

anthers remain within the glumes and never do disperse their pollen. This filament trouble is peculiar to the homozygote although it can be eliminated by selection in as much as we have one line without such filament difficulties.

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1. High-oil and high-protein hybrids.

Two new corn hybrids, Ill. 6021 (R75 x R76) (R84 x K4) and Ill. 6052 (R78 x 38-11) (R84 x K4), have been developed in the Agronomy Department of the University of Illinois. Foundation single-cross seed of these two hybrids is available to seedsmen interested in producing seed in 1959. Sufficient double-cross seed for farm use will be available for the 1960 growing season. These new hybrids yield about 30 percent more oil and 10 percent more protein than present commercial hybrids. In addition, they are similar to standard hybrids in grain yield, standability, and other agronomic traits. Nationwide use of adapted high-oil hybrids would produce almost as much oil as is now received from butterfat, soybeans, cotton, and flax. These new high-oil hybrids should benefit both the starch industry and the livestock feeders.

R. W. Jugenheimer

2. Inbred lines and sister-line crosses.

Sister-line crosses are combinations between sister strains of the same inbred line. Some sister-line crosses have considerably greater yield, vigor, and standability than the original inbred line and may be practical for the commercial use of single-cross hybrids. Data on a group of inbred lines and sister-line crosses are reported in Illinois Agricultural Experiment Station Bulletin 636. Some growers are interested in producing Hy x Oh7 because of its high yield and to yield well under high plant populations. Hy2 yielded 35 bushels acre; whereas, a related sister-line cross R158 x CI.42A yielded 12 bushels per acre. This latter hybrid might be used as a seed parent. In addition it is resistant to leaf blight and is higher in protein content. Oh7 yielded 51 bushels an acre whereas, Oh7 x Oh7A, a sister line cross, yielded 85 bushels an acre. This cross might be used as the pollen parent for the commercial production of a modified version of Hy x Oh7. Many of the other sister-line crosses appear to be pr

ising, and could be used as seed parents of single crosses.

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1. Linkage and aberrant segregation of a new Teopod locus.

A dominant mutant, apparently identical in phenotype with Tp_1 on chromosome 7, was found by Dr. J. R. Laughnan. The new Teopod locus is located on chromosome 10, proximal to the golden locus and about 13 units from R :

Cross: $\frac{Tp\ G\ R}{tp\ g\ r} \times \frac{tp\ g\ r}{tp\ g\ r}$

Parentals		Singles G-R		Singles Tp-G		Doubles	
Tp G R	N g r	Tp G r	N g R	Tp g r	N G R	Tp g R	N G r
122	96	14	18	2	1	0	0

Additional data on Teopod-golden distance is given below:

	Tp G	N g	Tp g	N G	Total	Percent Recomb.
Backcross data	314	305	3	8	630	1.75
F ₂ data	736	228	7	10	981	1.25

One strain carrying the new Teopod shows aberrant ratios of Teopod and non-Teopod plants. Heterozygotes, through three generations of testing, have produced only Tp progeny on selfing, while crosses of the same plants, used as egg or pollen parents, with non-Teopod, give 1 Tp : 1 tp ratios in the progenies. Subsequent selfing of the outcross progenies gives families showing normal 3:1 segregation.

Helen Peterson

2. Noncrossover alpha (pale) derivatives from $A^b:P$.

The A^b complex of Peruvian origin (beta:alpha) is highly suited to an analysis of the origin of the noncrossover alpha element since the