

Corrections and additions to list of genetic factors
(See maize letter of January 23, 1933)

- at (antherless) Hadjinov
- ag (argostripe) is allelomorphous with ij (iojap).
- The symbol bd is for branched silkless. The character branched sterile is non-existent.
- be (branched ear) proved from tests made this summer to be allelomorphous with bd.
- bn₂ (brown aleurone) is in chromosome 3. Sprague.
- cr₃ (crinkly leaves). Hadjinov.
- d₇ (dwarf plant) is in chromosome 10. Singh.
- Da₂ (dominant aleurone diluter). In chromosome 9, 6 units from C. Order is Da₂-c-wx. Eyster.
- dl (dull brown endosperm blotch). Singleton and Jones.
- dm (dead leaf margins). Kempton '23.
- fl₂ (floury endosperm). Mumm.
- gl₁₀ (glossy seedling). In chromosome 1. Emerson.
- gs₂ (green striped). In chromosome 2. Sprague.
- hf (hermaphroditic flowers). Hadjinov.
- j₂ (japonica). In chromosome 4. Emerson.
- le (lemon endosperm). In chromosome 5. Eyster.
- lo (lethal ovule) may be allelomorphous with sp. In chromosome 4. Singleton '32.
- me (mealy endosperm). Mangelsdorf '22.
- o₃ (opaque endosperm). Chromosome 9. Eyster.
- pb₅ (piebald). Apparently non-existent.
- pe (pubescens-hairy sheath). Tavcar '32.
- Pl (purple plant color). Chromosome 6. Emerson '21.
- pm (pale midrib). Chromosome 3. Brink.
- ps (panicula specialis). Tavcar '21.
- ra₂ (ramosa). Brink.
- re₁ (reduced endosperm). Chromosome 5. Eyster '21.

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which induce me to think (bd) located in 7 (tr-21) chromosome. This summer I shall have the linkage (bd) with larger tassel. I have genes ts₁, ts₂, ts₃ and I am aware of the genes ts₄. All these genes produce grain on tassels and in tassels there is nearly always a complete replacement of male flowers by female. Tag produces also grain on the tassels. A small ovary with a short silk or without it is developed in the hermaphroditic male flowers in which seeds are never formed. Anthers are nearly normal but pollen degeneration occurs soon after tetrads during the formation of pollen walls. It is associated with a strong sterility of female flowers. It is not linked with sp. I have sent you the drawings of male flowers. At the same time I am sending you small quantity of seed ra₂, ra₃, cr₃, ag, dl, vb, bd, ts and my sp₁, sp₂, sp₃, sp₄, sp₅, sp₆, sp₇, sp₈, sp₉, sp₁₀. In autumn I will forward a series of characters after testing their mode of heredity.

Some time ago I read your paper on plasmatic sterility in the Journal of Genetics. The results which I obtained and mentioned at the time in my letter to Dr. Karpechenko, then in Pasadena, are completely identical with yours. The experiments with artificial infection of seedlings by fresh juice from flower buds showed me, as in your case, negative results. I am, however, inclined to consider this phenomenon as a result occasioned by the virus diseases. Presently in connection with investigations of the Mendelian type of male sterility from 55 different sources I came upon 4 cases of plasmatic sterility. One type of plasmatic sterility inherited in F₁ through pollen I have in sorghum. I am studying it presently. In regard to the work of the Mendelian type of male sterility I have got myself in connection with Dr. Beadle, through whose kindness I received all his genes of male sterility.

Sincerely yours,
M. I. Hadjinov.

Unfortunately the seed Hadjinov sent was received too late for planting here at Ithaca last summer. Next fall, however, we shall have seed available for distribution.