Department of Primary Industries and Regional Development
GOVERNMENT OF WESTERN AUSTRALIA

Journal of the Department of Agriculture, Western Australia, Series 4

Volume 9
Number 4 *1968*

Article 6

1-1-1968

Wheat in development programmes for new Esperance farmers

R J. Doyle

G. D. Oliver

WHEAT IN DEVELOPMENT PROGRAMMES FOR NEW ESPERANCE FARMERS

By R. J. DOYLE and G. D. OLIVER

IN the December, 1967, issue of the Journal of Agriculture, we reported on five development budgets for the Esperance region. The aim of the exercise was to find out if a new settler concentrating on sheep, with $20,000 available for development after acquisition of land, could make a reasonable living for himself and his family while developing his farm.

It was shown that new settlers could succeed in their main aim to be full-time farmers within ten years if they planned their expenditures carefully, worked off the farm part-time or full-time until sheep numbers reached 3,000, kept their clearing down to 1,000 acres, bred their own replacements, and raised the stocking rate quickly to the equivalent of three wethers per acre of pasture.

The best of the five programmes (Budget E) allowed for clearing 500 acres in each of two consecutive years (1,000 acres in all) and stocking two sheep per acre in the first year of pasture and three by the second year. This was made possible by seeding and fertilising at very high rates.

On this programme a settler would be able to give up working off the farm towards the end of the fifth year and by the end of the eighth year reduce his debt to $18,314. A continuation of the same level of production and standard of living would allow this debt to be paid off in a further three to four years.

Cropping at Esperance in the 18 to 24 inch rainfall zone has been viewed with disfavour by many, including leading institutions on the grounds that it is too risky. The value of cropping during development was tested by comparing the best sheep programme devised so far with some development programmes which include wheat crops.

In the two programmes presented, wheat cropping is limited to the third year of development (the first planting year) on each paddock. (Chaining is carried out in the first year followed by burning and a first ploughing in the second year). After the initial wheat crop there is strict adherence in both these programmes to the most successful sheep programme (Budget E) previously presented. The two programmes presented now may be classified as follows:

Budget F

In Budget F the initial wheat crop is undersown with pasture at the rate of 3 lb. clover seed per acre and fertilised with No. 1 trace element superphosphate mix and urea at the rates of 180 lb. and 90 lb. per acre respectively. The wheat stubble is grazed from January onwards with half a sheep per acre and allowance is made for subsistence hand-feeding at the break of the season.

The Authors: R. J. Doyle, B.Sc. (Agric.), Agricultural Adviser, Esperance, and G. D. Oliver, B.A., Officer-in-Charge, Rural Economics and Marketing

After the application of 360 lb. of plain super in the first autumn after the wheat crop, the sheep rate is raised to two and thence to three in the following year.

Budget G

In Budget G the pasture is sown in the season following the wheat crop at the rate of 20 lb. seed per acre and fertilised with plain super (No. 1 mix is used for the wheat crop) at the rate of 360 lb. per acre. On precisely the same programme as Budget E (November, 1967 *"Journal"*) sheep are stocked at two per acre in the first year of pasture and raised to three in the second year of pasture.

Wheat yield

The yield level assumed for wheat is 12 bushels per acre. How realistic is this for a crop undergrown with 3 lb. of clover seed in the 18 to 24 inch rainfall zone? Eight Department of Agriculture experiments from 1961 to 1965, inclusive, have been examined and it is considered the conditions of planting, purpose, etc., make them a suitable guide. Yields on plots with applications of about 50 lb. of urea and 180 to 200 lb. superphosphate ranged from 5 to 24 bushels per acre and the average was 15 bushels. More recent experiments suggest that this average might have been improved by two to three bushels by increasing the nitrogen rate to 75 lb. of urea per acre (the rate used in the present programmes). Against this some allowance for better seed-bed preparation on plots and more timely seeding and harvesting is necessary to bring the experimental results back to a farm basis. We consider, however, that 12 bushels is a realistic average expectation.

Budgets compared

The Budget F (wheat undersown with pasture) is an improvement on Budget E (the best sheep programme). The maximum debit balance of $21,126 is reached at the end of the sixth year and is reduced to $14,610 by the end of eighth year for Budget F compared with $33,107 at the end of the fifth year and $18,314 by the end of the eighth year for Budget E. The Budget G (pasture sown separately from the wheat crop) at 12 bushels per acre is better than E insofar as the highest debit balance is $28,728 ($4,379 less than for E) but not on the overall result. By the end of the eighth year the debit balance for Budget G is $18,561, which is about the same as for Budget E.

