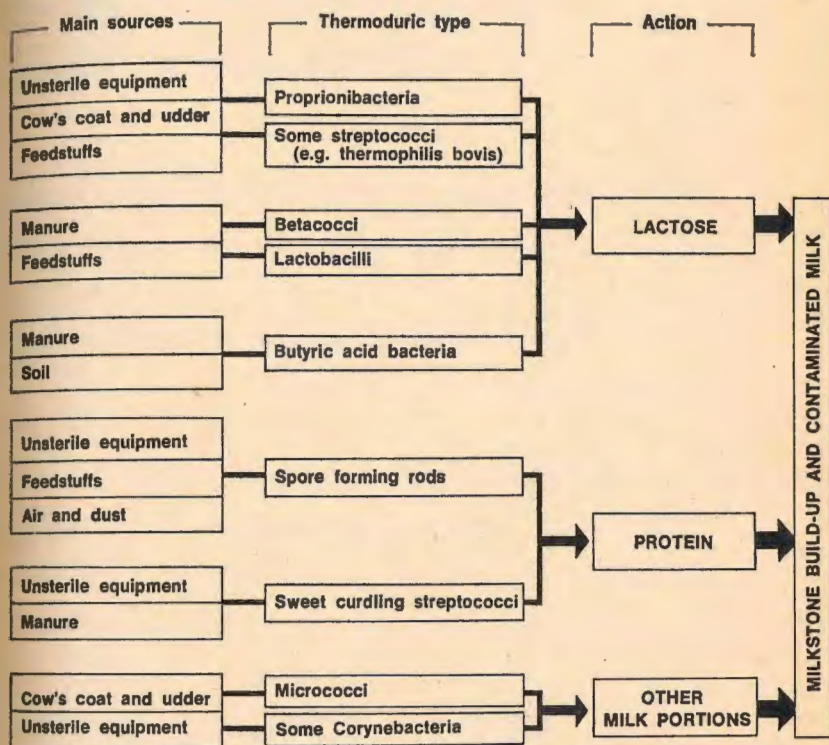
Excessive numbers in raw milk can cause a milk product to fail legal bacterial requirements. High counts of bacteria are also closely linked to unsanitary conditions in the milking shed. Several flavours that may occur in milk production depend on the type of thermoduric bacteria present.

Thermoduric bacteria may also act on:

PROTEIN: producing a sweet curd, which may be followed by putrefaction.

LACTOSE: lactic fermentation produces an acid and a gas. This causes a bitter, unclean taste.

This occurs as a normal process in the life and the survival of thermoduric bacteria in milk.



Thermoduric Bacteria: Sources, and Action on Milk Constituents

The Thermoduric Count

Thermoduric bacteria are those bacteria that survive pasteurisation temperatures. To test for them, the number of surviving bacteria in a pasteurised sample of milk are counted after allowing them to grow in a solid nutritive medium.

The methylene blue test is another bacteria test for milk being supplied to factories. This test measures the chemical activity or the vitality of the bacteria in the milk sample.

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These two tests measure **different aspects of bacterial quality**, but both relate to the number of bacteria present. This is a characteristic of bacteriological testing; each test measures a different aspect and while very good milk or very bad milk by one test will show the same grading by other tests, agreement cannot be expected with the range of quality between the extremes.

Milk that might not be graded on the methylene blue test could well be graded on the thermoduric count. If you supply refrigerated bulk-collected milk, the chances are that, at first, you will supply milk below the thermoduric standard. This new test is being introduced because the methylene blue test is not a good test for refrigerated milk and some better test is needed.

Before deciding to introduce this test, several trials were carried out with dairy companies in the Gippsland, the Western District and the Northern Irrigation areas. These trials compared the results of various bacteriological tests on milk sample with a score given by experienced dairy supervisors for the hygiene and standards of the milking equipment on the farms from which the milk came.

The thermoduric count was the best of all the tests studied when all aspects were considered.

- This test gave a good correlation with the assessment of milking equipment hygiene.
- The thermoduric count has been successful as an advisory test and as a guide to dairy supervisors as to unhygienic milking conditions on farms from which milk might possibly have been graded satisfactory by the methylene blue test.
- The test also detected a type of bacteria that harms the keeping quality of products and which was already causing trouble in the industry.

Because the milk you produce may fail the thermoduric when the test is introduced, it is proposed that there will be an introductory period of some months during which farmers will not be penalised for failing the test. (*Twelve months in the Adelaide milk supply area.*)

The standard that will be asked for the first twelve months after penalties are introduced will be a lenient one of 30,000 colonies per millilitre (cols/ml). It is known from dairy companies, who are already doing this test, that this figure can be achieved easily. Therefore after twelve months, the standard in Victoria will be altered to 10,000 cols/ml for permit and Choicest grade milk.

The penalties that are proposed in Victoria for sub-standard milk will be higher than the grade penalties that apply now in that State.

This is because all milk supplied to a factory will have been mixed together and used before the test results are available. Therefore any milk with a high thermoduric count will have irreparably harmed the quality of all the milk.

Farmers that cause this damage, should pay for it, for if it continues, long term harm will be done to our markets.

Understanding will help solve the problems

Often when farmers are faced with grade troubles, a little more understanding of the problem in the first place could have avoided the troubles.

Of course the farmer must want to overcome these troubles and, for the simple reason of economics, this is generally the case.

Many farmers have the impression that to raise the quality standards means added expense to them.

But really, the only recurring cost is that of detergents and sanitisers.

For a six-a-side milking shed, cleaned after each milking, this cost would be about 22 cents a day.

