More efficient use of pasture for summer grazing

N. Davenport

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More efficient use of

Pasture for
Summer Grazing

By N. DAVENPORT, B.Sc. (Agric.), Senior Adviser, Meat Production

During the maturing of pasture from the flowering stage there is a considerable falling off in quality and in its overall value as stock fodder. Much of this loss in carrying capacity can be avoided by mowing the pasture at the hay stage and leaving the cut material in the paddock for grazing over the summer months. This is a very practical possibility in view of our long dry summer. Such a practice is of course in addition to providing adequate stored reserves of meadow hay for normal autumn and early winter feeding.

The establishment and efficient use of improved pasture is an important aspect of farm husbandry in our cereal and sheep raising areas. Because of the type of climate experienced in these areas—a well defined winter rainfall period followed by a comparatively long summer drought of up to six months—pastures are of the annual type. Perennial species are not generally suited to these conditions. The basic pasture species is subterranean clover (Trifolium subterraneum). It is commonly associated with Wimmera ryegrass (Lolium rigidum) and generally with many volunteer species. These are principally brome grass (Bromus spp.), barley grass (Hordeum murinum), capeweed (Artotheca calendula), wild geranium (Erodium botrys), silver grass (Vulpia spp.) and the so-called native clovers the most common of which are cluster clover (T. Glomeratum), hop clover (T. campestre) and woolly clover (T. tomentosum).

The growing season of the agricultural areas lengthens progressively from north to south ranging from five and a half months in the Geraldton area to seven or seven and a half months in the districts adjacent to the southern coast. The early variety of subterranean clover—Dwallganup—is by far the principal legume used in the production of improved pastures in all sheep raising districts where rainfall is sufficient for the development of such pastures, except in the southern areas where the heavier rainfall and longer growing season enables the more productive midseason varieties to be grown (see map).

These annual pastures have a familiar and typical pattern of growth. Following germination, production is at a low level, particularly in cold winters but, as the season advances, the growth rate increases progressively until in the spring it is at a very rapid rate indeed and considerably in excess of the requirements of the stock numbers. It is this excess spring growth which provides most of the paddock feed over the summer months. After meadow hay requirements have been cut, the remainder is left to mature and dry off.

The level of production from stock is largely dependent upon the quality of the pastures throughout the year and quality is determined primarily by the protein
content. Protein is essential for body maintenance and for the production of meat, milk and wool. The protein content of pasture varies considerably according to its stage of growth. In young plants, it is very high (on a dry matter basis) and often in excess of the animals' actual requirements. Protein levels decrease progressively to the flowering stage when a balanced pasture is still well suited for growth and production. However, considerable changes occur from then on to the mature dry state. The protein content falls both in quantity and quality, the plants become more fibrous and the nutrients less digestible, all of which results in an appreciable decrease in food value.

The importance of quality in dry paddock grazing was emphasised in experi-
mental work carried out at the Wongan Hills Research Station on areas of top-dressed natural pasture with a negligible clover content. Merino wethers steadily lost weight to starvation level on this pasture over the summer despite ample quantities being available. The loss of condition was due solely to the poor

Average Monthly Rainfalls and Maximum and Minimum Temperatures for these Stations are shown below.

<table>
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<td>1,403</td>
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<td>189</td>
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<tr>
<td>Mean Max. (°F.)</td>
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<td>87.9</td>
<td>84.8</td>
<td>72.6</td>
<td>62.4</td>
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<td>61.9</td>
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<td>75.7</td>
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<td>55.5</td>
<td>48.5</td>
<td>45.2</td>
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<td>45.6</td>
<td>47.9</td>
<td>52.0</td>
<td>57.1</td>
<td>51.9</td>
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* Data for York, 20 miles north, the nearest official temperature recording station.
quality of the grazing. The protein content was below the level required even for maintenance.

For the efficient utilisation of excess spring growth, it is necessary to avoid, as far as possible, the loss of feeding value which occurs from flowering to maturity. It can be done very effectively of course by converting the pasture into meadow hay. This is the accepted practice for providing fodder reserves for the late autumn early winter period. However, this usually accounts for only part of the surplus spring growth. The remainder is left to mature normally for use as paddock grazing over the summer. It can be made into hay but instead of incurring the expense of baling, storing and feeding back, can be left in the paddock either as cut or in windrows. This is a comparatively inexpensive method of making more efficient use of the excess spring growth above normal hay requirements by providing paddock grazing of better nutritional value for the summer months.

