inhibitors. As a further proof, the plastome mutants of Oenothera, in which variegated (mutant-normal) leaves are produced, were also examined. Mutant sections fluoresced intensely compared to normal sections. When treated with electron transport inhibitors normal leaf parts fluoresced as brightly as the mutant sections, but the fluorescence of the mutant areas was no further increased by chemical inhibition. These plants were reported to be PS-II mutants (Fork, C. D. and U. W. Heber, 1968, Pl. Physiol. 43:606-612).

These results indicate that when electron transport is blocked between the two photosystems, whether by chemical inhibition or mutation, the affected plant tissue can be identified visually by increased fluorescence. As further proof that the fluorescence technique is useful for screening higher plants, we have isolated suspected PS-I and PS-II mutants of Zea mays seedlings due to their high in vivo leaf fluorescence. A more detailed report has been submitted to Plant Physiology and additional work is now underway.

As a practical note, care must be taken that there is little variation in chlorophyll content or in thickness of leaves which are scanned. These variations will alter fluorescence since more pigment or a thicker cross section would allow more re-absorption by chlorophyll.

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1. Two new B-type translocations involving chromosome 10.

X-ray-induced A-B translocations involving both arms of chromosome 10 have been identified. TB-10b, located on the long arm, is proximal to li, g_1, r and sr_2. The TB-10S mentioned in MNL 45:144 is

now verified and can be designated TB-10c; the breakpoint is on the short arm proximal to nl and oy.

J. B. Beckett

2. Location of new mutants by the A-B translocation method.

Following the procedure outlined earlier (MNL 45:144), 161 mutants were tested this year with a slightly modified and improved set of A-B translocations. The collection included 113 selected new mutants from EMS and NG treatments as well as 48 old cases that had received an inadequate test last year. The translocations used were the same as last year except that TB-1a was substituted for TB-1c, and TB-2L, $3L_{7285}$ and TB-6a were omitted. Translocation 10S has also been verified and designated TB-10c (see Beckett, above).

Fifty-nine of the 161 mutants tested have been tentatively located to chromosome. They have been added to those found last year and placed on a revised chromosome map (figure 1). Temporary symbols are used on the map as follows: w (white), wl (yellowish white), l (yellow), v (virescent), pg (pale green), pgs (pale green spotted), yg (yellow green), cb (crossbanded), pb (piebald), str (striped), gs (green stripe), ys (yellow stripe), wlb (white leaf blade), alb (albescent), spk (speckled), nl (narrow leaf), ad (adherent), d (dwarf), nec (necrotic), gl (glossy), bf (blue fluorescent), et (etched endosperm), sh (shrunken endosperm).

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3. New mutants induced by ethylmethanesulfonate and nitrosoguanidine.

Following procedures outlined in MNL 45:146, ears of vigorous genetic stocks were crossed by similar pollen treated with ethylmethanesulfonate (EMS) or nitrosoguanidine (NG). The resulting kernels were planted, the seedlings were noted for mutants, and the mature plants noted and selfed. The selfed ears were observed for segregation of endosperm texture and morphology mutants (not for aleurone color, as r and c were segregating in the initial parents), and a sample was planted in sand benches to test for seedling mutants. Excluding mature plant