7113 A and B. Table 1

a_2^{m1} BI | a_2^{s} BI × a_2^{s} BI ; A_1/A_1

Plant No.	Parentage Mass	a_1^{m1} carrying kernels: A_2 Kernels	Pale Kernels	Pale-Speckled Sectoral	Fully Variegated	a_2/a_2 kernels: Colorless		Totals		
7113A-2	♀	1	4	0	11	7		23		
" A-3	♀	0	7	1	25	25		58		
7113A-5 main	♀	1	17	3	137	186		344		
" A-5t	♀	0	3	1	105	166		275		
" A-6	♀	4	10	1	126	167		298		
" "	♂	6	41	1	354	443		845		
7113A-7	♀	0	2	0	6	14		22		
" "	♂	2	15	3	385	465		870		
" A-8	♀	0	4	0	5	5		10		
" B-1I	♀	0	11	0	127	108		236		
" B-1t	♀	0	3	0	63	83		149		
" B-4t	♀	1	3	0	124	117		245		
" B-4I	♀	0	4	0	36	28		68		
" B-6	♀	0	4	0	37	44		85		
" B-7	♀	0	12	0	40	45		97		
" B-8	♀	1	7	0	39	38		85		

Table 2

A-B. Tests of Spun Constitutors in plants of cultures 7113 that were A_1/a_1 by more with plants homozygous for a_1 mutation (7181), A_2, and having nonspun. Summer, 1956

A. 7113 A_1/a_1 a_2^m/a_2

			A_1	nonspun pollen	spun pollen Addition outcross backcross	1957 cultures numbers			1958 cultures
7113B-1	Ville Cor		118	3	141				
Tests of plants, Summer 1957			3	2	0	cultures 7297			
7113B-4	Ville Cor		179	8	208				
7113B-8			138	26	105				
Tests of plants, Summer 1957			3	9	8	cultures 7298		From	7551 From 7298B
B 7113	A_1/a_1 ; a_2^s/a_2^s								
7113C-5	main Cor		194	83	80				
tests of plants, Summer 1957				23	18	cultures 7299			
7113C-7			117	5	129				
" C-8	ear Cor		185	13	166				
tests of plants, Summer 1957				8	17	cultures 7300 and 7467			7567-1 = 7572, 7578; 7567-7 = 7579
7113D-3	main Cor		183	12	191				
" D-5			214	10	164				
tests of plants, Summer 1957				9	9	cultures 7470			7470A-5 = 7580, 7581
" D-7			15	3	14				
C A. A_1, a_2^m/a_2									
7113A-2			all A_1						
Plants tested, Summer 1957			10			cultures 7296 and 7467			7296A-2 = 7550, 7296A-1 = 7549, 7549
7113A-7			all A_1						
" B-7			all A_1						
Plants tested, Summer 1957			2			cultures 7465			
D A_1A_1 a_2^s/a_2^s									
7113C-1			all A_1						
" C-4			all A_1						

Table 3

Comparison of rations of pale (no. of spm) to variegated (active spm) for a_2m-1 and a_1m in same plant

	a_2m-1		a_1m-1						
	pale	variegated	pale	var.					
7114 B-1	13	190	3	141					
" B-4	7	160	8	208					
" B-8	7	39	26	105					