If 100 cows were milked in this shed and the average daily production per

cow was 1.1 lbs. of butterfat, then the daily butterfat would be 110 lb. If this farm received a grade penalty of 5 cents a lb. butterfat, then the farmer would lose \$5.50 each day he received a grade.

A good hygienic milking and cleaning programme could have prevented the down-grading, and the saving could have covered the cost of 25 days' detergent. Dairyfarming today is a real business and the savings that are possible by producing the choicest quality milk must be an incentive for the farmer to be aware of milk quality.

Farmers might ask the question, "How will all this affect me?"

The answer to this is simple. "It all depends upon you."

The milk is being tested for the number of thermoduric organisms present in it, and the **only way that thermoduric organisms can enter the milk is by direct contact with some surface which has thermodurics on it.** The cow's udder is not a likely source of thermoduric bacteria.

Therefore it is your responsibility to prevent surfaces being contaminated with thermoduric organisms. If you can achieve this one factor in your shed, then there is no reason for you to have any grading trouble with the new test. It is simply a matter of cleanliness and there is ample information available on recommended cleaning methods.

The first understanding is that a clean and sanitary milking plant will not be contaminated with thermoduric organisms.

The second factor to understand is how to achieve a clean milking plant.

The third understanding is what conditions would lead to the growth of thermodurics in the milking plant and how to seek and find these conditions, when they occur.

Now is the right time to find out all these things, before the test is introduced. Prevention is always better than trying to cure the trouble.

Farmers must critically analyse the situation on their own farm.

What are the likely sources of contamination? Are you using the correct detergents and sanitisers? Ask yourself these questions and take the corrective measures that are necessary. Do not be satisfied with the odd down-grading every once in a while, because every down-grading you get means money lost.

Proposals for the test

In South Australia the tests used will be either Plate Count (using a glass dish) or the Roll Tube. In Victoria the test will be the Modified Roll-Tube Thermoduric Count.

In this test a sterilised nutrient medium in a small straight-sided cylindrical bottle is melted and a small quantity of the milk to be tested is added to the medium in such a way that no other bacteria enter the bottle at the same time. The bottle and contents are then heated at 145°F (62.8°C) for 30 minutes to pasteurise the milk. The bottles are then spun and cooled in a special machine so that the medium forms a solid film on the bottle wall. The bacteria surviving pasteurisation grow in this medium, each forming a colony during the three days of incubation.

Although the individual bacteria are far too small to be seen by the naked eye, the colonies which grow from each organism can be readily seen and counted. The number of colonies observed on the Roll-Tube is then multiplied by a factor to give a result which corresponds to the number of colonies which would develop from a milli-litre (cubic centimetre) of milk.

The Plate Count, which is the standard method, is similar to the Roll-Tube method, but more accurate in its determination.

What Thermoduric Bacteria Mean to Dairy Products

Legislation requires that Pasteurised Bottled Milk must not contain more than 30,000 colonies per ml. when determined by the Standard Plate Count Method. Therefore attention must be given to the number of organisms surviving pasteurisation at 162°F for 15 seconds.

The quality of our dairy produce must now meet standards which only a few years ago would have been considered impossible to achieve.

The dairying industry is required to build into its products certain properties to fit the technology of the product in which it is going to be used. For example, skim milk powders are classified according to their treatment: either low, medium or high heat.

The pre-heat treatment for low heat powders is not sufficient to kill thermoduric organisms, and if the raw product contains a high count of these types of organisms, then it will be impossible to manufacture a milk powder of this type that will conform to the Standard Plate Count requirement.

Pre-heat temperatures vary with the season and the composition of the milk so, even with medium heat powders, it can still be difficult to achieve the required standard. High heat powders present no difficulties in meeting Plate Count standards.

All these powders are being used extensively in recombining processes on overseas markets.

Factories cannot maintain a high international reputation for dairy produce if the raw products are not up to standard.

The Results and the Farmer

WHAT DO THE RESULTS MEAN TO THE FARMER?

The initial standard of 30,000 cois/ml is not difficult to achieve. Many farmers are already obtaining results far below this number.

There can be a seasonal occurrence of high counts of thermoduric organisms. Most high counts occur in the warmer weather of summer and autumn. These high counts will often be associated with contamination from plant surfaces, as very few of these organisms are present in freshly drawn milk. The plant surfaces have not been properly cleaned or sterilised.

Remember, also, it is **useless trying to sterilise a plant which has a build-up of milkstone, or perished and cracked rubberware.**

Under the proposed scheme an adjustment period is proposed, during which no penalty is to apply where results exceed the standard. Thus the farmer has the opportunity to develop the required techniques in cleaning procedures to meet the requisite standard. The figure for the first 12 months, namely not more than 30,000 thermoduric colonies per ml. is fairly liberal when you consider the standard for Pasteurised Bottled Milk is 30,000 colonies per ml.

INTERPRETATION OF RESULTS

Many farmers will have received results of thermoduric counts from factories already. In the proposed scheme all suppliers will be notified of the results of the thermoduric tests, and therefore warned of any rising thermoduric count.

A system of coloured cards is suggested to differentiate between those conforming to the respective standards.

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Young male high-school student, sensible, willing to work, some experience, seeks position on dairy farm during school vacation. Apply this office—
Telephone 51 3034.

Dairy Hygiene—the Importance of Water Quality

The major source of all water is rainfall. Rain falling through the air and later flowing over or in the earth's surfaces dissolves or suspends various impurities.

The quality of water is reduced by its bacteria content and its degree of "hardness".

