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ELECTRIC FENCES ON DAIRY FARMS

By

F. E. RYAN, B.Sc. (Agric.), Agrostologist

Fig. 1.—With strip grazing, Yorkshire Fog pastures are readily eaten by stock, as shown by this photograph taken at Manjimup.

During the last four or five years, a number of electric fences have been brought into use in the higher rainfall areas. These are playing a very important role in increasing production and almost without exception, improvement in output has been reported following their introduction. During 1954, ten sets were used for demonstration purposes throughout the dairying districts under the terms of the Commonwealth Dairy Extension Grant. These demonstrations have all been successful and leave little doubt as to the effectiveness of this type of grazing management.

The influence of strip grazing on production can be substantial. Farms which were operated on a rotational system of controlled grazing for many years have recorded increases in production of up to 30% following the introduction of the electric fence. Such an increase on highly-developed properties is phenomenal and suggests that on less well-developed properties, even greater usefulness can be found with the minimum of effort.

In 1953, on one property at Harvey, 54 cows in milk were maintained continuously on 25 acres of irrigated pasture from November until June—a period of eight months. These were high-producing cows and were not fed concentrates during this period. Pastures on the 25 acres grew too rapidly for the animals and during February, 11 acres of the irrigated pasture were cut for hay. Even with this high concentration of animals on the pasture, the time interval between grazing on each strip and the returning of animals to the same strip was six weeks. Such a level of production had never been recorded previously on this farm.

Strip grazing is primarily a refinement of rotational grazing in which stock are confined on very small areas for one grazing period. It is impractical to erect permanent fences to provide such small paddocks and the electric fence is undoubtedly the most convenient type of temporary fence.

It also has the advantage of being elastic so that smaller or larger strips may be provided according to the abundance of
the pasture, thus enabling grazing management to be fitted to great extremes of seasonal pasture growth.

In autumn and winter, pastures must be managed very carefully to utilize them to the maximum and at the same time, not excessively to the extent of preventing their growth and development. In the spring, grazing can be restricted to a reduced area to enable greater conservation in preparation for the summer, autumn and winter.

Strip or rotational grazing can assist in many ways and the demonstrations now being carried out show that the electric fence can help considerably in the following ways.

1. Utilisation of Herbage.

Experiments carried out in England showed that under a system of strip grazing, stock utilized a greater percentage of the herbage available to them than under a rotational system of grazing. In this work it was reported an increase of 25% in the amount of pasture eaten under a system of strip grazing as compared with that eaten under paddock grazing. To some extent this is borne out in the demonstrational work.

At Bridgetown, eight acres of early oats were strip grazed in July using an electric fence. It was estimated that the oats provided at least twice the amount of grazing that would normally be expected. 25 cows grazed on the eight acres for ten hours per day, the paddock providing grazing for them for 21 consecutive days. Three weeks later, the animals were again returned to this oat paddock and 32 cows were grazed for 14 days. They were fed some hay whilst grazing on the strip, but no other supplementary feed. Their production was never less than 1 lb of butter fat per cow per day during the period of grazing on the oats.

Experience with oats for grazing over a period of years has taught farmers what might be expected from free grazing of such a crop. Many have been surprised to find that twice as much grazing has been obtained as was expected. Observations have confirmed the view that with this grazing management much less material is trampled into the ground and a greater percentage of the crop is actually consumed. The production of butterfat of these animals was carefully watched to determine whether they were obtaining sufficient food but no reduction in yield was observed. It appears that the claim of greater utilization is therefore supported.

An extreme case of this was observed in an oat crop 2 ft 6 in. high which was strip grazed for one hour per day. There was practically no waste straw or leaf material trampled into the ground and all of the material within the strip was removed.

A similar result has been observed on pasture, and sceptical farmers have been very quickly converted to this type of management after a trial.

2. Increased Fodder Reserves.

The use of the fence during July and August and September on early oats and pastures has resulted in some demonstrations in the substantial saving of pasture. By confining stock to small strips in the winter and early spring, the proportion of the total area which is grazed by stock can be kept to a minimum. As a consequence, a much greater area is available for conservation as hay.

One farm at Manjimup which has been under examination for a number of years for better dairying competitions, used the electric fence for the first time in 1954. In that year this farmer was able to close up 30 acres out of a total 100 acres of his farm for conservation as hay. He carried 35 milking cows.

It would be possible to close up larger areas for hay or silage during the spring, if frequent paddock changes for the grazing animals were not necessary. This is possible when animals are confined to smaller areas by using the fence. In addition to this, better autumn and winter management of pastures results in more vigorous pastures and better spring growth. Electric fencing allows the seedling plants to become well established before they are grazed, and permits quick grazing followed by long intervals for recovery during the winter months. Greater quantities of silage and hay are therefore obtained.

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Inadequate supplies of conserved fodder are the rule rather than the exception and in this way the fence can assist in increasing farm production.

3. Provision of Grazing During the Autumn and Early Winter.

On most dairy farms, this is the most critical period of the year. Pastures are low and of necessity are heavily grazed. Recovery following severe grazing of the early growth is slow and as a result of this early grazing, pasture production during the winter and early spring months is low. Severe grazing during the autumn may cause a reduction in spring growth.