In order to determine to what extent such a practice may improve production per acre, a series of grazing experiments with sheep were conducted at the research stations at Avondale near Beverley, Chapman in the Geraldton area and Wongan Hills, three miles north of the town of Wongan Hills. These three stations are all situated in the early subterranean clover areas.

AVONDALE EXPERIMENTS

The Avondale Station is situated five miles west of Beverley and is typical of the red-brown earth soils of the Avon Valley. The average annual rainfall is 15.71 inches, of which 10.58 inches falls in the growing period, May to October inclusive.

1953-54 Experiment.

A uniform area of 20 acres was selected carrying a subterranean clover-Wimmera ryegrass pasture with a small admixture of volunteer species, principally capeweed, brome grasses, barley grass, native clovers and silver grass. This area was subdivided into two plots one of which was mown at the hay stage and windrowed and the other left to mature normally. The mown section yielded 24 cwt. meadow hay per acre. Subsequent to mowing and until grazing was terminated 119 points of rain were recorded on nine days with the maximum fall of 41 points on April 23.

On December 2, 1953, each plot was stocked with 40 unmated fullmouth cross-bred ewes (4 sheep per acre) in fat condition. Grazing was terminated on May 21 (24 weeks). Both groups were then removed from the area and run as one flock until shearing when individual wool-weights were recorded.

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**SHELL WEEDKILLER “M”**. For controlling weeds in pastures and in crops under sown with clovers.

**SHELL WEEDKILLER “E”**. For controlling “harder to kill” weeds in pastures, Shell Weedkiller “E” is recommended.

**SHELL WEEDKILLER “B”**. For controlling blackberry, gorse, Ti-tree, eucalypts and other perennial type woody weeds.

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The difference in body weight losses between the groups is statistically significant at 1 per cent. level. The increased wool yield is significant at 5 per cent. level but just fails to reach the 1 per cent. level.

The sheep were weighed weekly. Body weight changes are shown in the accompanying graph.

The "mown" group increased in weight for about six weeks and then declined for a final loss of 9 lb., finishing in good to fat condition. The "unmown" group lost weight throughout the period and at the end were 28 lb. lighter than at the commencement of the experiment and in store condition only.

The most important result of this experiment however was obviously the higher quality of the mown pasture as reflected in the wool yields. The mown plot yielded 2.4 lb. of wool per acre more than the unmown plot.

1955-56 Experiment.

In order to obtain information on the relative carrying capacities of mown and unmown pasture, the above experiment was repeated during the summer of 1955/56, except that the hay on the mown area was not left as grazing but was baled and fed back at rates adjusted periodically to keep both groups at similar weights. It was expected that there would be a surplus of hay at the end of the grazing period and as the liveweight changes of both groups would be similar, the amount of this surplus hay could be interpreted as an indication of the extent of the increased carrying capacity due to mowing.

A uniform area of eight acres of pasture was selected and divided into two plots each of four acres. The pasture consisted of early subterranean clover and volunteer species, principally brome grass, barley grass, wild geranium and capeweed. One plot was mown and the hay baled and stored; the other was left to mature and dry off. The hay yield was 20 cwt. per acre and when baled contained 13.2 per cent. crude protein (dry basis). 159 points of rain fell on nine wet days during the three weeks between mowing and baling. Subsequent to baling, to the end of the grazing period, 104 points of rain were recorded on seven days, the maximum registration being 39 points on April 12.

Each plot was stocked with 24 unmated full mouth crossbred ewes (6 sheep per acre) on December 26, 1955, and grazing ceased on May 1, 1956, after a period of 18 weeks. The sheep were maintained at similar weights throughout. After the experimental grazing period they were removed and run as one flock until shearing time when individual wool weights were taken.

The results are as follows:
AVONDALE RESEARCH STATION.
Summer Grazing Experiment, 1955-56.
Wool yields and consumption of hay data of two groups with similar body weight trends.