WATER HARDNESS

Water hardness is caused by dissolved solids in water and are usually composed of the sulphates, chlorides and bicarbonates of calcium, magnesium and sodium. Calcium and magnesium salts in water will actually cause the water to be "hard". Approximately 85% of ground waters in Australia are hard and more than 95% of the bore waters used fall into this category.

Why is "hard" water objectionable?

- "Hard" water causes an insoluble scum or soap curd when used for washing dirt or residues from any unclean surface or material.
- More detergent must be used to clean away milk and milk residues in the plant.
- Iodophor sanitisers cannot be used as the alkalinity in the "hard" water neutralises the acid which allows the iodine to become free and kill bacteria.
- "Hard" water may halve the life of the elements in dairy heaters. Extra heating costs due to scale formation in the heater are also caused.
- Scale and milk-stone build-up in the milking machine is increased, especially when a chlorine sanitiser is used.
- The water can corrode stainless steel when "hard" waters dryout on the surface and therefore concentrate the chlorides present.

BACTERIAL CONTENT OF WATER

The water-borne bacteria which cause the worst problems are the ones which come from dung, rotting vegetation and dead animals. Examples are coliforms, spore-formers, and other types of bacteria which can directly affect human health and attack milk, causing it to become rancid, bitter, and sometimes putrid.

Chlorination of water will overcome these objectionable bacteria, but before doing so, the water supply must be clear and free from organic matter, if not then the chlorine's strength will be wasted on these suspended materials and become ineffective for killing the bacteria. Chlorine demand by waters will range from 5 p.p.m. for a good water supply to 50 p.p.m. for a poorer supply. If more chlorine has to be added it becomes uneconomic and undesirable because of the taints produced by the chlorine reacting with the organic material.

The answer to the problem of water "hardness" and bacterial contamination is to use all the rainwater available and to chlorinate the water.

Milkstone—the Perfect Food for Bacteria

Milkstone build-up is caused by a number of factors:—

- incorrect cleaning procedures;
- unsatisfactory water supplies; and
- electrolytic reactions.

Once a film of milkstone builds up, a series of layerings can take place and the deposits build up even further. This occurs through the coagulation of protein and the drying-out of deposits.

Deposits of milkstone are readily susceptible to infestations of heat resisting organisms, such as thermophilic bacteria. The bacteria are protected from the action of detergents and sanitisers as well as surviving the heat involved.

The use of a non-ionic wetting agent in the cold post-milking rinse will help to reduce the build-up of milkstone. It improves the efficiency of the rinsing process by preventing milk deposits sticking to milking machine surfaces.

When the milkstone deposits become very thick, portions often break off, releasing large numbers of bacteria into the milk. Bacteria produce acids (in their normal eating habits) which will slowly corrode the metal under the milkstone deposit, causing pitting and providing an easy anchor point for deposit build-ups in the future.

In an analysis of milkstone (N.Z. data) forty samples gave an average plate count of 1,700,000 bacteria of which **250,000 were thermodurics.**

COMMON AREAS OF MILKSTONE BUILD-UP

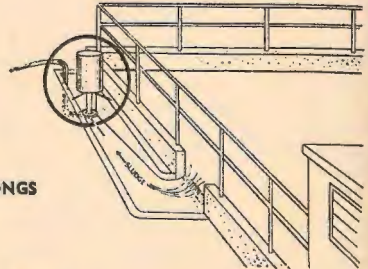
The major areas of milkstone deposits are listed below. These should be checked regularly.

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- Sight Glasses
- Milkline
- Releaser
- Receiving Vat
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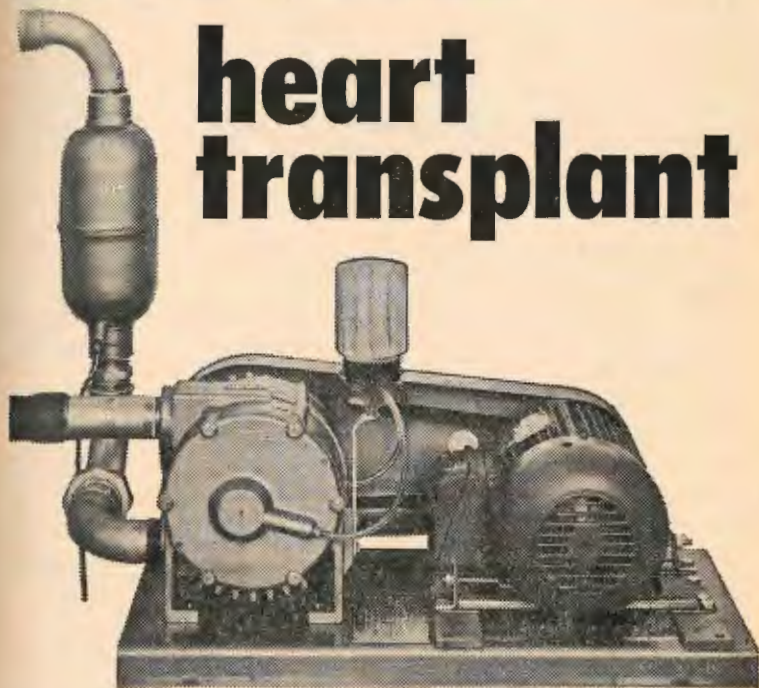
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(The next issue of this Journal will contain a continuation of the article on Thermoduric Bacteria, dealing with RECOMMENDED CLEANING METHODS and FINDING THE PROBLEM AREAS.)

