Better Dairying - Planning a dairy farm

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The economic conditions obtaining in the dairying industry during the last few years have indicated clearly that any farmer wishing to ensure financial security must be efficient in his system of management and wise in his plan of development.

The ultimate success of a dairy farm, which combines a business and a family home, depends largely on such basic factors as:

1. The natural features of the land, soil type, contour, potential water supplies, rainfall.
2. The cost of labour involved in production.
3. The cost of materials involved in development and maintenance.
4. The standard of living and comfort obtainable in the homestead, and the provision of adequate facilities and amenities for all members of the family.

The following points are worthy of consideration in the development and management of your farm. It must be realised that each farm is an individual problem; therefore no set design can be imposed directly on every holding; a plan of development must be modified to fit in with the existing features and the particular aims and requirements of the individual farmer.

Even in planning the development of a block of virgin country—and few properties are being developed from this state now—it would be necessary to fit the plan to the existing natural features so that a close inspection of the land and an appreciation of its potential fertility would be necessary in order to approach the problem intelligently.

Most farms with which we are concerned have reached a certain stage in development and it is from this stage that progress should be planned. How often have hasty decisions such as the placing of a fence, a shed or a culvert proved to be a constant source of annoyance and loss of time in later years? An orderly approach to development will assist in avoiding these mistakes.
The first essential is to draw up a master-plan of the farm as it is now. This should be done on a large sheet of paper or parchment and show, to scale, all fences, buildings, cleared land, timber, summer land, water points, contours, in fact, all features of importance.

Consider then how the farm could be best designed if it were possible to start afresh. These ideas will have to be modified according to those features which it is not possible or economical to change. Such things as the home site and other permanent features come to mind.

Enumerated below are some basic points which should be considered and considered with reference to your requirements. Study them carefully and then make a plan as you envisage the farm when fully developed. This plan may need modification at a later date but will aid in obtaining greater efficiency in the use of labour and materials, the two major costs in production today. Consider these points:

**The siting of the homestead and farm buildings.** Usually a position in approximately the centre of the farm is desirable for convenient working. The dairy-shed and the house are the two key working units. Undue loss of time in travelling to and from these constitutes a hidden loss of income over each year.

**Access roads.** All parts of the farm should be easily and quickly accessible. How often have we seen good paddocks only partly used because of the difficulty of approach or the extra time involved. It is suggested that, where possible, each paddock should be independently accessible from the internal roads or raceways on the farm.

Roads should be designed with due regard to gradient and drainage so that they are usable in all weather conditions and will provide easy haulage for farm implements and vehicles. Gateways in particular require careful thought, especially when used frequently by stock, to avoid them becoming exasperating and frequently impassable bogs.

Roads and races should not be over-wide. Fifteen to 20 feet is usually sufficient. The practice of making races one or two chains wide is wasteful of space, quite an important factor when the potential return may be 100 to 200 lb. butterfat per acre annually. Also wide races make it more difficult to handle stock and there is greater loss of time travelling from pasture to milking-shed and returning.

**The position of gates is an important factor.** Frequently gates in adjacent corners of adjoining paddocks, offset from the raceway, will provide easier approach to vehicles passing into the paddocks and also a turning point in the race.

**Subdivision of the farm should be such that a grazing rotation of approximately three weeks could be carried out to ensure the maximum utilisation of feed in the flush period of the year.**

**Main fences** should be of a permanent nature, as should also the main subdivisional fences. The size of individual paddocks however, can only be determined by the farmer himself with regard to his system of management and the class of stock he wishes to handle. Small areas where quick grazing is possible are beneficial from the point of pasture growth. They are, however, costly in fencing, water points and somewhat wasteful of land along the headlands as well as being uneconomical in cultivation.

It is not suggested that two, five or ten acres should be regarded as a satisfactory minimum size; a decision could be made only on a specific farm. It may be observed, however, that long, rather than square paddocks are easier to handle and the wise planner will consider the subdivision possible with an electric fence having due regard for the class of stock he will be holding. These temporary fences have proved to be very satisfactory in the South-West under a great variety of conditions. They are, however, not generally suitable for young calves or pigs unless special provision is made for them.

Frequently an economy in the provision of water points can be made with the electric fence and, together with the reduction in the amount of permanent fencing, there is appreciable saving. Rabbitproof boundary fences are essential in most districts.
Normally calf paddocks and pig pens should be constructed with permanent fencing. A number of small paddocks or pens are desirable to facilitate rotation. It may be noted, however, that the siting of these paddocks should be such that they are readily accessible from the main farm buildings, that drainage is adequate and away from other buildings, or any well or dam, and it is preferable to have them to leeward of the building group.

Water Supply. There is probably no other single factor on the farm in our South-West which has a greater influence on the utilisation of paddocks and the herd production than the provision of water. Much valuable grazing has been lost because stock, particularly milking stock, had too far to travel to water.

In preparing the fully-developed plan it is essential that suitable supplies of water be located and provision made for the reticulation to all parts of the farm. Pipes, tanks, and troughs are expensive but when one water-point frequently brings many acres into profitable use they are economical to install. A well designed reticulation system will save many pounds in installation costs and raise the level of fertility over the whole farm by facilitating the proper rotation of stock and crops.

Of recent years the immense value of small farm irrigation systems has been very clearly demonstrated on many farms. Any potential dam site is worthy of consideration in the plan. Such a dam may provide irrigation for lucerne, fruit or vegetable crops or summer fodder and do much to reduce the adverse effect of our seasonal herbage growth on dairy cattle production.

As your farm is your business, every factor which will increase the efficiency of the labour used, or the stock and crops grown, should be considered in the final plan. Shelter belts, loading ramps, cattle pits, milk delivery points and a host of other features could be mentioned but the main purpose of this article is to stress the advantage of drawing up a proposed plan of your own farm under your own system of management. Adequate subdivision, accessibility and water reticulation to enable the efficient use of the labour available is the keynote of efficient development.

DOMESTIC FIREPLACES AND CHIMNEYS

An efficient chimney is an essential part of nearly every Australian dwelling and requires careful attention to its construction. The number of inquiries received by research bodies on the best method of building a chimney and on the means of dealing with defective chimneys indicates the need for reliable and easily available information on the principles involved and on practical recommendations for chimney construction.

Although little specific research has been done on the subject various authorities have made recommendations after examining efficient structures in the light of present-day knowledge of aerodynamics. The principles on which the chimney works are well known. Heated air from the fire expands, and being lighter than the surrounding colder air, rises, forming a current which takes the smoke and gases with it. As too great a draught would cause rapid consumption of the fuel, provision is made to limit the draught by means of a throat—the junction of flue and fireplace opening. The second main problem is that of returning smoke. This is prevented by good design, and allowances for pressure areas within and around the building.

Illustrated publications dealing with such aspects as site conditions, plan arrangements, and typical dimensions for fireplace opening and depth, throat, smoke shelf, and flue are—

DOMESTIC FIREPLACES AND CHIMNEYS—Notes on the Science of Building, NSB No. 31, published by the Commonwealth Experimental Building Station. Price, 9d.

SMOKY CHIMNEYS—Building Research Station Digest No. 18. Price, 6d.

These may be obtained from the Building Research Liaison Service, Box 2807 AA, Melbourne, and NSB 31 (only) from the Station, Box 30, CHATSWOOD, N.S.W. Prices include postage.
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