<table>
<thead>
<tr>
<th>Plot Treatment</th>
<th>Average Weight of Sheep at—</th>
<th>Hay Baled per Acre.</th>
<th>Hay Fed per Acre.</th>
<th>Surplus Hay per Acre.</th>
<th>Average Wool Yield per Sheep.</th>
<th>Increased Wool Yield Due to Mowing.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mown, Baled and Fed Back ....</td>
<td>144-0</td>
<td>lb.</td>
<td>134-1</td>
<td>20</td>
<td>14</td>
<td>6</td>
</tr>
<tr>
<td>Not Mown, Matured Normally</td>
<td>143-8</td>
<td>lb.</td>
<td>135-0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Difference for significance—</td>
<td>At 5% level</td>
<td>...</td>
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</tbody>
</table>

The difference in wool yields between the two groups, though substantial, is not statistically significant because of a wide variation in fleece weight between individual sheep (crossbreds).

These results confirmed those of the previous experiment in that the higher quality of the hay compared with the normally matured pasture, resulted in the production of 3 lb. per acre of wool more than from the area which had not been mown.

At the end of the grazing period there was a surplus of 6 cwts. of hay per acre. Assuming that a crossbred sheep may eat up to 4 lb. of hay per day, even at this higher amount, 6 cwts. of hay represents an increase in the carrying capacity of the mown area of over one sheep per acre during the summer grazing period.

CHAPMAN EXPERIMENT

The Chapman Station is situated approximately 25 miles north-east of Geraldton in the Chapman Valley, and records an average annual rainfall of 17.89 inches, 15.17 inches of which falls in the growing period May to October.

For the experiment which was conducted at this Station during the summer of 1955/56 a uniform area of eight acres of high-yielding, well-balanced pasture was selected and subdivided into two plots each of four acres. The pasture consisted of early subterranean clover associated with volunteer species, principally brome.

Fig. 4.—Mown pasture in windrows for summer grazing in situ at the Avondale Research Station 1955-56.
grasses and capeweed. The soil of the experimental block is a deep friable aluvium formed by flooding of the Chapman River. One plot was mown and windrowed and the other left to mature normally. The yield of meadow hay was 35 cwts. per acre, and it contained 9.7 per cent, total crude protein (dry basis.)

The hay matured under good conditions but before grazing commenced, two inches of rain fell on 12 wet days. During the grazing period, a further two inches were recorded again on 12 days, the highest recording being 77 points on March 4.

These summer rains were above average registrations at this station, the average for which is 2.72 inches (November-April inclusive.)

Each plot was stocked with 20 unmated full mouth crossbreds ewes (5 sheep per acre) on December 6, 1955. After grazing for 22 weeks both groups were removed on May 7, 1956, and run as one flock until shearing time. Individual wool weights were obtained.

The results are shown in the following table.

### CHAPMAN RESEARCH STATION.
**Summer Grazing Experiment, 1955-56.**
Body weight trends and wool yields.

| Plot Treatment                  | Average Weight of Sheep at— | Average Gain in Weight | Average Wool Yield per Sheep | Increased Wool Yield Due to Mowing.
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Mown and Windrowed</td>
<td>145-5</td>
<td>153-9</td>
<td>8-4</td>
<td>1-1</td>
</tr>
<tr>
<td>Not Mown, Matured Normally</td>
<td>143-7</td>
<td>144-8</td>
<td></td>
<td></td>
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<td>Difference for significance—</td>
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<td>At 5% level</td>
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<tr>
<td>At 1% level</td>
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The difference between group wool yields is not significant. There was wide variation between the fleece weights of individual sheep (Crossbreds). The difference in weight increases is significant at 1 per cent, level.

The results of this experiment confirm those of the similar experiment carried out at Avondale in 1953/54. Here also the higher quality of the grazing on the mown area resulted in an appreciable increase (3 lb.) in wool production per acre and the average bodyweight of the sheep on this plot had increased 8.4 lb. by the end of the grazing period while those on the unmown area increased very slightly (1.1 lb.)

The commencement of the winter rains terminated the differential grazing period, and at the end there was excess grazing on both plots. It is felt that an increase in the stocking rate to at least seven sheep per acre on such a high-yielding pasture would have resulted in greater wool production per acre while still allowing the sheep on the unmown area to be maintained in a satisfactory condition.

### WONGAN HILLS EXPERIMENT

The Wongan Hills Station is situated three miles north of the Wongan Hills township on the present eastern fringe of the early subterranean clover areas and has an average annual rainfall of 14.03 inches, 10.58 inches of which falls in the growing period May-October inclusive. The soils are typical of the light lands of the agricultural areas and are sandy types overlying clay, with or without lateritic gravel at varying shallow depths.