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PRICES & STATISTICS

ADELAIDE METROPOLITAN MILK SUPPLY AREA

PRODUCTION (000 gallons)

	For Month		Daily Average		12 Months' Cumulative	
	1971	1972	1971	1972	1971	1972
September	5,450*	5,436	181.7*	181.2	57,198	56,118

MILK SALES (000 gallons)

	For Month		Daily Average		12 Months' Cumulative	
	1971	1972	1971	1972	1971	1972
September	1,645*	1,800	54.8*	60.0	22,286	22,375

RATIO (Sales to Production, per cent) C.M.B.

	For Month		12 Months' Cumulative		C.M.B. (Cents)	
	1971	1972	1971	1972	1971	1972
September	30.2*	33.1*	39.0	39.9	20.65	21.61

INTERIM PRICES TO LICENSED SUPPLIERS

(Prices are interim only, and subject to retrospective adjustment.)

1972	Basic C.M.B. Total		3.5% 4% 4.5% 5%			
	(cents per lb. butterfat)		(cents per gallon at above test)			
September	44.57	21.61				

* Statistics for production and milk sales in September, 1971 were affected by an industrial dispute, and no other conclusions should be drawn from any differences between the statistics shown.

LONDON PROVISION EXCHANGE QUOTATIONS

(Pounds Sterling per Ton)

	1971		1972		September	
	1971	1972	1971	1972	1971	1972
Butter—Choicest Australian (£s)					480	430
Cheese—Rindless Australian (£s)					375	480

AUSTRALIA

TOTAL MILK PRODUCED (million gallons)

Cumulative Twelve months ended JULY

	N.S.W.	Vic	Qld.	S.A.	W.A.	Tas.	Aust.
1971	274.6	893.5	165.6	102.9	55.1	98.0	1590.4
1972	266.9	871.0	169.3	99.8	58.2	100.5	1566.4
% Change	-2.2	-2.5	+2.2	-3.0	+5.6	+2.5	-1.5

RETROSPECTIVE PAYMENT - 1970/71

A final step-up in cheese value for 1970/71 of 0.505 cent lb. b.f., bringing the price for milk for manufacture for that year to 47.84 cents lb. b.f. at the farm gate, will be paid to licensed producers early in November at the rate of 0.31 cent lb. b.f. (equalised) on all milk produced during the 1970/71 season.



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PERTH: 206 ADELAIDE TERRACE.	6000
LAUNCESTON: 18-20 PATERSON ST.	7250



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THE SOUTH AUSTRALIAN

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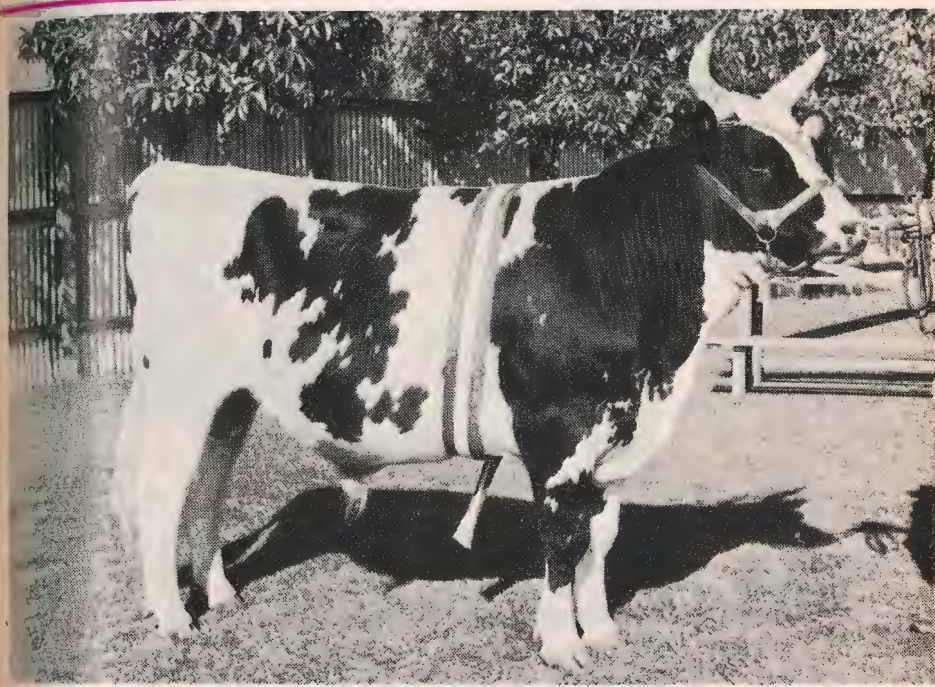
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Adelaide, NOVEMBER/DECEMBER, 1972



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LEADER OF THE OUTSTANDINGLY SUCCESSFUL AYRSHIRE TEAM
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THE SOUTH AUSTRALIAN DAIRYMEN'S JOURNAL

Published by

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DAIRYFARM EMPLOYMENT STATUTORY REQUIREMENTS FOR EMPLOYERS

The position regarding wage rates and conditions at work for dairyfarm workers has now changed in South Australia with the application to all employees in primary industries of the Pastoral Industry (South Australia) Award, the provisions of which were summarised in the July/August 1972 issue of this Journal.

In addition to rates of pay, hours of work, and allowable deductions and charges, the Award contains other provisions which must be observed, namely **Wages Records, Annual Leave, Sick Leave, Fares and Travelling Expenses, Equipment and Protective Clothing and First-Aid Supplies.**

But there are a number of statutory requirements additional to those contained in the new Award which are binding on all employers of labour even in the absence of an Award, breach of which can result in heavy penalties being incurred.