It is likely that a somewhat better wheat yield would be obtained where the crop was not undersown with pasture, although the effect on an average of several seasons may not be marked in a district where Septoria and other diseases have such an important bearing on yields.

The extra yield required for Budget G to equal the undersown wheat programme (Budget F) would be about two and a half bushels per acre. It follows of course that if average yields are higher than those quoted, then Budgets F and G will further improve over Budget E (the best non-cropping budget examined).

While wheat in a development programme at 12 bushels per acre (Budget F) has a decided advantage over the best sheep programme (Budget E) it is not sufficient on these grounds alone to suggest planting wheat with undersown clover, since the crop in a particular year may be below the average of 12 bushels per acre. The logical thing for a settler to do in this situation would be to proceed with the wheat programme because the average expectation at 12 bushels is better than for sheep alone, providing this does not expose him to too much risk of failure in his ultimate aim of becoming a farmer. It is necessary to determine the lowest wheat yield, or combination of yields, which will allow a settler to meet his financial commitments, and then to gauge the risk of falling below this yield. Since the average yield in consecutive years would have to fall below 6 bushels per acre before the debit balance exceeded the limit of

Detailed budgets for the development programmes discussed in this and the November, 1967 article on Esperance development may be obtained from the Officer-in-Charge, Rural Economics and Marketing, Department of Agriculture, Jarrah Road, South Perth, 6151.

ALTERNATIVE DEVELOPMENT PROGRAMMES
ESPERANCE DOWNS

Development programmes for the three Budgets discussed in this article

Year	Budget "E" (Sheep Programme)	Budget "F" (Undersown Wheat Crop)			Budget "G" (Wheat Followed by Pasture)		
1	Chain 500 acres (Paddock (a))	Chain 500 acres (Paddock (a))			Chain 500 acres (paddock (a))		
2	Firebreak and burn and plough (a) Chain 500 acres (paddock (b))	Firebreak and burn and plough (a) Chain 500 acres (paddock (b))			Firebreak and burn and plough (a) Chain 500 acres (paddock (b))		
3	Re-plough, rake, seed and fence (a) Purchase first 1,000 wethers Firebreak and burn and plough (b)	Re-plough, rake, seed crop and pasture, fence and Harvest (a) Firebreak and burn and plough (b)			Re-plough, rake, fence and crop (a) Firebreak and burn and plough (b)		
4	Top-dress (a) Re-plough, rake, seed and fence (b) Purchase 500 wethers for (a) and 500 ewes for (b)	Top-dress (a) Re-plough, rake, seed crop and pasture, fence and harvest (b) *Purchase first 500 wethers for (a)* Debit Balance:			Re-plough, Rake, fence and crop (b) Seed pasture on (a) *Purchase first 1,000 wethers for (a)*		
		12 Bushels	8 Bushels	6 Bushels		12 Bushels	15 Bushels
	Debit Balance $26,958	$7,757	$9,988	$11,103	Debit Balance	$9,649	$7,976
5	Top-dress (a) and (b)	Top-dress (a) and (b) Purchase first 500 wethers for (b) Purchase 500 additional wethers for (a) Debit Balance:			Top-dress (a) Seed pasture on (b) Purchase 500 additional wethers for (a) and 500 ewe weaners for (b)		
	Debit Balance $33,107	$12,490	$17,597	$19,976	Debit Balance	$24,148	$20,406
6	Top-dress (a) and (b)	Top-dress (a) and (b) Purchase 1,000 ewe weaners for (a) and (b) Debit Balance:			Top-dress (a) and (b) Purchase 500 additional ewe weaners and 15 rams for (b)		
	Debit Balance $28 962	$21,126	$27,048	$29,822	Debit Balance	$28,728	$24,381
7		Top-dress (a) and (b) Purchase 29 rams (a) and (b) Debit Balance:			Top-dress (a) and (b) Purchase 15 rams (a) and (b)		
	Debit Balance $24,962	$20,160	$26,638	$29,678	Debit Balance	$23,852	$19,095
8	Net Income $5,714	Top-dress (a) and (b) Net income $14,706 Debit Balance:			Top-dress (a) and (b) Net income $14,706		
	Debit Balance $18,314	$14,610	$21,542	$24,706	Debit Balance	$18,561	$13,471

$30,000, wheat cropping would seem to be a fairly safe procedure.

This does not exhaust the questions of economic importance, even in the limited context of the initial development of 1,000 acres. Why limit cropping to one year and to wheat and what economic effects would result from introduction of ley cropping? These are questions we must leave for a later article.

The success of programme F is dependant on the yield of wheat and the amount and evenness of seed set from the undersown clover. It is not possible to deal with the technical aspects of "cover cropping" in the development phase but in this article we strongly suggest that growers interested in this aspect contact the agricultural advisers stationed at the Department of Agriculture, Esperance.

