Deley, William P, American Crystal Sugar Co. Research Center. PO Box 1227. Mourtuint, MN 56561-1227. Relationship between in Virte Remonse of Lost Dear and Dear Explants of Tetraploid Statistics of Growthern.

Some availe cutton is highly labor michology to be switch response of leaf that explains and ovaile explains might be useful for predicting which generages will respond best to ovaile culture, thus marked the overall response rate. Thirty one ellie sugarbest populations were evaluated for at two sources by eathoring leaf discs on Wing medium. I mg/L BA. Of 900 plants tessed, 260 produced callus and or requestrated abouts from callus. Overall, 52.6% of 58 t2 leaf discs animited cultus, and

BUGBEE, W. M., U.S. Department of Agriculture, Agricultural Research Service, P. O. Box 5677 - University Station, Fargo, ND 58105. - *Rhizoctonia*-induced phytoalexin production in sugarbeet.

Resistance of sugarbeet to *Rhizoctonia solani* increased with age. The shift from susceptibility to resistance occurred about three weeks after planting and was accompanied by the production of phytoalexins. Three-week-old plants produced more phytoalexin when infected by the AG 4 strain than when infected by the AG 2-2 strain of *R. solani*. At five weeks, more phytoalexin was induced by AG 2-2 than AG 4. AG 4 was more sensitive than AG 2-2 to phytoalexin, which may partially account for the avirulence of AG 4 on older plants. When root slices were inoculated with *R. solani*, more phytoalexin was produced by the susceptible cultivar Ultramono than the resistant germplasm FC 712. The AG 4 strain induced more phytoalexin than AG 2-2, but neither was significantly different than untreated controls. *R. solani* cultures with pectin from Ultramono as the only carbon source contained more phytoalexin elicitors than cultures of FC 712 pectin. AG 2-2 induced more elicitors than AG 4, but neither induced more than the uninoculated control. Pectic fragments appeared to be weak elicitors of phytoalexins. Thus phytoalexins were associated with age-related resistance but not varietal resistance. Pre-formed antibiotics were present in ethanol extracts of root.