It is probable that most, if not all, dairyfarmers who employ labour (in contrast to share farmers) are aware of their legal responsibilities in these matters and have always observed the requirements, but as a reminder, timed to coincide with the increase in these requirements brought about by the new Award, a summary of each is printed below.

● RECORD KEEPING (Sect. 93)

Employers must keep records of the names and addresses (and ages, if under 21) of all employees; daily records of time worked and wages paid; records of annual, sick and long-service leave.

● POSTING OF AWARD (Sect. 94)

Each employer must display, in a conspicuous place, a copy of the appropriate Award.

● WORKERS' COMPENSATION

Each employer must have, with an insurance company, a policy of insurance for the full amount of his liability under the Workmen's Compensation Act for all workers employed by him.

● LONG SERVICE LEAVE

Long service leave (and not payment in lieu of) must be granted to all employees after 15 years' continuous service (proportionately for service prior to 1966).

Further details on any of these requirements may be obtained from the Department of Labour and Industry, 55 Waymouth Street, Adelaide, 5000, or telephone 28 3820/3/4/6.

10

REASONS WHY

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IMPROVING RESULTS FROM A.I. METHODS OF HEAT DETECTION IN THE DAIRY HERD

As in other phases of dairyfarm management, advances are continually being made in the science of Artificial Insemination, and we invited the Director of the Artificial Breeding Board, Dr. W. K. Rose, M.R.C.V.S., to ensure that the latest knowledge on methods of heat detection was available to our readers. In reply Dr. Rose has submitted the following survey.

The correct identification of the individual cow on heat is one of the most important factors in the establishment of a high non-return rate and consequently a good conception rate to Artificial Insemination.

There are now several methods available to the dairy farmer so that he may accomplish this human visual appraisal alone, or this coupled with a heat mount detector and the animal detector which may be a nymphomaniac cow, a sexually active steer or a bull altered in such a way as to be incapable of fertilising.

HUMAN APPRAISAL METHOD

This method is quite satisfactory for the small and medium sized herd. Where herds are of 100 cows and upwards difficulties arise, cows are missed and wrong cows are selected for inseminations.

Satisfactory results can only be gained by a minimum of three inspections of the herd daily, in the paddock, NOT in the dairy yard.

The only satisfactory sign that a cow is ready for insemination is that she is 'standing to be mounted'. Cows attempting to mount, and cows not standing are either coming on or going off and should be noted for observation at the next two checks. This will assist with future observations.

Other signs of heat which are not so reliable are these—ruffling of the hair on the rump, mud on the flanks (winter), slight swelling, moistness and reddening of vulva, voiding of clear mucus from the vagina, raising and quick switching of the tail. These signs may or may not be present and can only be used as pointers, if present when some doubt exists.

HEAT MOUNT DETECTOR PLUS HUMAN OBSERVATION

The commonest heat mount detector used in Australia is the KaMaR. This is affixed to the rump of the cow by adhesive and when she is ridden, red dye enclosed in a plastic container is expressed. Coupled with visual appraisal and common sense, the method is very accurate. However, a fair number become detached with the result that the situation in regard to these cows is not known. Other signs of heat should be checked in these instances.

The detectors add to costs but certainly assist in finding cows which were in season during non-observation periods such as the hours of darkness.

MARKER BULLS

The economics of dairy farming has led to the creation of larger dairy herds. The herdsman and farmer are now faced with the problem of selecting cows in season from mobs of 100 and upwards. In the near future, some milking group may comprise over 1,000 cows.

The detection of all cows in season in a mob of this size by human, visual appraisal is impossible as a practical exercise.

The use of steers and nymphomaniac cows has given uncertain results. The introduction of altered bulls leads to management problems but it appears necessary for efficiency.

When a bull, such as a vasectomised bull which can establish normal sexual contact with a cow is introduced to a herd for use as a marker, the herd must be totally free from venereal disease and the bull must also be clean when vasectomised. In large herds there is no doubt that for highest efficiency in

heat detection, the use of such animal is essential. There is again no doubt that this leads to management problems, and managerial efficiency for success must be of the highest quality. It must be remembered that every vasectomised bull is capable of complete sexual contact and therefore of disease transmission. Fences must be kept in a condition which will not allow any errant matings whatever.

Penis-fixed and penis-deviated bulls have been used successfully but are not so reliable, as in time performance of the allotted task, tends to fall off, presumably due to frustration.

The number of marker bulls required in large herds can vary according to the ability of the bulls in the performance of the job, but one bull per 50 cows is usually sufficient.

Bulls cannot be worked continuously. If three bulls are used one must always be on rest. If five bulls are used, two should be on rest. A constant interchange is necessary to keep bulls working competently and prevent cows being missed by an inefficient bull. As the presence of bulls increases danger, young bulls, as young as possible should be used to minimise risks. Normally, bulls of 18-24 months age are initiated, but some herd owners have used vasectomised bulls of just one year successfully. Young bulls should always be removed from the herd at night. Bulls should not be permitted in the dairy yard either as cows can become indiscriminately or accidentally marked.

The marker bull system, when efficiently operated is effective in helping to determine which cows are ready for mating in a large herd operation.

THE MARKER BULL

The marker bull is so called because he marks by ink, cows which are ready for mating by reason of the fact that they have stood to be mounted. In order to do this the bull is equipped with a chin-ball marker, fitted under the lower jaw and held in position by two straps, one fastening over the nasal bones and the other behind the ears. The lowest part of the semi-circular ink tank is equipped with a spring loaded ball mechanism which releases ink for distribution in similar fashion to a ball point pen.

