Chapter 6

CONCLUSION

From the present experiment results, it can be suggested that B deficiency delayed fruit ripening as indicated by delays in fruit color development and a reduction of fruit firmness. Boron deficiency decreased yield and fruit quality such as size and total sugar. Applying of 80 g borax $tree^{-1}$ was sufficient for maximum yield and quality. Boron deficiency decreased yield through decreasing number of retained fruit and fruit weight. Boron deficiency decreased fruit weight and fruit size through decreasing seed number and vegetative growth. If apple fruit have seed number $fruit^{-1}$ lower than 11, small fruit size may be decreased by B deficiency.

Trees with B concentrations at full bloom being equal to or lower than 37, 28, 32 and 24 mg kg^{-1} dry wt. in shoot, border and central flower and young open leaf, respectively, were predicted to experience B deficiency at the later reproductive stage. Yield and total sugar reached maximum when leaf and fruit B concentrations at 4W were equal to or higher than 16 mg kg^{-1} dry wt and 14 mg kg^{-1} dry wt., respectively whereas they were below maximum when leaf and fruit B concentrations were lower than 14 mg kg^{-1} dry wt..

Fruit tended to drop when its B concentration was lower than 13 and 9 mg kg^{-1} dry wt. at pea-size (4W) and June drop (8W), respectively. At harvest, yield and total sugar reached maximum when B concentrations in leaf and fruit core were

equal to or higher than 21 and 22 mg kg^{-1} dry wt., respectively whereas they were below maximum when leaf and fruit core B concentrations were lower than 17 and 22 mg kg^{-1} dry wt., respectively.

At late fruit development, fruit B concentration was less reliable for diagnosis of B deficiency than fruit core B concentration since fruit B concentration vary with fruit weight and other factors limiting vegetative growth apart from B supply.