No data is available as to the relative losses in the ultimate feeding value of stored hay and hay left as cut in the paddock. In order to obtain information on this aspect of pasture utilisation, a further plot was included in the experiment which was conducted at this station during the summer of 1955/56, the hay
from which was stored and fed back evenly throughout the grazing period. Thus there were three treatments, viz:—

(a) mown, stacked and fed back throughout the grazing period;
(b) mown and left in the paddock;
(c) unmown—matured normally.

A uniform area of six acres of pasture was selected consisting of early subterranean clover and volunteer species, principally brome grasses, capeweed and barley grass. It was sub-divided into three equal plots of two acres, each of which received one of the above treatments. The pasture yielded 25 cwts. per acre of meadow hay. One hundred and forty-one points of rain fell on six days prior to carting the hay from the stored hay plot but after it had been cocked. For the remainder of the period until grazing ended, 171 points were recorded. Each area was stocked with 12 full-mouth merino wethers (6 sheep per acre) during the period December 28, 1955 to May 4, 1956 (18 weeks). In conformity with the experiments at Avondale and Chapman, the sheep were grouped as one flock after the differential grazing period until shearing time when individual wool weights were obtained here also.

The results are as follows:—

WONGAN HILLS RESEARCH STATION.
Summer Grazing Experiment, 1955-56.
Body weight trends and wool yields.

<table>
<thead>
<tr>
<th>Plot Treatment</th>
<th>Average Weight of Sheep at—</th>
<th>Average Loss in Weight</th>
<th>Average Wool Yield per Sheep</th>
<th>Increased Wool Yield Due to Mowing</th>
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</thead>
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<tr>
<td></td>
<td>Dec. 28, 1955</td>
<td>May 4, 1956</td>
<td>lb.</td>
<td>lb.</td>
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<tr>
<td>Mown, Stacked and Fed Back</td>
<td>128-1</td>
<td>123-3</td>
<td>4-8</td>
<td>12-8</td>
</tr>
<tr>
<td>Mown and Left</td>
<td>130-4</td>
<td>117-8</td>
<td>12-6</td>
<td>12-5</td>
</tr>
<tr>
<td>Not Mown, Matured Normally</td>
<td>129-6</td>
<td>111-1</td>
<td>18-5</td>
<td>11-0</td>
</tr>
</tbody>
</table>

Difference for significance—
At 5% level | .... | .... | 6·87 | .... | 1·10 | .... |
At 1% level | .... | .... | 9·26 | .... | 1·49 | .... |

The increased wool yields for both mown groups are statistically significant at 1 per cent. level but are not different from each other. The weight loss of the mown and fed back group is significantly less than the mown group (5 per cent. level) and the not mown group (1 per cent. level).

The difference in weight losses between the mown and left and the not mown groups is not significant due to the small number of animals involved. At Chapman and Avondale with larger numbers, the differences were highly significant.

As the plots were later seen to be understocked, six extra sheep were run in each plot during the last four weeks of the differential grazing period. The body weights and wool returns of these extra sheep are not included in the above table.

At the commencement of grazing, all sheep were in very good condition. Comparative weight trends conform with other trials. The effect on the wool yields of Merino wethers by grazing on mown pasture was considerable and amounted to 10.8 lb. and 9.0 lb. per acre respectively more than from the unmown plot. In this experiment also, the higher feed value of the mown areas maintained the sheep at heavier weights than where the pasture was not mown. The sheep on the “mown and fed” plot, at the end of the grazing period weighed 7.8 lb. heavier than those on the “mown and left” plot. This difference may have been due in some degree to rain damage of the hay on the latter plot. There was also a difference of 1.8 lb. of wool per acre in favour of the group to which the hay was fed back.

DISCUSSION

The results of the investigations at three research stations show that increased wool yields and higher carrying capacity per acre were obtained by graz-
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ing sheep over the summer months on pasture which had been mown at the hay stage instead of allowing it to mature and dry off naturally. This practice of providing mown grazing, results in a fodder which has a higher protein content, is less fibrous, has greater digestibility and is decidedly more palatable than normally matured pasture. It is reasonable to assume that the greater palatability induces a higher intake than the unmown grazing and could account for some part of the increased returns. Analyses of samples of the meadow hay and the dry matured pastures cut at mower height, showed that the total crude protein of the hay was consistently 30 per cent. higher than that of the mature pasture.