When the vasectomised or otherwise altered bull is dismounting from the cow in season, he drops his chin and consequently the ink marker ball, along the back of the cow. The line markings on the back are indicative that the cow is ready for insemination. Close attention by the herdsman or farmer soon indicates the type of marking deserving of attention.

In dairy herds, rapidly fading inks must be used to avoid confusion, and ink colours should be changed about every second week. A cancellation mark must be applied to each cow actually inseminated. No cow which has been inseminated should be put back to the herd until all signs of heat have vanished. This means at least 36 hours' absence from the herd.

There is no doubt that the marker bull system, when efficiently operated, assists greatly in facilitating the usage of artificial insemination in large dairy herds, and consequently the obtaining of good results.

The identification of pregnant cows which keep showing heat is a minor problem which can be solved by regular pregnancy checks. These are most desirable on account of the high percentage of cows showing this aberrant behaviour.

The cost of chin ball harness is about \$38.00 and bottles of ink \$3.50 each. At least two colours of fast fading ink are recommended, but means have also been found of causing faster fading.

The provision of vasectomised bulls annually or every two years is an additional burden, but these are not a total loss as indeed a profit can be shown when sold later as steers or bulls.

Synchronisation of heat may eventually mean that the marker bull is no longer required, and many people will rejoice greatly when that day dawns.

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A NEW SERVICE TO MEMBERS

For many years the Department of Agriculture has published bulletins intended to bring to primary producers the latest advances in farming techniques.

Many of the bulletins concerning dairy farming have resulted from research work carried out by the Northfield Research Centre on projects approved by the Commonwealth Dairy Research Committee and financed with funds provided by the levies which are paid by all dairyfarmers.

But much of the knowledge gained from this research does not reach the dairyfarmer who needs it, and who helped pay for it, and many of the advances made are not incorporated into commercial practice because the information, although available in bulletins which can be obtained for a yearly cost of \$1, does not come directly to the dairyfarmers' notice.

Beginning with this issue, the dairy bulletins published in future by the Department of Agriculture will be sent to all subscribers to the South Australian Dairymen's Journal, as supplements, at no additional charge. The first such bulletin, "Signs for Successful Breeding", is enclosed.

THE THERMODURIC COUNT

(Continuing from the previous issue of this Journal the article reprinted from the Victorian "Dairyfarming Digest".)

Removal of Milkstone

Hard deposits are best removed by acid detergents containing phosphoric or sulphamic acid. Mineral salts, especially present in the form of calcium caseinate or similar complexes are insoluble in the usual alkaline detergents.

Most acids will dissolve milkstone, but only a limited number can be regarded as suitable for use in milking machines. Strong mineral acids such as sulphuric and hydrochloric acid should never be used. The best bet is to use a recommended milkstone remover.

There are two methods for milkstone removal which can be used.

CIRCULATION METHOD

Several gallons of hot acid solution (use the concentration stated on the label) are drawn through the machines and the first five gallons from the releaser are run to waste. This is mainly to warm up the machine. The remainder of the solution is recirculated for about 5 minutes before being run to waste. The machine is then filled with very hot alkaline detergent and this is circulated for about 5 minutes and run to waste. After this remove all traces of detergent by thorough flushing with plenty of hot water, inspect the machine and repeat if necessary.

SOAKING METHOD

Several gallons of hot acid detergent (60%) are drawn through the cups (1 gal/set of cups). This is then run to waste. Plug the releaser and turn the dropper taps off. Hot acid is drawn in by vacuum or by filling through a rubber bend at the end of the milkline. Then open the dropper taps for a short while to allow the air to escape. The acid will then fill these tubes and indicator glasses. Allow the solution to remain in the plant for one/two hours. Then run the acid to waste and draw 1 - 2 gallons of hot alkaline detergent through each set of cups. Rinse through the plant with boiling water. As with the circulation method, the procedure may have to be repeated. (Continued on page 10.)

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Recommended Cleaning Methods

Thermodurics are only a problem if:

- the milking plant is not clean;
- The sanitiser is not working properly; or,
- the rubberware has perished.

These problems result from a poor cleaning system or no system at all. To understand why a system is required consideration must be given to the different parts of milk and the type of detergent required to remove them from a milking machine.

Milk fat requires an alkaline detergent.

Milk protein requires an alkaline detergent.

Milk salts require an acid detergent.

It could be suggested that a single detergent would clean all portions of milk residues simply by adding an acid to an alkaline detergent. But you can't do this, because the acid reacts chemically with the alkaline to produce water and a salt.

ACIDS and ALKALIS should never be mixed

Detergents are used mainly to clean away milk deposits, but **they will not kill bacteria.**

However, if the plant is cleaned thoroughly then 90% of the bacteria will be removed. To kill the other 10%, a sanitiser must be used.

A sanitiser will reduce bacteria numbers to a safe level, so that milk quality will not suffer.

If the detergent has not cleaned the surface properly then more bacteria will remain and these will be protected by milk residues from the killing power of the sanitiser.

A cleaning system to prevent the milking machine from contaminating the milk must include:

- **Cleaning the surfaces using a detergent, and**
- **Killing the bacteria with a sanitiser.**

Concentration and temperatures

Manufacturers have often made a lot of research and development into finding out the best system for their products. Therefore their instructions should be clearly understood and followed.

If you have any doubts, contact your dairy supervisor.

Minerals and milk salts form the basis of milkstone and only an acid source can prevent this occurring.