Table 4

A_1/a_1^{m1} ; A_2/a_2^{m1} By a_2^s/a_2^s A_1/A_1 ; no spm

By A_2/A_2 a_1^{m1}/a_1^{m1} a_1^s/a_1^s A_1/A_1 ; 25 spm

Plant number	Female type in bloom	Total A_2	Total a_2^{m1}	Phenotypic ratio (no spm) pale	Phenotypic ratio (no spm) colored	Total A_1	Total a_1^{m1}	Phenotypic ratio (25 spm) pale	Phenotypic ratio (25 spm) colored
I 15 spm				(no spm)	(no spm)			(no spm)	(25 spm)
7469A-1	♀	211	217	114	103	80	95	45	50
	♂	524	513	258	255	246	224	121	103
1) 7296A-2	♀					118	118	65	53
	♂	462	546	11	535	286	313	156	157
II 25 spm 2) 7297A-2	♀	14	16	2	14				
	♂	678	680	178	502	374	399	111	288
7298B	♀	224	254	66	188	211	193	46	147
	♂	533	652	187	465	251	241	56	185
7298C	♀	25	38	10	28	156	187	40	147
	♀	172	186	47	139				
	♂	150	134	40	94	214	190	47	143
7468A-1	♀	35	34	9	25				
	♂	531	502	153	349	217	250	73	177
III 35 spm or more than		3)							
7297A-1	♀	154	153	6	147				
	♂	571	473	37	436	124	131	8	123
7297A-3	♀	186	166	16	150				
	♂	458	528	57	471	160	182	16	166
7296B-1	♀	237	208	23	185				
	♂	605	533	85	448	140	151	35	116
7296B-3	♂	417	466	63	403	407	400	35	365
7469A-2	♀	176	188	7	181	154	204	16	188
	♂	348	376	6	370	174	159	23	136
3) 7296B-4	♀	124	118	3	115				
	♂	481	440	32	408	178	129	31	98
3) 7296B-6	♀	156	175	15	160				
	♂	483	473	39	434	331	361	96	265
7296A-1	♀	182	174	5	169				
	♂	522	423	23	400	102	109	16	93
7296B-2	♀	206	173	6	167	170	182	23	159
	♂	518	547	12	535	279	285	14	271
7296B-5	♀	168	189	5	184	94	95	4	91
	♀	95	96	2	94	121	133	3	130
	♂	612	627	24	603	229	216	12	204
4) 7468A-2	♀	187	167	28	139	191	170	27	143
	♂	367	354	92	262	416	317	87	230

1) Spm located close to a_2^{m-1} in chromosome 5. See Text

2) one Spm carried in chromosome 9, linked with Wx

3) one Spm probably located in a_2^{m-1} carrying chromosome 5

4) 3 Spm present in cells that gave rise to tested ears.
2 Spm in tassel from which pollen was collected and used in making test crosses.

Table 5

Spm constitutions in plants derived from fully pigmented hemis. Plant constitutions: A_1/a_1^{m-1}; A_2/a_2^{m-1}.

From plant										
7113B-1										
7297	A-1	3 Spm								
"	A-2	2 Spm, one linked with Wx in chromosome 9								
"	A-3	3 Spm								
From ear of plant 7113B-8										
7298	A	no Spm	(see table 6)							
"	B	2 Spm		[see 1958 7551]						
"	C	2 Spm								
From ear of plant 7113A-2										
7296	A-1	3 or more Spm								
"	A-2	1 Spm, close to a_2^{m-1} in chromosome 5						(27% CO with Pr)		
"	B-1	3 Spm								
"	B-2	3 or more Spm		[see 1958 7550 & 7549]						
"	B-3	3 Spm								
"	B-4	3 Spm, one linked to a_2^{m-1} in chromosome 5								
"	B-5	3 or more Spm								
"	B-6	3 Spm, one linked to a_2^{m-1} in chromosome 5								
7469	A-1	1 Spm	not in ear							
"	A-2	3 Spm								
From ear of plant 7113B-7										
7468	A-1	2 Spm								
"	A-2	3 Spm in ears	; 2 Spm in pollen							

Table 6.

Tests of plant 7298 A A_1/a_1^{m1}; A_2/a_2^{m1} no Spm.

A. Crosses to A_1/A_1; a_2/a_2 no Spm.

Parentage			A_2	pale	variegated		Total			
m Cross										
♂			205	217	0					
B crosses to A_1/A_1; a_2/a_2 1 Spm										
♀ 1st ear, main stalk x 7308 D-1 ♂			193	99	104					
♀ tiller ear. + 7308 D-2 ♂			163	79	79					
C. Crosses to a_1^{m1}/a_1^{m1}; A_2/A_2 no Spm										
♀ tiller ear			97	98	0					
♂			106	97	0					

Table 7

7577 A. A_1/a_1^{m1} or A_1/a_1^{s} ; a_1^{m1}/a_1^{s}

B

By a_1^{m1}/a_1^{m1} A_2/A_2 no spec

By A_1/A_1, a_2^{s}/a_2^{s} no spec

7577A-1	car I	all a_1^{m1} knees pale								
" A-2	car II	" " " "				car I	all a_1^{m1} knees			use pale
" A-3	II	" " "				" I	" " "			" "
" A-4	I pale, pale-yellow cast, yellow					II pale, pale-yellow cast, yellow				
" A-5	II all pale except 2 knees					I all pale except 2 knees				
✓ " A-6	I	"	few Rhodium			II " " "	1 knee			
" A-7	I	" " "	few "			II all pale				
7577B-1	I all pale					II all pale I " " except 2 knees				
" B-2	II " "					I all pale				
" B-3	I all pale except 1 knee					II and I all pale.				

