

- (5) Hydrolyze in 1NHCl at 60°C for 20 minutes. Rinse thoroughly with distilled water.
- (6) Place in leuco-basic fuchsin for 30-45 minutes.
- (7) Wash in distilled water for 1 hour.
- (8) If the root tip has not previously been cut off, excise and place in a 5% cellulose - 5% pectinase solution at pH 4.2 for 2 hours.
- (9) Cut the deeply stained tip onto a clean slide and macerate in a drop of propionic carmine. A flattened end of an ivory stick is suitable for maceration and spreading.
- (10) Heat gently.
- (11) Add cover slip and flatten with the rounded end of a glass or steel rod. Invert onto bibulous paper and apply pressure with thumbs.
- (12) Seal. Temporary smears may be stored several months in a freezer. Temporary smears may be made permanent by conventional techniques.

R. M. Brown

4. The mitotic karyotype of maize.

Using the smear technique outlined in the previous note, a number of metaphases suitable for photographing have been studied. Two notable features have emerged as the karyotype has been prepared.

- (a) A definite gradation in chromosome size from large, nearly metacentric chromosomes to small, submetacentric chromosomes; and consistent arm ratios of the three classes of chromosomes - large, metacentric; medium, submetacentric and short, submetacentric.
- (b) A secondary constriction with satellites is easily seen in most preparations in two chromosomes.

At present we are interpreting the karyotype on the basis of the measurements (Rhoades, Jour. of Heredity 41: 58-67, 1950) presented for pachytene chromosomes. Arm ratios quite similar to those reported for pachytene chromosomes are found in the mitotic metaphases. We are attempting to further qualify the mitotic karyotype with the use of trisomics.

R. M. Brown
D. B. Walden

5. Influence of calcium concentration on pollen germination.

A suitable medium for the germination of "Seneca 60" (su_1/su_1) hybrid corn pollen was reported in MCNL 39: 169. This medium, consisting of 0.35 M sucrose, 100 ppm H_3BO_3 and 300 ppm $CaCl_2 \cdot 2H_2O$, may be used simply as aqueous drops or with either 0.7% Difco Special Agar-Noble or 1% to 2% methyl cellulose. Calcium ion has been shown to be required for corn