Where strip grazing has been practised, stock are maintained on a much smaller area in the early autumn either on pasture or on early oats, the pasture areas which have been freed from grazing early in their life make vigorous growth during the winter and even if they are grazed at this time recover rapidly following grazing.

4. Provision of Grazing in the Summer Months.

Crops of Sudan grass and Japanese millet provide green fodder at the end of the normal pasture season. In suitable seasons these crops can provide green fodder for several months during the summer and even in a very dry summer such as was experienced in 1955-56, one month or six weeks extension of the normal grazing season could be obtained from such plantings. For the maximum use of such areas, an electric fence is necessary and the crops should be strip grazed.

On one farm at Balingup during 1955-56, six acres of Japanese millet provided grazing for 22 cows during January. These cows continued to milk, producing \( \frac{3}{4} \) lb. of butterfat per cow per day, to the end of January, whereas 33 cows from the same herd which were not grazed on the millet declined rapidly in production and dried off before the end of January. This was sufficient to keep them in production for at least four weeks. The efficient grazing of such crops as Japanese millet or Sudan grass is possible only with the aid of an electric fence.

5. Weed Control.

Where cattle are grazed in small strips by means of the electric fence, they graze evenly and uniformly. Selective grazing is reduced to a minimum. Cows which were grazed in strips on pastures during the autumn ate capeweed as well as subterranean clover and grasses. Open paddock grazing carried out by the same animals resulted in their selectively grazing the subterranean clover and leaving the capeweed untouched.

Where the strip grazing had been practised, more vigorous growth of the subterranean clover and less competition from the capeweed has been noted.

6. Earlier Calving.

As a result of strip grazing, several farmers have realized that their early oats and pastures can be more efficiently used
if an electric fence is employed. Because of this, it has been found possible to calve down a month earlier than normally was the case. It has been pointed out from analyses of herd recording figures that March-April and May are satisfactory months for calving on farms producing butterfat. The earlier calving results in greater total butterfat per cow and per acre.

With the advent of the electric fence, it has been found possible on these farms to calve down at least one month earlier than normally would be the case.

7. Longer Lactations.

Earlier calving which can be arranged safely with the aid of the electric fence, the provision of greater quantities of hay from the farm and the ability to graze from summer fodder crops, enable dairy-men to lengthen the lactation period of their cows, thus providing greater production per cow and per farm.

The electric fence and strip grazing can do much to increase production on dairy farms in Western Australia. On most farms, partial use only has been made of the fence and its application can be extended quite considerably in most cases. Where partial use has been made of it on individual farms for purposes such as grazing early oats, early winter and spring grazing of pastures, grazing irrigated pastures during the summer months and for rationing of summer crops, improvement in carrying capacity and production has been reported and farmers using the fence have become very enthusiastic. It is sufficient to record that many of the neighbouring farmers, hearing of the results of these demonstrations have now purchased fences of their own.

Apart from controlled rationed grazing in strips the fence will be found to have many subsidiary uses on the farm. These may be listed as follows:—

(a) A temporary internal division fence on large paddocks.
(b) Fencing of crops or newly sown pasture areas which are not permanently fenced.
(c) Protecting hay and silage stacks.
(d) Providing a self-feeding system for a silage stack or clamp.
(e) As a temporary stock yard or for stock-proofing bull paddocks.
(f) Protecting young shelter belts, dams, dairy buildings and drains.
(g) Protecting irrigation spray lines, channels and drains.
(h) For sub-division and rotational grazing of calves and segregating calves into groups.
(i) For fencing off sand drift areas until adequate plant cover has been obtained.
(j) For temporary raceways.

Acknowledgments.

Information from demonstrations with the electric fence has been obtained from field officers of the Dairy Division to whom acknowledgment is due.

RESTRICTIONS ON THE IMPORTATION OF CANNED MEATS

No canned meats may be imported into Australia from countries other than New Zealand unless they are accompanied by a certificate to the effect that the contents of the cans were subjected during the course of manufacture, to a temperature of not less than 100° C. and details as to the temperature employed and the time of exposure to it are required to be furnished.

While compliance with these requirements should present no difficulty in the case of commercial consignments, it is unlikely that parcels forwarded by post will be accompanied by the prescribed certificates, and persons who are accustomed to receive gifts of canned meat or poultry by parcel post from friends overseas would be well advised to notify the senders so as to avoid loss or disappointment.

Uncertified parcels will be intercepted by quarantine officers and, unless re-exported, will have to be destroyed.

Further particulars may be obtained from Chief Quarantine Officer (Animals), Department of Agriculture, Perth.

In explanation of the new regulations which have been gazetted under the Commonwealth Quarantine Act, the Chief Quarantine Officer (Mr. C. R. Toop), said that until recently, canned meats could be imported to Australia from any part of the world without restriction. Inquiries, however, have now revealed that some of these products are not effectively sterilised by heat treatment during the process of manufacture, and that they may constitute a disease risk.
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