

UNIVERSITY OF MINNESOTA  
St. Paul, Minnesota

1. Progress on big rings (corn and barley).

A multiple interchange homozygote that combines 2-3d, 2-4b, 2-9, 9-10b has been established. Crosses of it with 1-5-6-7-8 are expected to give plants having 2010.

Two additional stocks, one completed, the other in progress are expected to produce hybrids with 2010.

It may be of some interest that a multiple interchange line has been produced in barley which in crosses with normal produces plants with a 014. (See 1965 barley news letter).

2. Early line, good pachytene spreading.

A 76 to 80-day yellow dent hybrid, Minn. A.E.S. 101 has given excellent pachytene chromosome spreads.

3. Notes on a group of 2-6 interchanges.

As stated by Dr. Longley (personal conversation at last year's meetings), the interchanges listed as having breaks at 6 S.7 or higher are very likely in the nucleolus organizer or in the satellite. Interchanges T2-6 (8786), 2-6(5419), and 2-6(8441) have the break in 6 in the nucleolar organizer. Interchange T2-6 (001-15) has the break in 6 in the satellite.

4. Chromosome pairing studies.

Intercrosses between a series of 2-6 interchange stocks and between a series of 1-5 interchange stocks are being used for a study of chromosome pairing. All crosses with standard normal had a 04. A few of those in the 2-6 series involve some chromosome other than 2. A few of those in the 1-5 series involve chromosome 1 or 5, not both, since the crosses with other 1-5 lines produce plants showing a 06. It is possible that a second interchange may have been in the original plant, or some change occurred in subsequent increases.

Cytological checking of the homozygous and heterozygous parental stocks is necessary before a critical analysis of the pairing configurations observed at pachytene and later stages of meiosis in the intercrossoes can be made.

Note:

Based on our results, the procedure of crossing the interchanges belonging to a particular group, e.g. all the 1-5's, with one interchange stock in the group is useful as a check on identification. In this type of test, it is highly desirable to cross only homozygous lines.

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5. Power tool for pericarp and aleurone removal.

A battery powered commercial manicure unit has been recently employed in rapidly removing small areas of the pericarp and aleurone. Endosperm characters may then be easily classified. The emery unit, held in the hand, is 2 1/2" long and 1" wide and is equipped with an emery drum attachment. A 2' long cord runs from the unit to a 5" x 3 1/2" case which encloses two flashlight batteries and provides space for storage of the unit. This unit, called "Lady Manicure by Patricia Thompson", is manufactured by Thompson Designs, Inc., 125 Factory Road, Addison, Illinois. Retail Price: \$5.95.

Ronald Phillips

6. Interchange stocks segregating wx.

It may be of interest to persons working with interchanges that the following stocks are segregating for waxy.

1. Source: University of Illinois: 5-6 (8590), 5-6 (8665), 5-6 (8696), 6-7 (027-6), 6-7 (4545), 6-7 (8143).
2. Source: Iowa State University: 5-6 (5906), 5-6 (6522), 5-6 (6559), 6-7 (4337).
3. Source: Purdue University: 5-6 b.

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