M. C. FRANKLIN MEMORIAL SYMPOSIUM

DROUGHT FEEDING - A GRAZIER'S VIEWPOINT

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Summary

Practical problems are discussed, including when and what classes of livestock to feed, the type and amount of ration to be given, supplies of drinking water, and the availability of suitable and sufficient finance. Proposals are made for further research work and for improvements in advisory services.

I. INTRODUCTION

Drought, to a greater or lesser degree, has been a major problem of the Australian stockraising industry since its establishment. At each occurrence, it has caused severe, and often widespread, difficulties and losses of livestock. It is curious, then, that drought feeding methods have not received more attention than they have, and that we have not evolved a comprehensive, relatively infallible set of drought feeding principles and methods for general use. We seem to have regarded drought feeding as a practice of last resort to be contemplated only at times of extreme stress; there is even a refusal in some quarters to acknowledge drought as an inevitable part of our pastoral scene, to regard the onset of drought as plain bad luck, and to hope that it will not occur again in our lifetime. In short, we tend to refuse to acknowledge the lessons of history, which are that our climatic environment demands the integration of almost regular supplementary hand feeding into our pastoral management. Hitherto, we have spent relatively far less time and effort on drought research and on adopting drought management principles than on methods of increasing production, which are themselves generally based on an assumption of favourable seasonal conditions. Small wonder then that drought feeding still presents great problems to the stock raising industry and drought takes such severe toll of our livestock population.

II. PROBLEMS IN FEEDING

The work of the late Dr. Franklin represents a major contribution to the development of principles and standards of drought feeding and yet, until the onset of the drought in 1965, relatively few stock owners, at least in the “safe” areas, had become aware of his work or had attempted to put the principles he evolved into practice. The object of this paper is to examine briefly the problems faced in the application of these and other principles under large-scale practical conditions.

The first major problem for the stock owner is to decide when a dry spell has become a drought. Because of their strong reliance upon pasture as fodder and their “last resort” attitude to hand feeding, stock owners are inherently reluctant to prepare for hand feeding which involves much extra work, expense and upset. 

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in the general farm programme. Essentially, the decision whether to feed stock is one of cost and return, and must be made in the light of other alternatives such as the sale of a portion of the flock or herd, agistment, droving stock to graze roadsides etc. The availability of suitable fodder must also affect this decision, a factor which has considerable bearing on the economics and efficiency of a drought feeding programme. A good knowledge of the energy and protein values of different fodders, coupled with prospects of their availability, is essential in making this decision, but it often has to be made in ignorance and on ill-founded assumptions, thus leading to unforeseen difficulties as the feeding programme progresses. A greater understanding of the economics, mechanics and methods of drought feeding, and a wider acceptance of it as an inevitable part of the farm programme might obviate some of these difficulties of decision. Furthermore, a concerted study of Australian weather patterns and cycles, made with a view to more reliable seasonal forecasting, could well produce worthwhile results in predicting the likelihood of droughts.

Once a decision to commence feeding is made, several other vital decisions must quickly follow. The most important is to decide what stage of debilitation the stock should be allowed to reach before feeding commences, and there is considerable room for improvement in criteria for this determination. A second major problem is to decide which stock should be fed first. This does not have a simple solution for account must be taken of the types of stock on the property, the time of year, the breeding programme, proximity to shearing, lambing, calving, etc. The availability of standing roughage suitable to maintain some stock may determine whether to feed in the paddock or in yards. To feed too early in a drought is obviously uneconomic and wasteful. On the other hand, to feed too late can result in a serious reduction in the success of the whole feeding programme, and often in quite disastrous losses of stock, and wool and meat production, both directly and indirectly. The difficulty of starting stock on feed, particularly young stock, is greatly increased by a late start, often to the point where they refuse feed altogether and ultimately die. At present, there seem to be no clear cut criteria for making this decision, which is made doubly difficult because of the varying requirements of different types of stock, e.g., wethers, ewes in lamb, ewes in preparation for mating, and weaner stock; the same problem arises with cattle. The application of the commonly adopted ad hoc practice of judging the right time to commence feeding by eye and intuition leaves much to be desired and has proved a serious trap particularly to the inexperienced. Further research and the establishment of some broadly satisfactory criteria, possibly based on the liveweights of animals sampled from different flocks, could be of great assistance.

