Delayed Storage Test.—Fruit of two pickings, stored in both plain and oiled wraps, was subjected this season to delayed storage, at weekly intervals, up to six weeks. Examinations of the fruit were made on removal from storage, and also after a further fourteen days at 68° F. and 90 per cent. humidity. In 1942, scald was least in fruit either stored immediately or subjected to four weeks' delay, but this season quite different results were obtained. The greatest freedom from scald occurred in the various lines when storage was delayed for the periods shown in the following table:

Picking.	Wrapper.	Storage Delay.
First	Plain	5 weeks.
First	Oiled	6 weeks.
Second	Plain	3 weeks.
Second	Oiled	5–6 weeks.

Core-flush, and the form of breakdown that arises from extension of core-flush into the cortex of the apple, were in all but one sample decreased by delay before storage. Fungus tended to increase after four weeks' delay, and beyond this time, also, the colour of the fruit became excessively yellow. Irrespective of the scald position, therefore, a delay of more than four weeks between harvesting and storing could not be recommended.

Oiled wraps again very substantially delayed the first appearance and the severity of scald, though not entirely preventing it. Fruit of the various treatments was left in storage till some scald had developed, so that differences in scald susceptibility could be assessed, but this involved an erroneous impression of the effect of delay and wrapping treatments on other storage disorders. In view of this and of the divergence in scald results for the two seasons, the work is to be repeated on a larger scale to facilitate a better assessment of the overall significance of delayed storage treatment of this variety.

Effect of Fertilizers on Cold-storage Quality

This long-term project has been continued by the Appleby Research Orchard.

Cox's Orange Pippin.—This season the complete PNK treatment has given fruit as resistant to fungus and wilt as the untreated control fruit and very much more resistant to breakdown and to storage pit. Fruit from nitrogen-treated trees has again been outstanding for its high susceptibility to breakdown and fungus. Fruit of later pickings has once more been rather less severely affected by pit, and, while superficial scald was relatively slight, even in the first picking it has been virtually absent from the later ones. Breakdown susceptibility has been increased in the later pickings only when nitrogen is included in the fertilizer treatment, more especially when potash is absent. No consistent effect on storage quality has yet been seen from the use of dried blood as a source of nitrogen in comparison with ammonium sulphate.

Dunn's Favourite.—There has again been little difference in the storage characteristics of fruit from no-nitrogen trees and from those receiving 2 lb. ammonium sulphate additional to phosphate and potash. The use of 4 lb. ammonium sulphate, however, has greatly increased breakdown, fungus, superficial scald, and, to some extent, pit. This season the use of 2 lb. ammonium sulphate, without addition of phosphate and potash, has caused only a moderate rise in superficial scald, and the inclusion of phosphate and potash has failed to improve the position. The crop of Dunn's has been light on some trees, however, and this year's data probably have to be treated with some measure of reserve. Fruit from limed and unlimed trees has shown identical storage characteristics.

Jonathan.—This season the variety has shown very good keeping-quality, a feature characteristic of fruit produced in the "on" year of bearing. In fruit from the plots on which 0 lb., 2 lb., and 4 lb. ammonium sulphate are being used in conjunction with phosphate and potash, only the 4 lb. application has lowered the storage quality to any great extent, and this is in respect of breakdown, ripe-spot, and fungi other than ripe-spot. Potash has again conferred resistance to breakdown and fungus, but its effect on the incidence of pit and Jonathan-spot could not be ascertained because these troubles were virtually absent.

Delicious.—No appreciable differences in storage quality have been shown by fruit from various manurial blocks.

Sturmer.—The variety has held particularly well this season, and such storage disorders as have developed are of very minor severity. The differences noted are very similar to those recorded last year. Without phosphate and potash, nitrogen has increased breakdown susceptibility but has reduced the amount of wilt. With or without phosphate and potash, nitrogen has increased somewhat the development of superficial scald. Fruit from trees receiving a balanced mixture of phosphate, potash, and nitrogen has shown no more breakdown, fungus, wilt, or pit than the untreated control fruit.

Effect of Rootstock on Cold-storage Quality

The small rootstock area at Appleby is now coming into production to some extent, and this year it has been possible to carry out a storage trial with Jonathan as the scion variety. Jonathan grown on East Malling No. XII stock has been much less subject to internal breakdown than when grown on Northern Spy stock or on Malling types I or XV. Fruit on M I appears to be slightly less resistant than the others to ripe-spot, but otherwise there are no outstanding differences. With other scion varieties the crop weights are as yet too divergent to enable any valid comparisons to be made.