An iodophor has acid in its formulation, therefore an extra acid is unnecessary. But where a chlorine-type sanitiser is used, and in "hard" water areas, it is necessary to acidify the final hot rinse step of the cleaning stage to prevent "milkstone". If "milkstone" persists, it will be due to the "hard" water used, a poor cleaning system, or once-a-day cleaning.

Various systems may be used, but basically they should:

- Rinse the milk from the plant immediately milking has ceased. Do not collect the rinsings with the milk.
- Wash the plant with a detergent.

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- Rinse and dry the plant, free from all residues.
- Sanitise the plant just before milking, each being a separate step.

Success will only be achieved if such a system is economic, adaptable and effective.

The thermoduric count will measure the success of your cleaning system.

CLEANING AND SANITISING

(Before washing machines, the claws and teat cups should be washed in warm detergent water.)

Action	What to use	Method	Purpose
Rinse milk from machine	Cold to tepid (100°F) water	Two galls/set of cups	Removes milk Softens residues
Detergent hot wash	General purpose alkaline detergent (160°F-180°F)	One gall/set of cups	Removes milk residues
Hot rinse	Hot water not less than 180°F. Acidify if chlorine sanitiser is used	One gall/set of cups	Kills bacteria, rinses away detergent residues. Dries the machine
Sanitise	Iodophor less than 190°F or chlorine sanitiser	One gall/set of cups	Prevents milkstone Kills bacteria

Finding the problem areas

Thermodurics come from easily identified sources. These sources can be classified under the two headings of "consistent" and "sporadic".

Consistent

These are high thermoduric counts resulting from a gradual build-up of persistent milkstone deposits, poor rubberware, and inefficient cleaning. These faults can be corrected by the right techniques.

Sporadic

These are high thermoduric counts that seem to defy all explanation. The mystery is often solved by identifying a breakdown in the usually good routine. Examples are: milk cooler not working, run out of sanitisers, hot weather, etc.

From these two general categories a further sub-division of more specific trouble spots can be made.

POSSIBLE FAULT AREA	CAUSE	CORRECTION
Water Supply	"Hard" water	Instal tanks to collect "soft" rainwater
	Contaminated water	Eliminate source of contamination. (Fence-off water supplies used for cleaning, remove foreign matter from tanks)
	Dirty water (dams, channels)	Use chlorination, water clarifiers or settling tanks
Machines Rubberware (bungs, gaskets, dropper rubbers, clawtubes, inflations)	Milkstone build-up on rubberware	Check rubber-ware, clean and replace where necessary
	Perished and cracked rubberware provides areas for bacteria to live and multiply	Protect rubberware from sun light and action of chlorine
	Swelling of some rubber due to fat absorption	Replace
	Stretching of inflations	Replace
Stainless steel components	Corrosion, pitting and crevices which provide attachment points for milkstone	Check for these signs and consult your dairy supervisor for treatment
	"Deadspots" in the machines which avoid effective cleaning	Check these areas
	Areas where a small-dimensioned pipe joins a larger pipe. Often ineffectively cleaned due to "void" effect	Check for these areas
	Areas exposed to the atmosphere which may be neglected in normal cleaning	Check the plant for these hidden areas

POSSIBLE FAULT AREA	CAUSE	CORRECTION
Airlines	Split inflations may allow milk into the airline and provide a site for bacterial growth	Check and replace the inflation Clean the entire airline system
	Dust, dirt and insects in the airline can also allow bacterial growth The airline tube from the releaser may contain deposits due to milk vapours. These can support bacterial growth and contaminate milk in the releaser Not cleaned properly	Check and clean if necessary Check and clean regularly Routine hot rinse and sanitise When a split inflation is noticed—detergent-wash and sanitise Check and clean vacuum tank
Releaser	Faulty seals and perished rubber tubes can provide areas for bacterial multiplication Build-up of milkstone in the releaser and vacuum tank	Check and replace if necessary Manually clean the releaser and associated parts twice daily Drip dry the whole plant
Cleaning procedure After-milking rinse	Not enough rinse per set of cups Use of hot water, which bakes milk onto milkline Sticking of milk solids to the milklines to form milkstone	Two gallons per set, twice a day, start end nearest releaser Cold water is preferable (less than 100°F) Rinse immediately after milking the last cow. (Don't collect rinsings in the vat)
Detergent wash	Efficiency of the detergent is hindered Use of galvanised buckets causes an electrolytic reaction and produces milkstone build-up Incorrect C.I.P. techniques	Temperature of detergent solution Concentration (as per label) Quantity (one gallon per set) Use stainless steel, rubber or plastic buckets Don't circulate for too long, to avoid temperature drop

POSSIBLE FAULT AREA	CAUSE	CORRECTION
Hot-rinse	Rinsing solution cold	Temperature should be above 180°F (82°C), preferably boiling from the hot water cylinder
	Not enough rinsing solution Use of "hard" water	At least one gallon per set, twice a day Acidify "hard" water if used
Sanitiser (A clean surface is necessary for sanitisers to work)	Incorrect application	Correct concentration, temperature and contact time
	Wrong sanitiser	Correct selection for "hard" water areas (consult your dairy supervisor)
	Not enough sanitiser per set of cups	One gallon per set of cups
Bulk vat	Not cleaned properly	Washing should be as for the rest of the milking machines
	Nooks and crannies which cannot be reached effectively	Check—outlet of vat —bridge, lids —agitators —milk entry (Splashing should be avoided by using a rubber tube on the inlet as close to the bottom of the vat as possible) Keep lid shut Check efficiency and the overload of the refrigeration
Releaser	Difficult to clean in place	Dismantle and clean manually at least once a day
Milk lines	Deposits in end of milk-line	Use torpedo brush or foam wads through lines when washing
Milking hygiene		
Mastitis	A source of bacteria which may be therm- oduric	Eliminate mastitis
Udder washing	Using bucket and cloth which can transfer bacteria from cow to cow and then to the milk	Use clean running water, and sanitiser soap if necessary
	Drips of contaminated water being sucked up by the cups	Make sure the udder is dry before putting on the cups

