



Department of  
Primary Industries and  
Regional Development

## Journal of the Department of Agriculture, Western Australia, Series 3

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Volume 7  
Number 2 March-April, 1958

Article 6

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3-1958

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#### Recommended Citation

Ryan, F. E. (1958) "Oats and vetches demonstrations," *Journal of the Department of Agriculture, Western Australia, Series 3*: Vol. 7: No. 2, Article 6.

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# OATS AND VETCHES *Demonstrations*

By F. E. RYAN, B.Sc. (Agric.), Agrostologist

**C**ROPPING of oats is a common practice in the higher rainfall areas of the South-West and is frequently used during the process of ploughing up run-out pastures prior to reseedling. Combinations of vetches with the oats for this purpose have received more attention in recent years and this practice has been widely demonstrated during the last five or six years with excellent results.

The advantages of a crop between ploughing up and reseedling to pasture are:—

- (1) An opportunity is given for weed control during the autumn and perhaps early winter before sowing the crop.
- (2) The crop itself has a smothering effect on weeds which germinate afterwards, resulting finally in a clean paddock ready for resowing to pasture next autumn.
- (3) It provides a bulk of fodder for conservation.
- (4) The cultivation and smothering effect of the crop permits early autumn sowing of pasture in the following season.
- (5) This technique is successful in the introduction of improved pasture species.

The advantages of a vetch-oat mixture over oats alone are:—

- (1) A much better quality hay, rich in protein is produced.
- (2) In some cases, the total yield of the vetch-oat crop may be greater than might be expected from oats only.

In sowing a mixture of vetches and oats the only variety of oats which has been recommended is Algerian as this

variety parallels reasonably well the growth of the vetches, both making strong growth in the late spring.

Seeding rates are 60lb. of oats to 15lb. of vetches per acre. In the heavy rainfall districts, best results have been obtained from the commercial Purple Vetch and this variety can be recommended in all districts.

The possibilities of using this crop were demonstrated on seven properties during the winter period of 1956 with the following results.

## **Thomson's Brook.**

The soil on the paddock chosen was a gravelly loam previously carrying redgum and jarrah. It had been sown to pasture when first cleared 21 years previously but had deteriorated very seriously and was carrying only capeweed, flatweed and poor native grasses.

The paddock was ploughed and cultivated during autumn, 1956 and drilled in on 12/7/56 using 60lb. Algerian oats and 15lb. Purple Vetch per acre. It was fertilized with molybdenum superphosphate at the rate of 2 cwts. per acre. During late winter the paddock became wet and vetches were backward. Eventually however, plants recovered well and spring growth was very good. The estimated yield was 38 to 40 cwts. per acre and consisted of a good mixture of vetches and oats.



The area on which the crop was sown in 1956 was sown down in the autumn of 1957 with midseason sub. clover and H.1 ryegrass. This demonstration was considered very successful in showing the value of this vetch and oat mixture as a hay crop in the Thomson's Brook area and also the value of such a crop for the control of weeds and in the preparation of an early weed free seed bed ready for sowing down to pasture species in the autumn following the crop. The paddock was inspected by members of the Donnybrook Pasture Improvement Group during farm walks held during the year and in spite of a late planting, grew a successful crop.

#### **Charlie's Creek.**

This demonstration was laid down on a deep loamy soil with some gravel. The area originally carried jarrah and redgum and had been cleared for 30 years. It was previously sown with pasture nine years before but had seriously declined and consisted mainly of capeweed and annual grass species. It was situated on a hillside with good drainage.

Following late ploughing, this area was disc cultivated, harrowed and broadcast on July 15. Germination was good and the crop made excellent progress during the spring months. Some irregularity in the proportion of vetches to oats occurred and this is considered due to an uneven distribution of seed when broadcasting. The crop provided an excellent yield of good quality hay.

In an adjoining paddock the farmer had sown vetches with an early variety of oats. These oats grew rapidly in the early part of the season and, as a result, tended to choke out vetches which were sown that year. A mixture of vetches with an early variety of oats was not nearly as successful as the combination of vetches with Algerian oats.

A field day in the Donnybrook area included this property.

