

noted where a bridge of chromosomes was formed from one pole to the other during anaphase. These are referred to in Table 1 as "Anaphase bridge."

Interpretation of the Data. In any interpretation of data, it is important that the number of cases be statistically significant. In this preliminary study, only one root tip was examined for each of the time intervals indicated in Table 1, with the exception of four root tips from seeds that had been treated for 18 hours with castor oil. The number of cells per root tip, however, was large. The following trends were noted:

1. The number of mitotic figures was greater in the treated seeds than in the controls. Since the root tips were cut the same length and at the same time of the day, the vegetable oils may be acting as a stimulant in cell division.

2. The number of cells with mitotic aberrations was greater in the treated seeds than in the controls. There was no apparent effect on the number of binucleated cells.

3. The number of cells with two nucleoli in the treated material (91) is significantly greater than in the control (5). Further data are required to determine the effect of the peanut oil on the role of chromosome 6 in the formation of the nucleolus.

Fred Winston

DEKALB AGRICULTURAL ASSOCIATION, INC.
DeKalb, Illinois

Fifteen commercial hybrids were placed in eight different 7 x 7 latin square experiments last summer. The arrangement of the hybrids within the plots and the plot locations are shown in Tables 1 and 2. Averages are for number of fertile (F.) and sterile (S.) tassels. Partial fertiles of all classes were included in the sterile count for each entry. Yield deviation is the total of the deviations for each of three pairs of restorer vs. normal version of a hybrid. Where the restorer version outyielded the normal one its deviation is a plus figure. ISD's at the 5% level are given in bushels per acre for each experiment. One general conclusion which may be drawn is that at no environmental region under test did the percent of fertile tassels reach the danger level. It is interesting to note in table 1 that the ratio of fertile to sterile tassels decreased at each extremity of the "corn belt." Also of interest is the indication from the same table that a higher plus yield deviation is correlated with the lowest ratio of fertile to sterile tassels. The negative yield correlations are disappointing but not discouraging. As restored versions of male parental lines are improved negative yield differences tend to diminish.

Loring M. Jones

Table 1

Comparison between Restorer Pilot Production and Sterile-blended or Normal Commercial Production, 1960

Expt.	R51-2			R51-3			R51-4			R53-1			R53-2			R53-3			R53-4		
	Fremont, Neb.			Dayton, Iowa			Grinnell, Iowa			Morris, Ill.			Crawfordsville			Marion, Ohio			Lancaster, Pa.		
DeKalb Hybrid	F.	S.	Yield	F.	S.	Yield	F.	S.	Yield	F.	S.	Yield	F.	S.	Yield	F.	S.	Yield	F.	S.	Yield
# 1	185	78	109.5	205	69	111.8	142	117	85.2	139	137	121.2	144	138	121.5	158	125	142.5	169	56	68.0
# 1R	184	81	113.4	217	54	117.3	191	65	89.1	158	117	122.2	151	126	126.2	186	95	139.8	214	47	84.1
# 2	191	64	100.5	217	58	108.0	151	98	83.2	167	112	112.0	147	126	109.8	161	121	135.1	186	50	73.1
# 2R	181	72	108.6	162	105	113.1	128	136	90.9	124	153	115.2	89	193	124.7	119	150	142.6	210	47	78.2
# 3	202	65	117.3	211	66	121.8	148	119	90.8	140	136	124.2	84	194	126.6	118	162	151.1	230	33	94.5
# 3R	160	85	122.8	233	51	118.7	171	97	96.4	166	115	134.7	105	172	138.2	162	119	152.8	210	29	86.6
# 4R	174	82	113.6	198	75	107.9	105	141	88.1	131	148	121.6	114	162	124.8	135	150	139.6	224	46	89.8
Ave.	182	75		206	68		148	110		146	131		119	159		148	132		206	44	
LSD 5%			9.7			8.3			6.5			6.4			8.4			7.7			10.5
Yield deviation between pairs			+17.5			+7.5			+17.2			+14.7			+31.2			+6.5			+13.3
Expt.	R50-2			R50-3			R50-4			R52-1			R52-2			R52-3			R52-4		
	Fremont, Neb.			Dayton, Iowa			Grinnell, Iowa			Morris, Ill.			Crawfordsville			Marion, Ohio			Lancaster, Pa.		
DeKalb Hybrid	F.	S.	Yield	F.	S.	Yield	F.	S.	Yield	F.	S.	Yield	F.	S.	Yield	F.	S.	Yield	F.	S.	Yield
# 5										147	132	122.0	145	120	121.9	145	133	138.4	213	47	81.1
# 5R	151	125	106.9	187	90	106.7	105	158	88.5	123	157	117.7	98	168	134.5	117	172	139.9	216	49	79.3
# 6	181	98	114.3	191	89	120.7	110	162	102.8	120	155	126.3	123	151	134.0	110	169	143.1	222	49	92.0
# 6R	177	96	101.6	191	85	108.8	132	140	88.5	126	153	118.2	122	146	128.1	125	158	136.9	222	56	87.5
# 7	187	76	112.9	210	65	116.2	140	115	94.6	131	147	126.0	135	127	127.4	158	123	139.3	244	32	93.6
# 7R	158	118	116.4	202	69	115.8	109	163	103.0	111	167	126.6	108	166	135.2	131	153	140.9	239	38	91.2
# 8	166	85	110.2	192	85	109.0	109	145	91.4												
# 8R	161	104	107.2	209	69	111.1	129	118	82.7	145	132	109.1	146	132	137.2	142	142	134.4	209	57	84.4
Ave.	169	100		197	79		119	143		129	149		125	144		133	150		224	47	
LSD 5%			N.S.			8.7			10.4			6.7			N.S.			N.S.			7.3
Yield deviation between pairs			-12.2			-10.2			-14.6			-11.8			+14.5			-3.1			-8.7