POSSIBLE FAULT AREA	CAUSE	CORRECTION
Udder Washing (continued)	Fore-milk milked into the lines may cause a higher count. This is often in contact with outside air and therefore has higher bacterial numbers	Eliminate fore-milk by strip-cup testing
Teat cups	Cups falling onto the shed floor Contamination from the hair on udders which may make the udder hard to clean	Keep cups clear of dung, urine, dirt, etc. Shaving of udders
Milking Shed	Sources which may exist in the milking shed	Keep walls, ceilings, and structural work clean Keep free from dust, dirt, dung, birds, insects and rodents Reduce dust from hammer-mill Construct walkways free from mud and dirt Protect pulsators from dung and dirt Manure disposal system to eliminate wet or dusty dung being carried into the shed
Surrounds	Bacteria (including thermodurics) can survive on air-borne particles	Prevent pollen from trees or the hayshed blowing into shed Keep livestock away from the washing water supply Keep dust from driveways and walkways to a minimum

BUYING MILKING RUBBERWARE

Because the condition of milking machine rubberware plays a large part in the maintaining of satisfactory thermoduric levels, arrangements have been made for rubberware to be available through the Association at preferential rates. Enquiries as to prices and conditions should be made to this office, telephone 51 3034. All brands and grades are available.

BUTTER CONSUMPTION — A NOTE ON STATISTICS

After January, 1973, Australian butter will no longer be marketed in the United Kingdom, and with this issue we have ceased to record the London Provision Exchange quotations for butter and cheese. We have, however, expanded our statistical information to include butter consumption trends in Adelaide, an average of the trends in 7 cities, namely the six capital cities plus Canberra, and comparisons between consumption in Adelaide and the 7 cities.

PRICES & STATISTICS

ADELAIDE METROPOLITAN MILK SUPPLY AREA

PRODUCTION (000 gallons)

	For Month		Daily Average		12 Months' Cumulative	
	1971	1972	1971	1972	1971	1972
September	5,450	5,436	181.7	181.2	57,198	56,118
October	6,435	6,281	207.6	202.6	57,063	55,964

MILK SALES (000 gallons)

	For Month		Daily Average		12 Months' Cumulative	
	1971	1972	1971	1972	1971	1972
September	1,645	1,800	54.8	60.0	22,286	22,375
October	1,842	1,893	59.4	61.1	22,267	22,426

RATIO (Sales to Production, per cent)

	For Month		12 Months' Cumulative		C.M.B. (Cents)	
	1971	1972	1971	1972	1971	1972
September	30.2	33.1	39.0	39.9	20.65	21.61
October	28.6	30.1	39.0	40.1*	19.72	19.82

*Highest cumulative ratio since July, 1969, when production and sales for the 12 month period were 53,647,000 and 21,621,000 gallons respectively, giving a ratio of 40.30 per cent.

INTERIM PRICES TO LICENSED SUPPLIERS

(Prices are interim only, and subject to retrospective adjustment.)

1972	Basic C.M.B. Total			3.5% 4% 4.5% 5%			
	(cents per lb. butterfat)			(cents per gallon at above test)			
September	44.37	21.61	66.18	23.90	27.32	30.73	34.15
October	44.57	19.82	64.39	23.26	26.58	29.90	33.23

AUSTRALIA

TOTAL MILK PRODUCED (million gallons)

Twelve months ended JULY

	N.S.W.	Vic	Qld.	S.A.	W.A.	Tas.	Aust.
1971	273.4	899.5	163.8	102.4	55.3	98.1	1583.3
1972	268.3	863.1	170.8	98.2	58.2	99.8	1559.1
% Change	-1.9	-4.0	+4.3	-4.1	+5.2	+1.7	-1.5

HOUSEHOLD BUTTER CONSUMPTION

(based on a private survey)

Adelaide compared with 7-city average — Month of SEPTEMBER

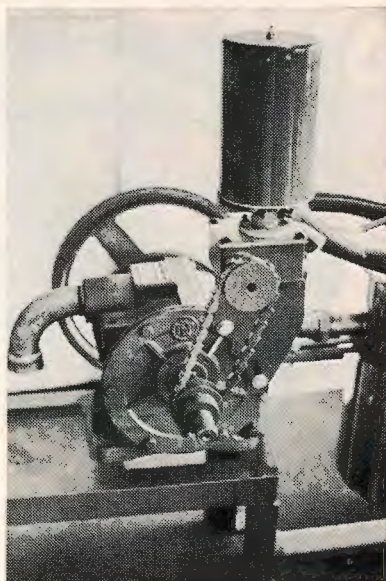
4 weeks during	Purchase per Household			Adelaide (Index)
		7-city average (lb.)	(Index)	
September 1971	4.66	100	84.8	
August 1972	4.37	100	88.8	
September 1972	4.38	100	86.3	
Trend				
September 1972 on	7-city average (% change)		Adelaide (% change)	
September 1971	-6.1	-4.4		
August 1972	+2.3	-3.6		

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