

## 7. Monoploid Study

Brown marker  $a_1A_2CRBP1$  was crossed to nineteen different single crosses and six topcrosses, as sources of monoploids. These sources contain inbreds of known or suspected high frequency of monoploidy. Approximately 186,000  $F_1$  seed were put through the germinator in the spring of 1953. Putatives were transplanted directly to the field. Three-hundred of these transplants were subjected to colchicine treatment - three levels of concentration (.025, .50, .10) using two methods of application (vacuum and hypodermic). Out of 835 original transplants, approximately 500 survived and approximately 250 failed to develop color (haploid or other). Plants which could not be selfed were crossed with more fertile plants. These selfed and crossed plants will be grown in the 1954 season.

The study also includes a comparison of the effectiveness of scutellum aleurone, plumule and root screens in different marker stocks. It is hoped that these stocks may also be studied as to differences in stimulation of parthenogenicity.

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