

Costs of manures: These have been calculated on the following approximate prices per ton: Superphosphate, £6; sulphate of ammonia, £22; sulphate of potash, £18.

Profit resulting from use of manures: The amount in this column represents the value of the increase over no manure less the cost of the manure (for example, treatment 2, super, 3 cwt., with seed). Thus 7.24 tons table potatoes at £3 per ton are worth approximately £21 14s., and 2.73 tons seed at £1 10s. are worth £4 2s., a total value of £25 16s.; deducting cost of 3 cwt. super at £6 per ton, 18s., there remains a net amount of £24 18s. per acre. The value of the crop on the no-manure plots is £21 11s. per acre. Hence there is a £3 7s. greater return as a result of using 3 cwt. of super.

#### COMMENTS ON TABLE I.

To facilitate comparison of the results of the various treatments Table I is divided into six parts, the principal considerations being embodied in the first three parts. The necessary comparisons in these parts have been examined statistically, and where significance occurs it will be indicated. The numbers in brackets given below indicate the number of treatment referred to (see Fig. 1).

*Manures with Seed.*—Super (2) has given a significantly higher yield of about  $1\frac{1}{2}$  tons of table potatoes than no manure. The seed and small do not differ significantly in the two treatments. The difference in total yields is about  $1\frac{1}{2}$  tons in favour of the super.

Super + sulphate of ammonia (3) is significantly better than super (2) in all grades.

Treatment (4) containing potash does not differ significantly from treatment (3), and in any case it has not increased the monetary return.

*Manure predrilled.*—Super predrilled (5) is poorer in yield of table potatoes and better in yields of seed and small than super with seed (2), although the totals do not differ significantly. The effect of difference in yields of the various grades has quite a marked influence on net profit as shown in the last column, treatment (2) giving 16s. per acre better return. This provides a very excellent example of the necessity of the determinations not only of total yield but of the yields of the different grades.

Super + sulphate of ammonia (9) and super + sulphate of ammonia + sulphate of potash (13) have both yielded significantly lower in table, seed, and total than the corresponding treatments (3) and (4) applied with the seed.

Of the three treatments predrilled it will be seen that any difference there may be is in favour of the super alone (5), and that both sulphate of ammonia and sulphate of potash have failed to increase the yield. In this experiment the method of applying the manure with the seed has proved the better.

*Combination of Manures with Seed and Manures predrilled.*—None of these treatments is of sufficient merit to have caused additional profit from its use, and although the heaviest yields have resulted from treatments (11) and (15) the cost of the heavy dressings of manure has lessened the resultant profits.

The consistency with which the mixture of super and sulphate of ammonia with seed has proved a little better than the super alone, irrespective of what the predrilling treatment consisted of, can be seen