Applications of nitrogen to flax (Linum usitatissimum L.) frequently enhance seed yields (8, 9, 11), but sometimes the results are erratic (2, 12). Fertilization may stimulate weed growth with deleterious effects on yield (2). Nitrogen placed with the seed may reduce emergence and thereby reduce yield (9). Applications of N may also influence the quantity of oil in the seed as well as the fatty acid composition of the oil, but again conflicting results have been reported. In some studies, oil content and iodine value were decreased as a result of application of N (10, 13, 14), but in other trials neither was affected (8, 11).

In view of the diverse results reported, it would be of interest to know what role environmental factors may play in the response of flax to N. The effect of N on oil con...