RURAL CENSUS BEGINS

The annual census of rural holdings by the Bureau of Census and Statistics is now under way and the Deputy Commonwealth Statistician in Western Australia, Mr. F. W. Sayer, is seeking the co-operation of W.A. primary producers in the prompt return of census forms. Farmers are requested to complete the census form accurately and return it promptly to the Bureau in the envelope provided to enable the collection to be completed at an early date.

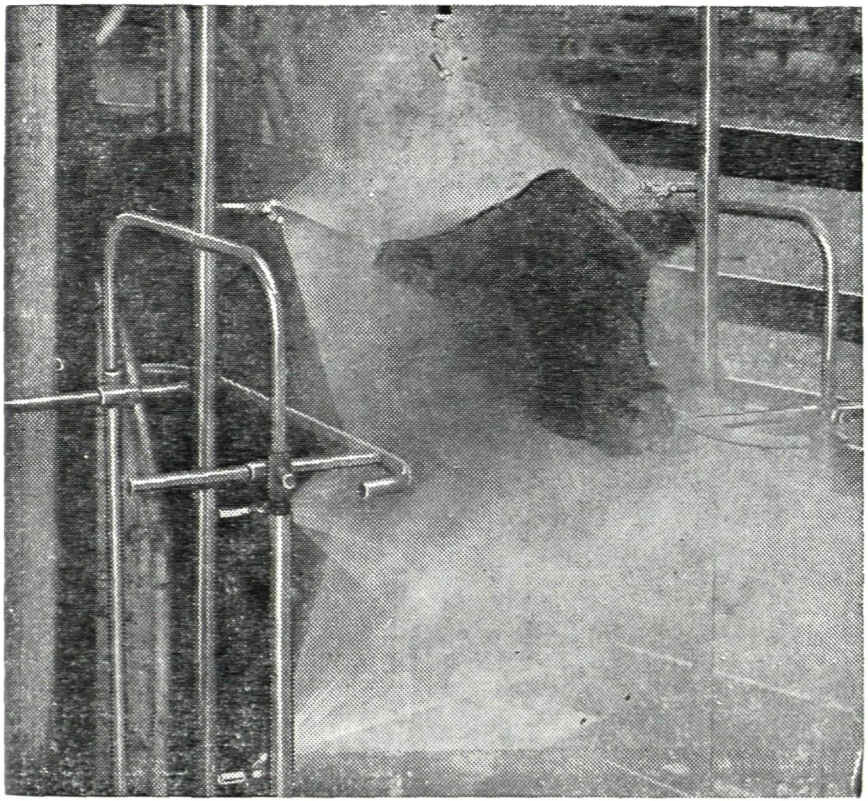
The response from primary producers last year was pleasing and the Bureau hopes that farmers will again lodge their returns shortly after receiving the forms.

In Western Australia, where primary production is of great economic significance, accurate and early information on current rural activities is needed for research and the planning and development of primary and allied industries. In addition farmers' organisations, marketing boards, business concerns and Australian and overseas representatives make extensive use of statistics compiled for each local government area as well as for the State as a whole.

The Deputy Commonwealth Statistician emphasises that his Officers are not permitted to divulge particulars from individual returns to any other person or Government Department. Information contained in individual farmers' returns is treated with strict confidence. This is rigidly adhered to at all times.

As all rural holdings must be included in the survey, persons who have sold or otherwise disposed of holdings should furnish full particulars to the Bureau promptly. Any primary producer who has not previously lodged a return is reminded that he must do so under the provisions of the Commonwealth and State Statistics Act.

Spare forms can be obtained from police stations and advice concerning the completion of returns will readily be given by letter or by personal interview at the Bureau's office, 14th Floor, T. & G. Building, 37 St. George's Terrace, Perth.



Fast Economical Control of Cattle Lice

AGSERV SPRAYRITE CATTLE SPRAYER

The Agserv Sprayrite is the lowest priced hoop sprayer you can buy. Effectively treats twenty head per minute (as many as a three or four-hooped model will handle) with the convenience of one-hoop operation. Only $140.

WITH THE SPRAYRITE YOU GET:

- **Quicker handling**
- **Less maintenance**
- **Portable or permanent installation**
- **Slashed operating costs with instant spray control**
- **Easy installation**
- **Economical water and chemical usage**

FOR BEST RESULTS USE NUCIDOL 20 LIQUID CATTLE SPRAY

BL BARROW LINTON

70 GREAT EASTERN HIGHWAY, VICTORIA PARK. 61 4744.

Please send further information on the Agserv Sprayrite Cattle Sprayer to

NAME .....

ADDRESS .....