Once the decision to feed has been made, the next matter for consideration is what ration to use, how to introduce stock to the feed, and how often to feed. The onset of the 1965 drought in N.S.W. and Queensland revealed much confusion and lack of knowledge in these matters, and it was found that the broad recommendations available gave widely varying degrees of success when put into practice. Whilst it is impossible to make specific recommendations for individual use, and it is necessary for individual stock owners to adapt any recommendations to their own particular conditions, there is a case for the conduct of further detailed
research in these matters under practical conditions, for both sheep and cattle. In 1965-66 there were many cases where some stock owners met very little trouble in introducing stock to feed and during the subsequent feeding, where others working under almost identical conditions and using the same rations, feeding techniques, etc., experienced great difficulty. Such people too, often had difficulty in obtaining expert advice in overcoming their problem. Size of flocks and area of feeding enclosures appears to have considerable bearing on the incidence of problems, and the frequency of feeding daily, twice-weekly or weekly is also an important factor. Another problem encountered where grain rations were used was that of grain poisoning, particularly with cattle, and while it is widely known that there are persistent ‘shy’ feeders in almost any herd or flock, those inexperienced in the management of drought feeding encountered much difficulty with such animals. With regard to type of fodder and ration scales, the common failure of drought feeding recommendations to take into account the necessity for variation in relation to the onset of cold and wet conditions, particularly in relation to breeding stock, caught many people unprepared. Research workers can be forgiven for this, because drought is most common in our hotter, drier climates, but recent experience on the Tablelands highlighted the necessity for ‘attention to be given to this factor.

A further matter, simple in itself, but frequently overlooked both in drought feeding recommendations and in practice, is that of ensuring that stock are basically healthy. Even a light parasite burden, for example, may become important under conditions of feed stress. Where liver fluke is prevalent, the risk of infection is greatly increased in times of drought because of the greater tendency for stock to graze near streams and on wet areas. The cost of one drench in such circumstances may be recouped many times over in improved stock survival and performance.

III. WATER SUPPLIES

The word “Drought” means, in essence, lack of water, and the lack of drinking water for stock can be a serious handicap, particularly in areas normally considered naturally well-watered by creeks and springs. In such areas, insufficient attention is often paid to proper dam construction to lessen evaporation, prolong storage and permit access by stock as the water level drops. Maximum use of water catchments to minimise risk of water shortage in times of drought, and exploration of underground supplies to provide against emergency, are also commonly neglected. While the provision of adequate water facilities to provide for emergency is necessarily a pre-drought operation, it is nevertheless a vital and fundamental part of drought mitigation which appears to have escaped inclusion in the advisory material on drought feeding. In times of emergency, comparatively simple measures of water provision such as the use of small mobile pumps, cheap flexible piping and temporary troughing can mean the difference between success and failure in a drought feeding operation, and can mean much in the control of overhead costs. People inexperienced in the use of such measures often either failed to use them at all, or expended large sums on equipment of unnecessarily large capacity and cost. Whilst such matters are for the decision of the individual, who must exercise his powers of “make shift” and innovation, the inclusion of principles of farm watering and some related technical information in drought feeding extension would be of great benefit.
IV. FINANCE

The problem of obtaining suitable and sufficient finance to permit prolonged drought feeding programmes is one which probably created more difficulties than drought feeding itself. In the years 1965-66, many people were forced to obtain finance wherever and whenever possible, under widely varying conditions of interest and principal repayment, and often having to accept these conditions regardless of ultimate consequences. Although as the drought progressed, efforts were made to make finance more readily available, lending institutions and Governments were not geared to the emergency. The result was twofold, the immediate effect being a disruption of the planned feeding programme to the extent where either rations had to be reduced, with obvious consequences, or there was a forced sale at low prices of stock on which considerable finance in feeding had already been outlayed. The less immediate but sometimes more drastic result was that the loans, obtained in desperation from whatever sources were available, manifested themselves in an accumulation of repayment obligations which often proved impossible to meet. This enforced sale of stock and debt accumulation greatly aggravates the difficulties of drought rehabilitation.