An essential of efficient stock husbandry is the provision of conserved fodder for feeding during the autumn and early winter months and at any other times of nutritional stress. It is necessary therefore, that ample stored hay should be provided. It is after these supplies have been ensured that the practice of mowing suitable pastures for summer grazing has its place.

Quite apart from the aspect of higher carrying capacity and considering wool yields alone, with wool at 7s. per lb. and mowing at 10s. per acre, in every experiment the value of the increase in wool yield was greater than the cost of mowing.

Although the experiments did not allow of direct comparison of costs between mowing and windrowing and mowing and leaving as cut, it is doubtful from the experiences at both Avondale and Chapman, whether the cost of this additional operation is justified. This would certainly be the case with lighter-yielding paddocks which have been grazed for most of the season and not shut up, in contrast to those from which the stock have been withheld in preparation for hay-making. It is on such lighter-yielding areas that this general procedure of pasture utilisation is likely to be followed on an extensive scale. It is considered that continuing with the mower is preferable to taking time off to rake into windrows. The question of whether to windrow or not arises also with respect to rain falling during the curing period. Although the windrowed hay is more protected in that form, it dries out less readily and may become mouldy and require turning with the attendant losses, no matter how well done.

With regard to the experiment conducted at Wongan Hills, extra expense and labour were involved in the practice of mowing, storing and feeding back compared with mowing and leaving as cut. It would appear from the small increases in carrying capacity and wool yields per acre obtained by storing and feeding back that this extra expense and labour are not justified.

The results of the experiments at both Avondale and Chapman show that with the unlimited intake of good quality mown pasture grazing, crossbred ewes are maintained at too high a level of condition as a result of such ample feed conditions. Greater returns per acre can be expected if the intake is limited to avoid over-fat sheep. It will be necessary to do this by controlling the periods allowed for continuous grazing on mown pasture. The question of a high level of intake refers particularly to breeding ewes which should certainly not be at all fat and preferably be maintained in good store condition for the first two-thirds of pregnancy. For this reason, grazing on such mown pasture during this period should be controlled. During the last six to eight weeks before lambing however, the nutritional requirements of the ewe are much higher. For this period and before winter rains are expected, ample grazing on an area of good mown pasture reserved for the purpose, would be very suitable with a small grain supplement in addition.

For weaners also, the provision of mown pasture grazing for the summer months could be a very sound practice. The problem of weaner nutrition is an important one. These sheep are both growing and producing wool and to do both they require ample feed of high quality. The quality of paddock grazing is at its lowest during the summer period and if weaners are to develop satisfactorily they should be given a supplementary ration such as cereal grain or be grazed on mature grain crops reserved for that purpose. However a pasture containing a good proportion of clover and mown at the early hay stage would provide paddock grazing of high protein level, very suitable for weaners
and likely to permit of a considerable reduction in the grain ration.

Investigation of this aspect of pasture management in relation to weaner nutrition is contemplated.

Two very important aspects of mowing are its effect on pasture composition the next season and also its use for the control of objectionable weeds or less desirable pasture species. It is essential that the
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sward should not be subterranean clover dominant, principally to avoid serious infertility problems with breeding ewes. The non-clover species are thus important components of the pasture and it is generally considered that they should be maintained at the desired level of about 70 per cent. in a well developed pasture. For this reason, mowing should not be done too early, i.e., before seed setting is general in these species, otherwise the density of seed will be so reduced that the sward is likely to become clover dominant. Experience at Avondale has shown that a subterranean clover volunteer species pasture cut when the seed setting of the non-clover species was general, set sufficient seed to maintain its density and composition the following season. There was no visual difference between a similar adjacent area which had matured normally and had identical summer grazing.

Mowing for hay has shown marked effects on pasture composition at the Wongan Hills Research Station. Brome grass is a valuable component of the pasture on such soils but tends to become dominant at the expense of the subterranean clover. The two mown plots of the experiment described and which were cut rather early, showed a marked desirable reduction in the proportion of brome grasses in the sward the following year, whereas the unmown plot was not well balanced, the brome grasses were strongly dominant and the subterranean clover was reduced to an undesirable low level. Some years ago, very good control of a brome grass dominant pasture (300 acres) was obtained with the mower by “topping” the sward at the early flowering stage of the brome grass. Sheep ate the cut material readily. In the following season, the percentage of brome grass was reduced considerably and the subterranean clover content raised to a suitable level.

