SUMMARY

A portable soybean plot thresher was developed at Marrow, Ontario, and a second unit built at Ottawa, Ontario.

An overshot peg tooth cylinder and a simple air blast cleaning unit produced a machine that is easily cleaned and prevents contamination of small lots of seed. C. W. Owen, assistant, Forage Crops, Dominion Experimental Station, Harrow, Ontario; and A. J. Magee, assistant agricultural engineer, Central Experimental Farm, Ottawa, Ontario.

FROST-INDUCED NATURAL CROSSING IN BARLEY, AND A COROLLARY ON STEM RUST PERSISTENCE

Frost may be an effective emasculating agent (1), or if more severe, produce diverse mechanical injuries to floral parts (2). It may also facilitate natural crossing in mixed populations as shown at Davis, Calif., in a series of single-row variety seedings involving four successive row extensions sown from Sept. 13 to Oct. 6, 1949. These encountered 33 frosts between Dec. 11 and Jan. 31, with a minimum temperature of 19° F. on Jan. 4.

The relative frost hardiness of three barleys at stages near maturity is shown in table 1. Hardiness declined rapidly at about the heading stage and more mature plants were even less hardy. This explains the frequent occurrence of "frost damage" (a grain-grading factor) during kernel development.

The unique result of the differential top killing shown in table 1 was the ultimate equalization in growth resulting from the development of new tillers. Nearly all effective flowering (and seed production) for these varieties and...