

Table II.—Yield in Pounds of Dry Matter per Acre.

Season.	Treatment A.	Treatment B.	Difference B-A.	Treatment C.	Difference C-A.
1932-33 .. ..	3,869	4,006	137	4,077	208
1933-34 .. ..	3,192	3,119	73*	3,265	73
1934-35 .. ..	4,830	4,828	2*	5,052	222
1935-36 .. ..	5,841	5,792	49*	6,132	291

\* Decrease in yield.

NOTE.—Treatment A: 3 cwt. superphosphate per acre; Treatment B: As A plus  $1\frac{1}{2}$  cwt. sulphate of ammonia; Treatment C: As B plus  $\frac{1}{2}$  cwt. sulphate of potash.

To obtain the direct effect of the potash application, the differences in yield of treatments B and C must be taken. These are given below in Table III:—

Table III.

Season.	Pounds of Dry Matter per Acre: Increase following Use of $\frac{1}{2}$ cwt. Sulphate of Potash per Acre.
1932-33 .. ..	71
1933-34 .. ..	146
1934-35 .. ..	224
1935-36 .. ..	340

## SUMMARY OF RESULTS.

These data indicate that potash when used in conjunction with a manurial programme involving the annual use of superphosphate and sulphate of ammonia was having an increasing beneficial effect on the pasture, as the increments have increased to a much greater extent than would be expected from the annual totals. As these increases have been obtained in seasons of varying moisture conditions, it would appear that potash has maintained the pasture in a better state of productivity than would have been the case if nitrogen and phosphate only were used for top-dressing purposes. Not only has the use of potash enabled the depressing effect of sulphate of ammonia to be overcome, but, as indicated in Table II, the complete treatment has given materially improved yields over the use of superphosphate alone. This does not mean, however, that the use of a complete fertilizer will be profitable. Indeed, the data indicate that, compared with the cost of 3 cwt. of superphosphate per acre, the complete treatment cannot be payable. But the data show the value of potash applications in promoting an optimum yield of pasture in those cases where sulphate of ammonia is used frequently in addition to a top-dressing of superphosphate.

## SUMMARY.

The use of a complete fertilizer gave the highest yield of pasture in mowing-trials at the Marsden Research Farm, Stoke, Nelson.