#### **Crooked Brook.**

The site chosen was on a deep medium loamy soil with excellent drainage. The area previously carried jarrah and redgum and had been cleared for about 20 years. It was last sown with pasture eight years before but had seriously deteriorated and

before cultivation, consisted of capeweed, flatweed, geranium and poor native grasses.

It was ploughed during the late autumn and cultivated with a rigid tyne scarifier. It was sown on June 28 by broadcasting and the seed covered by harrowing. A good germination of both oats and vetches was obtained and growth during the early spring was satisfactory, both oats and vetches making strong growth at this time of the year.

The area was cut for hay at the end of the year and provided an excellent hay crop of high quality. On this paddock it was also very successful in cleaning weeds prior to resowing to pasture. H.1 ryegrass and midseason sub. clover were to be sown on this paddock during 1957.

Weed control throughout was very successful and only a small amount of capeweed occurred on the sown area. The demonstration was considered very successful. This farmer will plant 10 to 12 acres of oats and vetches next year as part of his farm programme.

#### **Cowaramup.**

This demonstration was laid down on a gravelly loam soil and was sown during early May. Germination was excellent of both species. Owing to the vigorous growth of oats on this area a grazing was carried out during mid-August to control the excess growth of the oats. At that time both species were growing well but the oats were tending to overshadow the vetches. Following grazing the area was closed up to be left for hay.

By the end of November, the oats had reached a height of 4 to 5 ft. with the vetches almost as high. The two acres of this demonstration gave a yield of 210 bales of hay with an estimated yield of between 46 and 50 cwts. per acre. In the better parts of the crop it was estimated that vetches contributed between 60 and 70 per cent. of the hay crop. The crop was also very successful in controlling weeds, since the smothering effect of such a heavy crop prevented weeds from developing seeds.

The Cowaramup Pasture Improvement Group conducted a farm walk on the site and a number of interested farmers inspected it during the growing season.



### **Forest Grove.**

A grey-brown sandy loam soil on a hillside was chosen for this demonstration. It had been cleared for many years and sown down to pasture.

The area was disc ploughed except for one section which was only tandem disced. This area was too wet to plough. The demonstration was sown in mid-May and a very good germination of both oats and vetches was obtained. Growth was somewhat slow during the winter months but in early spring was satisfactory with the oats tending to dominate the vetches. At this late stage however, no grazing was carried out particularly as the area was somewhat wet. Some difficulty was experienced in the nodulation of the vetches under the wet situation but a reasonable number of plants survived.

The demonstration was used during the farm walk held by the Forest Grove Pasture Improvement Group.

### **Bridgetown.**

Soil chosen for this demonstration was a red, loamy soil with some gravel. Drainage was good. The land had been under pasture for many years and had reverted to Guildford grass and weeds. The surface was scarified in the early autumn and the first germination of weeds was tandem disced and left fallow for four weeks, then disced again. Further discing and harrowing took place during May and the demonstration was sown down on June 13 by broadcasting.

A very good germination was obtained and growth during the year was exceptionally good. Vetches made strong growth but the oats were a little slow. By the end of August a very good stand of both oats and vetches had been obtained. Late spring growth was very strong and the paddock was harvested for hay on December 12, 1956, yielding approximately 90 cwts. of hay per acre.

The control of Guildford grass and other weeds was very successful and the farmer is very pleased with the results obtained from this crop.

The paddock was visible from the main road and raised a number of comments from farmers passing the area. It was

sown down to perennial pasture species during 1957. This crop was considered very successful.

### **Denmark.**

This demonstration was sown down on a reddish-brown loamy soil. Sowing was late on a rather roughly prepared seed bed. In spite of this a reasonably good germination of oats and vetches was obtained. This crop was cut for hay during the late spring. No estimate of yields is available.

### **Waroona.**

Oats and vetches were sown on this area during May, but later the paddock became somewhat waterlogged and the nodulation of the vetches was seriously impaired. During August the area was grazed with stock and the vetches failed to recover.

This demonstration was not successful. The main cause of failure is considered to be the wet nature of the paddock and the consequent failure of the vetches to nodulate. Very close grazing during August prevented any recovery by either oats or vetches.