Brome grass and other species can become dominant to the extent of being a serious hazard to sheep and particularly to lambs during the grass seed period. It is sound management, and certainly so for efficient lamb marketing, to minimise grass seed trouble generally by providing pasture paddocks for that period which have been suitably prepared by previous grazing or mowing, or both. There were serious cases of grass seed damage to lambs last year, which showed up very plainly in the carcasses of some of those killed for export.

On all the experimental plots which had been mown, it was found that the sheep grazed freely on the residual sward as well as on the hay itself, and there was an even cleaning up of these areas. On the other hand, grazing was incomplete and uneven on the unmown plots and clumps and patches of fibrous grass stems were left. While some cover of old season’s growth is desirable, these residues were in excess. They developed into dense rank patches of grass the following season in which little or no clover was able to persist. Care should be taken not to over-graze mown areas. They readily become too bare unless the sheep are taken off in time.

From experience gained in these experiments, a useful estimate can be made of the carrying capacity of mown pasture during the summer period. It appears that the stocking rate for average weight crossbreds can be assessed at one sheep per 4 cwt. of hay cut, for four months. As the maintenance requirements of dry sheep are roughly proportional to their body weight, it is obvious that the carrying capacity for Merinos which have lower body weights, will be higher than for crossbreds.

For the Avondale and Chapman experiments, full-mouth crossbred ewes were used. As sheep at this age are decreasing in wool production, younger sheep may have shown higher wool yields and hence greater differences between treatments. At Wongan Hills, Merino wethers were used. The wool yields of these sheep were at a higher level than the crossbreds and also showed greater differences between the mown and unmown pastures. Merinos may therefore show to even greater advantage than crossbreds in this aspect of pasture utilisation. Further investigation on this point is contemplated.

In recent years there has been an appreciable increase in the number of beef cattle carried in association with sheep flocks. It is well known that they can deal effectively with feed, both green and dry, which has grown beyond the stage when
it is well suited to sheep. Although as yet no similar experiments have been carried out with cattle, as described here with sheep, it is evident from practice, that cattle also do better over the summer months on mown pasture (and early cut cereal crops) than when it is allowed to mature normally.

Fig. 6.—General view and a close-up of the "mown and fed back" plot (1955) at Wongan Hills Research Station, showing balanced pasture. Photographs taken September 3, 1956.
Our summer drought conditions are well suited to the leaving of mown pasture in the paddocks with expectation of little damage from rain. However, the sheep raising districts adjacent to the southern coast have a higher incidence of summer rain and a shorter dry summer period, and therefore paddock grazing is more subject to damage. In these districts, therefore, it may be advisable to leave only part in the paddocks and bale and store the remainder.

Discussion so far has dealt with the improved pasture areas but in the less favoured districts the practice could well be carried out in those favourable seasons when volunteer pastures produce well.

Where meadow hay production is possible on farms, it is recommended that the first provision is for ample supplies of baled hay with good storage. If, after these stored hay requirements have been met, there is still pasture suitable for mowing and going to seed, this should be mown and left in the paddock for summer grazing. Windrowing is unlikely to be justified but a swathe board could be used if desired at no extra cost. It is suggested that the mower should be kept going as long as is reasonable while the pasture is still green and suitable for mowing.

**SUMMARY**

1. Experiments conducted at three research stations, Avondale, Chapman and Wongan Hills, situated in the early subterranean clover areas, are described in which liveweight trends and wool yields have been determined by grazing sheep over the summer period on areas of improved pasture which had received the following treatments:

   (a) mown and the hay removed in bales or as loose hay and later fed back on the same area;
   (b) mown and left on the area;
   (c) left to mature normally.

   The grazing periods of the various experiments ranged from 18 to 24 weeks.

2. The results at each station showed the same relative trends in liveweight changes and wool yields in the different treatments. Liveweight losses were higher on the unmown areas, whilst mown pasture had a higher carrying capacity than pasture which was left to mature normally.

3. Wool yields were higher from areas which had been mown. The increases ranged from 2.4 lb. to 10.8 lb. of wool per acre. In all cases, the value of the increased wool yield was greater than the cost of mowing.

4. The results of the several experiments and the practical application of mowing pasture for summer paddock grazing including the effect on subsequent botanical composition of the pasture, are discussed.

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