Set stocking has a place in soil conservation farming

J E. Watson

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Set stocking of sheep at increased stocking rates is rapidly becoming popular with farmers in the agricultural areas of Western Australia. But will set stocking increase soil erosion hazards? It should do just the reverse, according to Soil Conservation Adviser J. E. Watson, B.Sc., who claims that.

**set stocking has a place in soil conservation farming**

THROUGHOUT the agricultural areas there is much interest in the new grazing management technique of set stocking, and soil conservation-minded farmers are asking what effect it will have on soil erosion and its control.

In the agricultural areas of Western Australia the basis of an effective soil conservation programme is a ley-farming rotation which includes a period of legume pasture. The thorough establishment and maintenance of legume pastures has been one of the main recommendations of the Soil Conservation Service since its formation in 1946.

**Healthy Pastures**

Healthy pastures are needed for soil conservation, and productive pastures will help to make soil conservation profitable. Set stocking has been proved as a way of maintaining healthy, productive and profitable legume-based pastures, so it should have a valuable place in soil conservation farming.

Set stocking means continuous grazing of a paddock by the same flock of sheep. The flock is left there throughout the year except when taken out for shearing, crutching, and so on. This system of grazing management has a number of definite physical advantages from a soil conservation point of view.

Lack of a water supply in the top paddock was the cause of this gateway erosion. Because a water supply in each paddock is essential in set stocking this sort of erosion hazard is eliminated.
This paddock in an experiment on the CSIRO "Glen Lossie" Field Station, Kojonup, has been set-stocked at five sheep an acre for the past four years. Despite the high stocking rate there was an adequate cover of pasture to protect the soil when the picture was taken in mid-winter.

**Water in Every Paddock**

An important one is that set stocking requires a water supply in every paddock. Soil conservationists have always recommended the development of water supplies to serve every paddock for efficient grazing—otherwise the paddocks which have water supplies will tend to be badly overgrazed in summer.

Where sheep travel through gateways to water deep pads are formed and these often become severely eroded by wind and water. With set stocking and a water supply in every paddock there is very little stock traffic through gateways and this erosion hazard is eliminated.

Set stocking also avoids high pressure grazing and excessive trampling around watering points. There is less tendency for sheep to move around in mobs. They seem to wander over the whole paddock which gives more even grazing and less development of stock pads.

**Overgrazing?**

An erosion hazard is produced if the soil is left too bare at the end of the dry season. Overgrazing which makes paddocks very bare is often the cause of excess run-off and erosion damage by water or wind. *We must be careful however not to confuse set stocking with stocking rates.*

Set stocking is a system of grazing management which can be abused by overstocking just as any other system can be. It often allows more efficient pasture utilisation and hence higher stocking rates than the existing management practices on many farms.

It is not necessary however to aim at maximum wool production per acre in any one year. This may introduce a severe erosion hazard by making the paddocks too bare at the end of the dry season. The soil conservation aim is maximum permanent production consistent with maintaining soil fertility and reducing soil loss to a minimum. A well judged stocking rate for the set stocking system should allow high production with probably less erosion risk than that incurred in other systems of grazing management.

**Set Stocking and Pasture Establishment**

Another aspect to consider is set stocking in relation to the initial establishment of legume pastures.

Run-off water from both crop and pasture land has caused severe erosion and flooding problems throughout the wheatbelt. To reduce this problem to a minimum requires contouring of sloping lands combined with thorough establishment of legume pastures.
In the areas where this problem is greatest, establishment of legume pastures is far short of what is desired, both in areas sown and the establishment techniques used.

The main overall problem in establishing legumes is competition from weeds. If the main object is to establish the legume, anything growing in competition with it must be considered as a weed and this includes the cereals. Set stocking is a very satisfactory method of eliminating this competition. The legume should be sown at a high seeding rate. For best results it should be sown alone, but it may have a light cover crop which must be grazed off.

As soon as there is enough feed in the paddock it should be set stocked. This will keep the weed competition in check. If a cover crop has been sown the grazing should keep this down so that it never gets to the stage where the farmer decides it looks good enough to leave for harvest.

This would defeat the object of having minimum competition when the clover is setting seed.

In the first summer it may be necessary to remove some of the stock, but the numbers should be increased again as soon as the feed starts growing the next winter.

Elimination of competition for the clover is very important in the second year and set stocking is again a good and profitable way of doing this.

In Brief . . .

Anything which aids the thorough establishment and maintenance of legume pastures has a place in soil conservation farming. Set stocking, wisely used, meets this requirement—but don’t confuse the system of set stocking with actual stocking rates. Excessively high stocking rates can cause erosion hazards under any system of grazing management.

From an A.B.C. Radio Talk.

AGRICULTURAL, DAIRYING AND PASTORAL STATISTICS 1963-64

THE annual statistical survey of farm and station activity throughout Australia has now commenced and over 25,000 requests for information have been posted to primary producers in Western Australia. The returns, which relate to the year ended March 31, 1964, are due on April 7, and all farmers and pastoralists are asked to complete the forms promptly and return them without delay.

Persons who have sold, leased or otherwise disposed of their holdings since April 1, 1963 should advise the Statistician promptly so that the new owners or occupiers can be approached for a return. Primary producers who have not previously furnished returns are required to do so under the provisions of the State and Commonwealth Statistics Acts. Police Stations throughout the State have supplies of spare forms available for issue on request.

Farmers are assured that their returns will be treated as strictly confidential by the Statistician and his Officers who in no circumstances are permitted to divulge any particulars from an individual return to any other person, authority or Government Department.

It is emphasized that the information compiled from farmers’ and pastoralists’ returns is used extensively for planning both at Commonwealth and State levels. Policy decisions affecting primary industries can only be made confidently and intelligently if reliable and up-to-date statistics are available. In addition, farmers’ organizations, marketing boards, business concerns and Australian overseas representatives all use rural production statistics, which are compiled for individual Shires as well as for the State as a whole. Although the preparation of district and State totals has been accelerated in the Statistician’s Office by the use of mechanical processing methods, early availability of results is still dependent on the co-operation of all farmers and pastoralists who can help by supplying complete and reliable returns by the due date.

Advice and assistance in completing returns are available either by letter, telephone (‘phone 21 8041) or by personal interview at the Bureau’s Office, Eleventh Floor, T. & G. Building, 37-39 St. George’s Terrace, Perth.

R. J. LITTLE,
Deputy Commonwealth Statistician,
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