which was kept under cold-storage conditions at below 40° F, stored in small screw cap bottles. This report has aroused our interest to check the seed viability of maize kept at room-temperature. Fortunately, we were able to procure 10 screw cap bottles containing maize seeds found in the course of renovating a laboratory in the Biological Laboratories of Harvard University. The maize seeds were collected 30 years ago (from 1942 crop year) by Dr. James W. Cameron, who at that time was working with Professor Paul C. Mangelsdorf.

Randomly selected seeds from each bottle were soaked in distilled water for about 6 hrs., then kept in paper cups with moist paper-towels at room temperature (70 to 72° F). The score for germination was made on the 12th and 15th days, and the number of germinated kernels for each day was added to represent the total percentage for each bottle. Of the 10 bottles of seeds, five showed no germination, while the percentage of germination in bottles with collection number 429 was 28% (slow growth, represented by the size of the seedlings); Coll. #1168-5-11 was 36% (medium growth); Coll. #353 had 44% (slow growth); Coll. #351 was 60% (most vigorous growth); and Coll. #354 had 68% germination (next most vigorous growth).

Using these data for viability in 30 year old maize seed stored at room temperature, we suggest that different races of maize may have a different capacity to retain seed viability. We also suggest that it would be useful to select those genetic races of maize which may retain higher percentages of seed viability without resorting to expensive cold-storage methods often not available in other parts of the world.

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2. Feminization in teosinte (Euchlaena mexicana Schrad.).

Most of the races of teosinte, having originated in Mexico and Central America, are short-day (SD) plants. They fail to flower, when grown out-doors in the North Eastern United States during summer, due to prolonged day length. Under natural conditions of their habitat, the vegetative phase of teosinte is terminated, and plants flower and fruit, when the day length becomes short. But in the New England climate, such SD conditions arise very late in the growing season and plants are killed by early frosts before

they initiate flowering. Early flowering in teosinte may be induced by SD treatment, that is, by artificially reducing the day length. For this purpose, seedlings at the 6 to 7 leaf stage are used for SD induction, and the treatment is terminated at the first sign of tassel emergence. It has been observed that very young seedlings (at the 5 or less than 5 leaf stage) are not responsive to this SD treatment.

In the late winter of 1970 (1st week of February), we have grown seedlings of several races of teosinte under greenhouse conditions (regulated temperature at 60 to 70°F). The purpose was to obtain pollen grains for detailed palynological studies. The following races were used: (1) Chalco; (2) Amecameca; (3) Los Reyes; (4) Guanajuato #45121; (5) Huehuetenango, Tzisbaj (Guatemala); (6) Jutiapa #51186 (Guatemala); (7) Huehuetenango Huista, (Guatemala); (8) Michoacan #45320; (9) Guanajuato #46452; (10) Guerrero #47259; (11) Guerrero #47269; (12) Guerrero #47335; and (13) Chihuahua, Nobogame (for the accuracy of the collection numbers or localities, see Wilkes, H. G., 1967). The seeds of the above named races were first soaked in glass-distilled water for three hours, then kept in paper cups with moist paper-towels, covered with Saranwrap to retain moisture. After seeds had germinated, the seedlings were transplanted to soil in 6 inch pots and grown under natural light in the greenhouse. When a few seedlings reached the 6 to 7 leaf stage, the SD induction was started by placing a thick, black cloth around the greenhouse bench on which these plants were placed. Since we had very limited greenhouse space, we were forced to keep the remaining young seedlings on the same bench on which we were inducing SD treatment at the 6 to 7 leaf stage. After 70 days of SD induction, we observed that only a few plants showed signs of tassel formation. However, the treatment was continued. After 100 days of SD induction, it was found that most of the plants from various races were producing silks (feminized). After careful separation of these plants three major categories were noted, namely (A) plants with normal tassel (male flowers) and silk formation (female flowers), the percentage of these plants being low, (B) plants with a poorly developed tassel (aborted male flower) and normal silk formation, and (C) extreme cases in which the plants were entirely feminized, producing only silks; in the latter category even the

position of the tassels was completely taken over by silk producing female flowers. The percentage of these feminized plants was high. Unfortunately, we were unable to produce seeds of such feminized plants due to lack of pollen grains for pollination.

Since the factors for soil, greenhouse temperature, and watering were similar for all the plants, the only variable was the leaf stage of the seedlings when SD treatment was started. Thus, the seedlings which were too young (with less than 6 to 7 leaves) received a prolonged SD induction, which may have caused the transformation from a monoecious condition, as in maize, to completely feminized plants.

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3. Misuse of the term "vivipary".

The term "vivipary" was first used by Linnaeus (1737, 1759) for the vegetative shoots developing on the inflorescences in place of spikelets, in Polygonum viviparum and some grass species. Collins (1909) noticed in maize production of small, vegetative bulblike structures forming on the tassels instead of the staminate spikelets. Harris (1912), working with teosinte, raised a question about the correct use of the term "vivipary". He applied a new term "chloranthy" for the situation in which floral parts are transformed into foliar organs. Eyster (1931) has used the term "vivipary" in maize to indicate the continuous development of a plant body from its unicellular inception to maturity, without the intervention of a period of dormancy. Later, Arber in 1934 emphasized the use of these terms in a more restricted sense. According to her, only the germination of the seeds on the parent plant should be regarded as "true vivipary" and the phenomenon described by Linnaeus as "vivipary", by Collins (1909) as "bulblike structures" and by Harris as "chloranthy" should be designated as "proliferation". Further, it has been found (Harris, 1912; Reeves and Stansel, 1940; Ullstrup, 1952) that proliferations are physiologically initiated by incomplete floral induction or by fungal infection. But in "true vivipary" the zygotic embryo grows directly into the seedling without