MAJOR FARM MANAGEMENT FACTORS ON GISBORNE HILL COUNTRY FARMS

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INTRODUCTION

A FARM MANAGEMENT STUDY was carried out on 80 hill country properties to the north and north-west of Gisborne over the last decade, but more specifically, the four years 1976-1979. Although the criteria examined were constant, their values varied from year to year, and from farm to farm. The results of the analysis indicate what has happened and how. Variations over the years-i.e., in production or profit — can be caused by a large number of factors, some of which are manageable — *i.e.,* can be influenced by man — and some of which cannot be measured — e.g., many of the management skills. Those factors which were investigated were the ones on which some measure could be made, and those discussed are the ones which contributed significantly to that variation.

MANAGEMENT

Many things in hill country farming can be measured, so most recommendations are based on analysis of these data obtained from farms, or on scientifically proven experiments. On the other hand, there are things that cannot be measured. The farmer who can best react to these over time is the farm management expert. Judgement coupled with knowledge, then, are what make a good manager.

Things that the farmer can concentrate on to help in this art of management fall fully and clearly on *fertilizer* and on ***number of paddocks,*** regardless of whether the basis of production is per livestock unit, or per hectare.

Management factors associated with profit and with higher production are given in Tables 1 and 2.

Other factors occur but are not as consistent or as vitally important as fertilizer and number of paddocks.

TABLE 1: MAJOR MANAGEMENT FACTORS ASSOCIATED WITH PROFIT

	Year ending 1976	1977	1978	1979
For increase in economic farm surplus:				
Per ha	Bigger farms More paddocks	-Fertilizer More paddocks Higher stocking rate	More paddocks Fertilizer	Fertilizer
Per SU	More paddocks High sheep, low cattle ratio	Fertilizer More paddocks	More paddocks Fertilizer	Fertilizer

TABLE 2: MANAGEMENT FACTORS ASSOCIATED WITH HIGHER PRODUCTION

	Year ending 1976	1977	1978	1979
For increase in:				
Wool wt/ sheep E.E.	Low sheep, high cattle ratio	Low sheep, high cattle ratio	Low sheep, high cattle ratio Fertilizer	Bigger farms Fertilizer
Lambing %	More paddocks	Fertilizer High stocking rate	Fertilizer	Fertilizer Higher stocking rate
Calving %	More paddocks	Fertilizer	—	More paddocks

FERTILIZER

Effects of annual topdressings are given in Table 3.

TABLE 3: EFFECTS OF % FARM TOPDRESSED EACH YEAR

	1-year mean 1976-9 % Area Topdressed				1978-9 season % Area Topdressed			
	0-25	26-50	51-75	76-100	0-25	26-50	51-75	76-100
Lambing (%)	**74**	**84**	**87**	**93**	**68**	**89**	**89**	**99**
Calving (%)	**71**	**75**	**75**	**80**	**63**	**66**	**71**	**78**
Wool wt (kg/SEE)	4.4	4.9	5.0	5.3	**4.2**	**5.1**	**5.1**	**5.4**
Sheep INC/SEE* ($)	4.39	5.35	5.66	7.31	4.91	6.54	7.01	9.10
Wool INC/SEE† ($)	7.82	8.11	8.99	10.01	8.19	7.90	10.10	10.60
Cattle INC/SEE ($)	4.26	4.87	5.51	7.70	5.88	6.14	7.83	11.23
EFS/SU ($)	**2.98**	**3.34**	4.19	5.17	3.26	3.63	5.44	7.61
EFS/ha ($)	**22**	**29**	**36**	**48**	**25**	**36**	**44**	**67**

*Sheep INC/SEE is the revenue from the sale of ewes and lambs.
†Wool INC/SEE is the revenue from wool alone.

After capital fertilizer, the effects of the percentage of the farm topdressed each year, and the effects of kg superphosphate per livestock unit are both of interest; which is the more important is uncertain' as they are closely correlated.

The major point was that phosphatic fertilizer is critical to maintenance and any expansion of pastoral output, with the overriding consideration being the necessity to topdress annually. While fertilizer requirements are determined not only by properties of the soil, but also by the nature of the plants, the animals and the climate, it should be remembered that even under store stock production there is an important and definite drain of fertility.

SUBDIVISION

Effects of fencing and the number of paddocks (Table 4) indicated that farms with twenty paddocks or more had significantly higher production and profitability than those with fewer. It has long been recognized that subdivision is one of the most important factors in any farm programme. It appears that paddock numbers are probably more important than paddock size. A minimum number of paddocks (about 25), with fencing into sunny and shady faces, allows maximum flexibility in the management of different age groups of sheep and cattle.

Superphosphate and subdivision costs are in a continuing state of change, as of course are the products that are being produced on pastoral hill country farms. Nevertheless, this survey covering the four years from 1976 to 1979 indicates that these two factors had the key role in influencing overall farm production and profitability.

TABLE 4: EFFECTS OF FENCING/NUMBER OF PADDOCKS

	4-year Mean 1976-79		*1978-9 Season*	
	No. of Paddocks		*No. of Paddocks*	
	19 Paddocks or less	*20 Paddocks or more*	*19 Paddocks or less*	*20 Paddocks or more*
Lambing (%)	83	93	84	98
Calving (%)	69	75	61	74
Wool wt (kg/SEE)	4.8	5.4	4.9	5.5
Sheep INC/SEE ($)	6.06	6.37	6.98	7.43
Wool INC/SEE ($)	8.86	9.26	9.48	9.49
Cattle INC/CEE ($)	7.67	7.81	11.62	10.41
EFS/SU ($)	3.41	4.35	5.00	5.69
EFS/ha ($)	31	42	44	48

CONCLUSION

In summary, to achieve high production from hill country it is necessary to subdivide adequately, segregating sunny from shady faces, topdress with superphosphate, oversow with clovers, and fully utilize the resulting extra growth.

THE THREE S's	=	THE TWO P's
Subdivision		Production
Superphosphate		Profit
Stock management		