NOTES

All sibbed and F₁ plants were fully male-fertile. F₂ populations segregated in a ratio of 3 male-fertile to 1 male-sterile. All plants of backcrosses to the male-fertile parent were fertile. It was concluded that this particular type of male sterility in kenaf is conditioned by one factor pair with fertility being completely dominant. Since this factor is chromosomal and recessive its use in the production of hybrid seed does not appear practical. It perhaps can be used by breeders who may want to incorporate the factor in certain lines to eliminate the need for emasculation prior to crossing.

In segregating populations it was observed that flower size of male-sterile plants was noticeably reduced. Petal length and width measurements were made in two F₂ populations. All data were taken on the same day and measurements were limited to one petal per flower per plant. Petal lengths of fertile flowers of the 2 populations averaged 6.1 and 6.0 cm. while widths were 4.6 and 4.3 cm. Petal lengths of sterile flowers were 5.4 and 5.3 cm. and widths 4.0 cm. in both populations. This reduction in flower size was not accompanied by a reduction in over-all plant vigor.—JAMES B. PATE AND J. FRANK JOYNER, Research Agronomists, Crops Research Division, ARS, U.S.D.A.

CHLORIDE DEFICIENCY SYMPTOMS IN POTATO PLANTS

SINCE Broyer et al. defined chlorine as a micronutrient element for tomatoes, plant deficiency symptoms resulting from limited chloride have been described on several other crops by Johnson et al. and on sugar beets by Ulrich and Ohki. Such symptoms have not been reported for potatoes, although it is surmised that symptoms for potatoes would be similar to those for other solanaceous crops such as tomatoes. Results of 3 replicated greenhouse trials with gravel cultures in 1955, 1956, and 1957 by the Maine Agricultural Experiment Station have indicated that chloride deficiency symptoms for potatoes are quite similar to those described for other crops. These symptoms are summarized below.

Symptoms occurred on potato plants containing 0.0143 to 0.0381 me. of chloride per gram of plant material on a dry weight basis. The first noticeable effects on potato plants which received limited chloride were a lighter green color and a tendency for new growth to have a pebbled appearance (vertical protrusions on upper side of leaflets). As plant growth progressed, margins of terminal leaflets curled upward, the pebbled appearance intensified, and chlorosis developed on tips of terminal leaflets and eventually extended back along the leaflet edges for a distance of approximately one-fourth of the periphery. The final symp-

Fig. 1.—Terminal portions of potato plants showing limited chloride.

tom was a purplish bronzing on the older chlorotic areas of the top was a purplish bronzing on the older chlorotic areas. Leaflets of plants having chloride deficiency symptoms were treated with a water solution containing chloride as HCl. New growth did not exhibit symptoms.—H. W. GAUSMAN, E. G. COREY, STRUCHTEMeyer, Associate Agronomist, Crops Research Division, ARS, respectively.

INSECT INFESTATION AS A FACTOR INFLUENCING SEED SET IN SMOOTH BROMEGRASS

INSECT emergence holes in florets of smooth bromegrass (Bromus inermis Leyss.) were observed during the summer of 1948 in the general breeding nursery at Madison, Wisconsin. Infestation was not general, the reduction in seed yield was sufficient to attention to the problem. Subsequently some damage was observed in most years, but this has been somewhat less than that noted during 1948. Infestation in the summer of 1956 may have been a prime contributing cause of the recent short seed supply of this species. It appears appropriate, therefore, to give attention to the observations of insect damage herein as a possible contributing cause.

General observations from cytological studies made during the course of the cytological researches made by the senior author indicate that the larvae occurred only in the proximal or basal end of the developing floret. Younger or smaller individuals were found near the base of the styles with the ovary. Two types of feeding were observed: larvae in the