

rain, and the farmer is through the drought, but the paddock is also through. A good pasture of ryegrass will stand heavy stocking, but this stocking must be controlled and never at any stage carried to the extreme.

As with a horse after a hard day's work, a pasture requires a spell to build up, rejuvenate, and so make itself ready to carry on. While it is not my intention to discuss topdressing or the details of pasture management, it will be realised that if high production is called for, an adequate manurial programme must be carried out. What is taken out in the form of phosphate and other plant requirements must be put back.

(4) Gradual and Thorough Development

The development of a farm should be gradual and thorough. The farmer should start, say, with a small portion of his farm, having first prepared it for irrigation and sown it down. If he now continues to irrigate and carefully manages this pasture he will be growing more feed than he had in the past. He can then increase the number of his stock, but at the beginning and until he has gained considerable experience with irrigation, the farmer should always err on the conservative side. With the increased number of stock he will not be out of pocket for expenses for irrigation.

The whole aim is to bring about the change-over to irrigational farming gradually, using the gradual increase in stock and other returns to offset the cost of establishing the pastures, constructing races, and laying out the paddocks for watering. This means that in this development under irrigation the increases in acreage should coincide with the increase in stock or the equivalent of stock in extra crop for sale. At the same time, as more grass comes under irrigation, lucerne must be established so that hay can be cut to carry the stock through the winter.

At present, one of the greatest difficulties facing the Canterbury farmer is shortage of feed in January, February, and early March. With irrigation, this gap can readily be bridged, but unless attention is paid to the winter feed problem the farmer will not receive the benefit, as his stock-carrying capacity is limited to that period of the year when his feed position is lowest. For this reason, a correct balance must be maintained between the area of pasture irrigated and the area of lucerne established to give the winter hay.

Followed along sound lines and followed consistently, irrigation cannot but help greatly to increase returns from farming, and at a profit. Irrigation in Canterbury is as yet in its infancy, but in every case at Redcliff and the Levels where the farmer has made consistent use of the water he has benefited greatly.

Conclusion

Irrigation is the means of high production, but if this is to be achieved certain principles must be remembered.

(1) A good pasture is the most valuable asset on the farm. The pasture paddock is the manufacturer of 95 per cent. of our stock foods. Its efficiency depends upon its composition. If greatest returns are to be obtained from irrigation every care must be taken to establish good pastures. It does not pay to water weeds.

(2) Irrigation must be followed through; adequate soil moisture must be kept up to the plant at all times.

(3) A pasture must be controlled and not overstocked.

(4) Irrigation development must be gradual, a steady and thorough building-up programme.

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