## **SUMMARY**

A total of seven demonstrations of oats and vetches were arranged throughout the dairying districts during the autumn-winter, 1956. In each of these, 60lb. of Algerian oats and 15lb. of vetches were sown per acre.

One demonstration was considered a failure owing to wet conditions and a lack of nodulation of vetches, but the remaining six demonstrations were considered to be satisfactory and yields of hay from these areas were estimated at between 38 and 90 cwts. per acre.

In most cases a very good mixture of oats and vetches were obtained but where the paddock was wet during the winter-time, nodulation of the vetches was sometimes less. The inclusion of a legume with the oats provides a hay of much higher protein content which is more valuable for feeding to dairy cattle or for fattening during the summer months.

In all demonstrations weed control was found to be very good and the influence of the heavy crop in smothering late germinating weeds was very noticeable.



The value of Algerian oats in conjunction with vetches was demonstrated on one property where an adjoining crop had been sown with an early-maturing variety of oats. This crop which had been sown with the early-maturing variety contained a lower proportion of vetches to oats when fully grown.

In all cases preparation has been made for the resowing of these paddocks to improved pasture species.

Demonstrations are arranged through the various district officers and in most cases these have been conducted in conjunction with local Pasture Improvement Groups. The demonstrations are arranged so that farmers of a district may have the opportunity of observing the growth of these and similar crops.

If you are interested in the demonstrations which are being carried out in your district the local district officer should be contacted.

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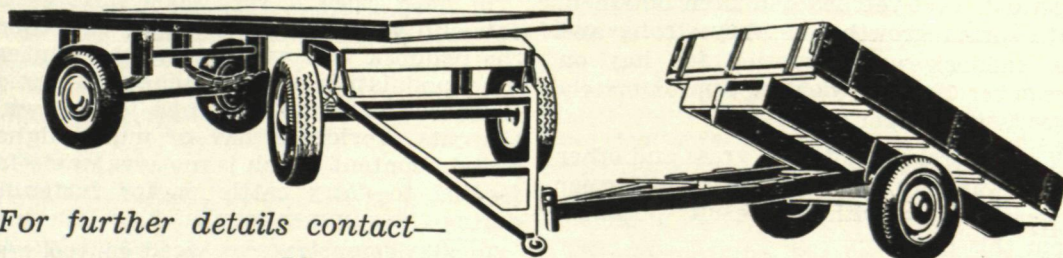
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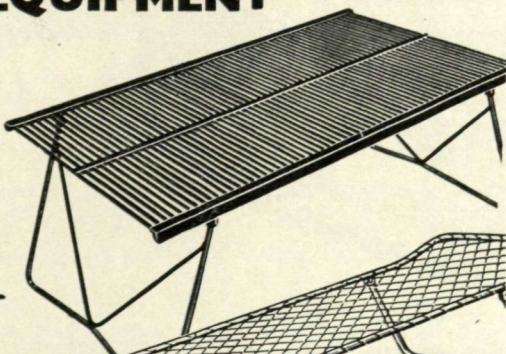
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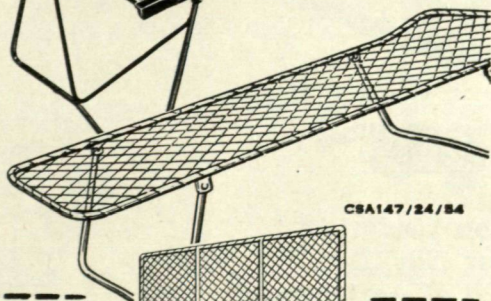
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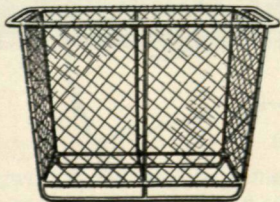
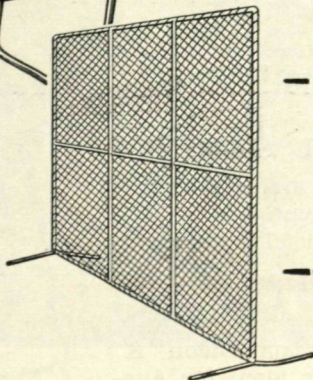
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