Whilst this matter may seem to be of little concern to the research worker, it is indirectly of great concern, for the value of drought feeding research is greatly reduced if the findings and recommendations are rendered partially ineffective through the failure of financial institutions and governments to make special provision for emergency finance. This is a complex and somewhat political problem but if, as I have suggested, we are to regard drought feeding as part of the Australian pastoral industry programme, with the objects of minimising both national and individual loss, and if the pastoral industry is to expand in concert with national growth and expansion, then drought finance must become part of the national economic scene. Essential features of any plan which may be evolved in the future should include ready availability of credit and some form of debt consolidation, the plan to be kept ready for immediate operation upon the onset of drought and to be made known through extension media.

V. RESEARCH AND EXTENSION

An examination of the points raised on the practical aspects of drought feeding reveals two major deficiencies in our present approach to the problem. One is a necessity for drought feeding research, wherever possible, to be carried out under more practical, large-scale conditions and under differing climatic environments. Feeding recommendations arrived at through trials in pens have been of immense value, but experience has proved that their application to large flocks under actual drought conditions has found them wanting, often resulting in serious loss, and sometimes disillusionment. The second and more important deficiency is the lack of efficient extension on drought feeding technique and management. Information that was available in 1965 could only be obtained piecemeal, was lacking in detail and was sometimes contradictory. There is a human side to drought in that the stock owner is beset by so many urgent and pressing problems requiring immediate and personal attention that he has little time to study. It is a common and valid complaint by primary producers and research workers alike that much of the value of research work is lost through inadequate and ineffective extension, but,
compared with extension facilities on general farming and animal husbandry practice, that on drought management receives scant attention. Perhaps the current widespread and long term 'drought will engender a recognition of the necessity for drought feeding extension to at least match drought feeding research, but I would enter a strong plea that no time be lost in coming to grips with the problem.,

In this regard, a study group of the New England Rural Development Association, comprising several people who have experienced the full impact of drought since its commencement in 1965, concluded that there is a strong case for the compilation of a Drought Handbook which should be made available to sheep and cattle producers throughout Australia. I am indebted to the members of the Group for their permission to include their recommendations, which I believe have much to commend them.

APPENDIX

PROPOSED DROUGHT HANDBOOK


It is envisaged that the Handbook would be carefully designed for easy reference and for the insertion of additional and altered pages and that it could be adapted to suit each major environmental region and type of farming. The handbook could include rainfall probability data (effective rainfall) and would contain information on the following:

1. Methods of comparing alternative strategies (sale of stock, agistment, droving, feeding, etc.).
2. The effect of selling different classes and ages of stock on the post-drought reproduction rate (include tables and models).
3. Explanation of feed units and comparative feed cost tables, including a ready reckoner.
4. Rations for various classes of stock, taking account of weight, condition and effect of cold and wet weather.
5. When to start feeding different classes of stock, and use of weighing in determining this.
6. Frequency of feeding.
7. Early weaning.
8. Ad libitum feeding of prime lambs.
9. Mechanics of hand feeding —
   A. Particular emphasis on weaner stock.
   B. Introduction of stock to feed. Safe schedules for each type of stock and feed.
   C. Practical considerations of storage, feeding techniques, troughing, etc.
   D. Labour and time requirements, especially in regard to husbandry.
   E. Sheep problems in early stages (shy feeders etc.).
   F. Cattle problems (dehorning weaners, small paddocks, water etc.).
10. Diseases and husbandry problems under drought feeding.
11. Problems when the drought ends.

Not included in the recommendations, but possibly eligible for inclusion would be sections on:

   (i) Dam construction for maximum water catchment and retention; emergency pumping equipment, piping and troughing.
   (ii) Drought tolerance of different pasture species, and optimal management for their maximum regeneration after drought.

The study group considered that the preparation of the Handbook would automatically result in a review of research needs in relation to drought feeding. It further considered that there was a very special need for increased educational efforts by extension services as drought situations develop; it suggested that the Handbook would provide the basis for these efforts, and facilitate the prompt action that is so necessary if drought planning is to be effective.