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FERTILISER RESPONSES WITH NEWLY PLANTED APPLE TREES

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AN outstanding response to phosphate and a worthwhile response to nitrogen have been obtained in the Donnybrook area on a new orchard site on the property of Mr. A. Cross of Argyle.

The trial compared various combinations of superphosphate, potash and urea for a light soil type in an area cleared for three years and having no previous fertiliser history.

Superphosphate was applied at the rate of 2 lb. per tree and was mixed with the soil to a spade's depth at four corners of a square, one foot out from the trees. Average shoot growth of treated trees was
twice that of untreated trees, many of which made poor growth.

A further increase in growth was obtained where the phosphate trees also received a side dressing of \( \frac{1}{2} \) to 1 lb. of urea per tree. The urea was broadcast by hand in a circle extending 2 feet out from the trees. No benefit from urea was obtained if the trees had not also received superphosphate. Damage to some trees was caused where the rate of urea was increased to 2 lb. of urea per tree; \( \frac{1}{2} \) lb. of urea per tree was sufficient for maximum growth.

Applications of potash failed to show any response.

All fertilisers were applied shortly after the trees were planted.

Trees used for the trial were of the Granny Smith variety raised on Northern Spy rootstock and were not irrigated.

In an area adjacent to the trial area, the discing in of 2 lb. of a phosphate fertiliser around newly planted trees also provided a favourable response.

The trial clearly demonstrates that for trees newly planted in a light soil type, to which fertiliser has not previously been applied, the incorporation of superphosphate into the soil is essential for satisfactory growth.

The phosphate response follows a similar response obtained some years ago with apple trees in a light soil at Karragullen.

It is interesting to compare the results of the Donnybrook trial with a series of planting hole fertiliser trials conducted in the South West between 1958 and 1960. No responses to phosphate were obtained in these trials. In all cases, however, there had been a history of previous fertiliser usage.
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