Table 8. Phenotypes of kernels on ears produced by crosses of plants in culture 7578A that were a_1^{m}/a_1^{s}, a_2^{m-1}/a_2^{s} to plants having no spm that were: (1) a_1^{m}/a_1^{m-1} (stock 5714A-1) A_2/A_2, (2) A_1/A_1, a_2/a_2, (3) A_1/A_1, a_2^{m}/a_2^{m+1} (stock), and (4) A_1/A_1, a_2^{m} (stock) $/a_2$

Plant	Type of cross (see above)	Part of plant tested		uniformly pale pigmented	Pale-speckled	pale-speckled colored	Dark green	White		
7578A-1	(1)	♀ ear I		370	2	14	0	0		
	(2)	♀ ear II		170	0	—	8	196		
	(4)	♀ tillers		103	0	9	13	20		
	(1)	♂		166	0	2	92	0		
	(2)	♂		67	—	—	18	109		
7578A-2	(2)	♀ ear I		154	0	0	23	156		
	(1)	♀ ear II		124	4	3	75	6		
	(1)	♂		166	0	8	60	0		
	(2)	♂		154	0	4	54	240		
7578A-3	(1)	♀ ear I		273	19	13	167	0		
	(2)	♀ ear II		108	0	2	6	113		
	(3)	♀ tillers		120	0	0	122	0		
	(1)	♂		187	0	9	101	0		
	(2)	♂		25	—	—	15	61		
7578A-4	(2)	♀ ear I		27	—	1	17	44		
	(1)	♀ ear II		99	2	5	68	0		
	(1)	♂		164	0	0	148	0		
	(2)	♂		211	0	0	203	393		

Table 9

Tests of Spm in plants of culture 7580A that were A_1/a_1^{m1} or a_1^{s}; a_2^{m1}/a_2^{s}

A. 7580A ♀ x A_1/A_1, a_2/a_2 no Spm

Plant number	Location of Ear	Phenotype of Kernel: uniformly pale pigmented	spots of pigment in colorless background	colorless	
A-2	I, main	97	77	189	
A-4					
A-5	I, main	66	60	117	
A-6	II, main	62	73	181	
A-7	I, main	90	83	175	
A-8	I, main	66	54	116	
A-9					
Totals		38[illegible]	347	778	

B. 7580A ♀ x a_1^{m1}/a_1^{m1}; A_2/A_2, no Spm

Location of Ear	Phenotype of Kernel: Fully pigmented	pale pigmented	Spots of A_1 in colorless background	Colorless
I, main	273	144	102	2
I, main	210	118	97	1
tiller	131	70	57	5
I, main	242	98	147	5
	856	430	4[illegible]3	[illegible]3

1) State 5718

3) State 5719A-1

2) State [illegible]

TABLE 10

7581A $a_1^{m1}(5718)/a_1^{s}$ ♀ × $a_1^{m1}(5719A\text{-}1)/a_1^{m-1}$ no spm ♂

A_2/A_2

(Spots of A_1 in colorless background)

A.

Plant	Gear used in cross		pale	"Breakdown"	$a_1 \to A_1$	colorless				
A-1	main, I		155	6	269	8				
A-3	main, I		255	0	248	8				
A-4	main, I		198	0	210	0				
A-4	main, II		147	24	195	15				
A-5	main, I		182	0	207	5				
A-6	main I		130	0	165	10				
7581B		A_1	pale	"Breakdown"	$a_1 \to A_1$	colorless				
B-1	main, I	207	117	0	80	6				
B-2	main, I	200	97	1	104	0				
	main, II	110	58	0	48	5				
B-3	main, I	0	175	0	66	84				
B-4	main I	247	107	0	129	0				

B.

7581B-4 Tiller × a_2/a_2 no spm

pale	$a_2 \to A_2$	colorless
66	69	140

[illegible] no linkage with [illegible]