

secreted daily in the milk is approximately the same in both animals. Where then does the mineral content of the milk come from in the case of the cow receiving a low mineral ration; it is actually derived from the reserves stored in the tissues of the animal. It has been shown in one particular case, that a cow was secreting in the milk just five times the amount of lime present in the daily ration.

It is easy to imagine to what extent this animal's lime reserve would be drawn upon throughout the lactation period. This sort of thing cannot go on, and the inevitable happens in the fundamental breakdown of the animal, manifested by one or more of the particular conditions peculiar to dairy cattle.

I assure you, that even on the best of country where supplementary feeding has not been necessary, the feeding of minerals must be practised if the maximum efficiency is to be obtained.

The most important function of the dairy cow is that of reproduction, and if a cow fails in this obligation, she no longer becomes profitable, and must be culled.

Undoubtedly, a great economical loss is represented by the large number of dairy cows affected with temporary or permanent sterility. Remember my remarks pointing out the difference between the reproductive obligations of the undomesticated cow and those of our modern dairy cow, and you must realise that some particular attention is necessary if the unnatural demands of reproduction are to be fulfilled.

Undoubtedly many of the problems of sterility are directly associated with malnutrition, and the more readily the problem of malnutrition and its relation to regular reproduction is appreciated, the more successfully are farmers likely to combat sterility.

My final reference is to dry stock—remember that although the dry cow is not producing any milk, she is providing or attempting to provide sufficient nutrition to an embryo calf in the final stages of its uterine life, and considerable demands are therefore made on the maternal reserve.

I ask, therefore, that the dry cows receive the attention that is their due when the problem of malnutrition is receiving the consideration that is essential for the successful practice of dairy farming. (*Queensland Agricultural Journal*, Vol. 46, page 67 July 1936.)

EXTRACT

Land reclamation in Italy. One of the achievements of which Italy can unreservedly be proud is the reclamation of large areas of land that for centuries remained marshy.

An idea of the vastness of the operations and their popularity may be gauged from the following figures:—

Labour employed.	18 million, man days.
Area reclaimed.	4.7 million, hectares.
Increase in out put.	2 million metric tons.
Fall in imports %.	about 80.0

Of much greater interest perhaps to this country is the way in which the Italian Government tackled what is known as the "Southern Question" consisting of a group of problems arising out of the backward economic and social conditions of South Italy. The general machinery is prescribed by the Mussolini Act which characteristically does not lose itself in the maze of existing measures. It leaves them as they are and goes straight forward. Financial provision of 7000 million lire is made to be spent in the course of 14 years. Half of this amount is chargeable to the treasury and the remainder to the land owners. The

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major part of the finance is provided to the parties concerned in the form of 30 year annuities discounted to them by different institutions.

The scheme aroused such great enthusiasm that applications for funds were so numerous that the allotted sum was found far too small to meet them all. Preference was given for the execution of the work by public bodies which ensured a certain minimum of private initiative. Private rights were acknowledged and when curtailed, were said to be adequately but not excessively compensated. A special section of the Ministry of Agriculture which receives proposals and itself draws up plans, deals with land reclamation and no project is accepted unless it shows considerable possibility of securing notable improvements in hygiene, demographic, economic, and social conditions. The plan being accepted by government, the land owners proceed to execute the works either by themselves or through the consortium. They may provide all the money themselves or obtain government grants or special loans from the agricultural bank.

When the reclamation is completed, some internal migration and land settlement become necessary. A special commissariat like the "Ex-service Men's League" attended to this and the migrants were drawn mainly from farm workers brought from more densely settled regions. The system adopted was as follows:—The reclaimed land is cut up into holdings of 25 to 75 acres according to the quality of land each furnished with a house, stabling for ten cattle, poultry run, pig sty, well etc. The farms are taken by the immigrants first on a crop sharing basis the tenants receiving monthly advances in the shape of supplies and cash allowances from the League or other societies. When the head of the family gets experienced, an agreement is drawn up under which he will purchase the farm and the livestock from the League in 15 annual instalments covering capital and interest which varies in general from 200 to 630 liras per hectare as cost of upkeep and amortisation of the drainage work. These repayments do not cover the government contribution.

(One hectare = 2.47 acres; 1 metric ton = 2000 lbs.; 1 lire = 9½ d.)

(Extract of a lecture on land reclamation in Italy by Sir John Russel.)

Agricultural Jottings.

BY MEMBERS OF THE DEPARTMENT OF AGRICULTURE, MADRAS

The Madras Dry Farming Scheme. The Madras Dry Farming Scheme, which was started just over two years ago, has for its purpose the improvement of agriculture in the arid parts of the Presidency. The Research Station where the work is in progress is situated at Hagari in Bellary district.

An account of the progress made in the first year has been published already. The following notes give further general information about work done in the last season, and the manner in which it may be useful to the ryot.

The progress made lies in two general directions viz., improvement of the crop, and improvement of the soil.

Improvement of the Crop. *Korra.* This millet, which is one of the main food crops, has been studied intensively. It has been found in any crop grown under ryots' conditions that the plants differ in one important respect and that they are generally of two kinds. Some have a shallow spreading root that penetrates to depth of only about 6", while others have a different kind of root which grows deep in the soil up to 2 feet and even 3 feet. It has been found that the deep rooted kinds are most numerous which is evidently nature's way of providing a kind of plant adapted to resist drought. But what of the shallow rooted kinds that are present, although not in such large numbers? The information obtained