

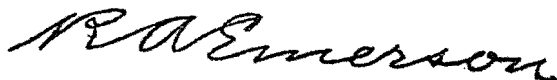
April 17, 1930

To Students of Maize Genetics :-

I had hoped to send you before now a complete revision of the Summary of Linkage in Maize. Dr. Beadle has tabulated the data which you have been good enough to send him, but unforeseen circumstances have made it impossible to have all the stencils cut in time to be of service to you in planning your summer's work. We have thought best, therefore, to have the revised maps sent out at once without the detailed data such as was furnished last year. The latter will be prepared as soon as possible. Any of you who desire the data for particular combinations of genes can obtain them at once by writing Dr. G. W. Beadle at this address.

You will note that the linkage maps are much better than last year -- thanks to your willingness to send us your data. We trust that you will get the present season's data to us promptly and hope to be able to prepare the material for publication next winter. This will include lists of known genes and a discussion of their interactions. Since it will presumably take a year to get the publication out, we shall probably have to send out mimeograph sheets again next spring.

Sincerely,



R. A. Emerson

RAE:B

LIST OF LINKED FACTORS IN MAIZE

CLASSIFIED BY LINKAGE GROUPS

C-WX GROUP

no 9

ar	Argentia - finely striped leaf	Eyster 1929
au ₁	Aurea chlorophyll-yellow plant	Eyster 1929
au ₂	Aurea chlorophyll-yellow seedling	Eyster 1929
bp	Brown pericarp with a	Meyers 1927
C	Colored aleurone with A and R	East and Hayes 1911
d ₃	Dwarf plant	Suttle
de ₁₅	Defective endosperm	Brink 1927
gm _e	Germless ("gm ₁ " of Eyster)	Eyster 1929
I	Inhibitor for aleurone color	East and Hayes 1911
pk	Polkadot leaf	Eyster 1924
sh	Shrunken endosperm	Hutchison 1921
v ₁	Virescent seedling	Demerec 1924
v ₁₄	Virescent seedling	Phipps 1929
v ₁₅	Virescent seedling	Phipps 1929
w ₁₁	White seedling	Demerec 1926
wx	Waxy endosperm	Collins 1909
yg	Yellow-green plant	Jenkins 1927

R-G₁ GROUP

no 10

df	Flint defective	Lindstrom 1925
g ₁	Golden plant	Emerson 1912
gm ₂	Germless	Demerec 1926
l ₁	Luteus seedling	Lindstrom 1917
l ₂	Luteus seedling	Lindstrom 1925
l ₄	Luteus seedling	Jenkins and Bell
li	Lineate leaves	Kempton 1920
Mt	Mottled aleurone ("S" of Kempton)	Kempton 1919
nl	Narrow leaf	Emerson
pg ₁	Pale green seedling	Brunson 1924
R	Aleurone color	East and Hayes 1911
v ₁₈	Virescent seedling	Phipps 1929
v ₂₀	Virescent seedling	Phipps 1929
w ₂	White seedling	Carver 1924

SU-TU GROUP

no 11

de ₁	Defective endosperm	Mangelsdorf & Jones 1925
de ₁₆	Defective endosperm	Wentz 1925
Ga	Gamete - pollen tube growth	Mangelsdorf & Jones 1925
gl ₃	Glossy seedling	Hayes & Brewbaker 1928
S ₁	Colored scutellum	Sprague
su	Sugary endosperm	East and Hayes 1911
Ts ₅	Tassel-seed	Emerson
Tu	Tunicate ear	Collins 1917
v ₈	Virescent-seedling	Demerec 1926
wl	White-base leaf	Stroman 1925

B-LG GROUP

B	Intensifier of plant color	Emerson 1918	no 4
fl	Floury endosperm	Hayes and East 1915	
gl ₂	Glossy seedling	Hayes and Brewbaker 1928	
lg ₂	Liguleless	Emerson 1912	
sk	Silkless	Jones 1925	
ts ₁	Tassel-seed	Emerson 1920	
v ₄	Virescent seedling	Demerec 1924	

Y-PL GROUP

al	Albescent	Phipps	no 6
Bh	Blotched aleurone with A c R i	Emerson	
fi	Fine streaked leaves	Anderson 1922	
ms ₁	Male sterile	Singleton & Jones	
Pl	Purple plant color	Emerson 1918	
sb	Slit blade	Beadle 1930	
sm	Salmon silks	Anderson 1921	
v ₆	Virescent seedling	Carver 1927	
v ₇	Virescent seedling	Carver 1927	
w ₁	White seedling	Stroman 1924	
w ₅	White seedling with w ₆	Demerec 1924	
w ₆	White seedling with w ₅	Demerec 1924	
Y	Yellow endosperm	Correns 1901	

P-BR GROUP

ad	Adherent	Kempton 1921	no 1
an	Anther ear	Emerson and Emerson 1922	
br	Brachytic	Kempton 1920	
f ₁	Fine striped	Lindstrom 1918	
gs	Green striped	Emerson 1912	
P	Pericarp and cob color	Lock 1906	
ts ₂	Tassel-seed	Emerson 1920	

RA-GL₁ GROUP

Bn	Brown aleurone	Kvakan 1924	no 7
fr ₁	Frayed-1	Jenkins and Pope	
fr ₂	Frayed-2	Jenkins and Pope	
gl ₁	Glossy seedling	Kvakan 1924	
ij	Iojava	Jenkins 1924	
in	Intensifier of aleurone	Fraser 1924	
pg ₃	Pale-green seedling	Demerec 1925	
ra	Ramosa	Gernert 1912	
sl	Slashed seedling	Brewbaker 1929	
sr ₂	Striate (Same as iojava)	Brunson	
v ₅	Virescent seedling	Demerec 1924	

D₁-PG₂ GROUP

no 3

cr	Crinkly leaves	Emerson 1921
d ₁	Dwarf plant	Emerson 1912
pg ₂	Pale-green seedling	Demerec 1924

PR-V₂ GROUP

no 5

bm ₁	Brown midrib	Eyster 1926
bt	Brittle endosperm	Mangelsdorf 1926
bv	Brevis - semi-dwarf plant	Suttle (Unpub.)
f ₂	Fine striped leaves	Eyster 1926
Pr	Purple aleurone	East and Hayes 1911
sc ₁	Scarred endosperm	Eyster 1926
tn	Tiny plant	Eyster 1926
v ₂	Virescent seedling	Demerec 1924
v ₃	Virescent seedling	Demerec 1924
v ₁₂	Virescent seedling	Phipps 1929
yg	Yellow green	Eyster 1926
ys	Yellow-stripe	Beadle 1929

A-TS₄ GROUP

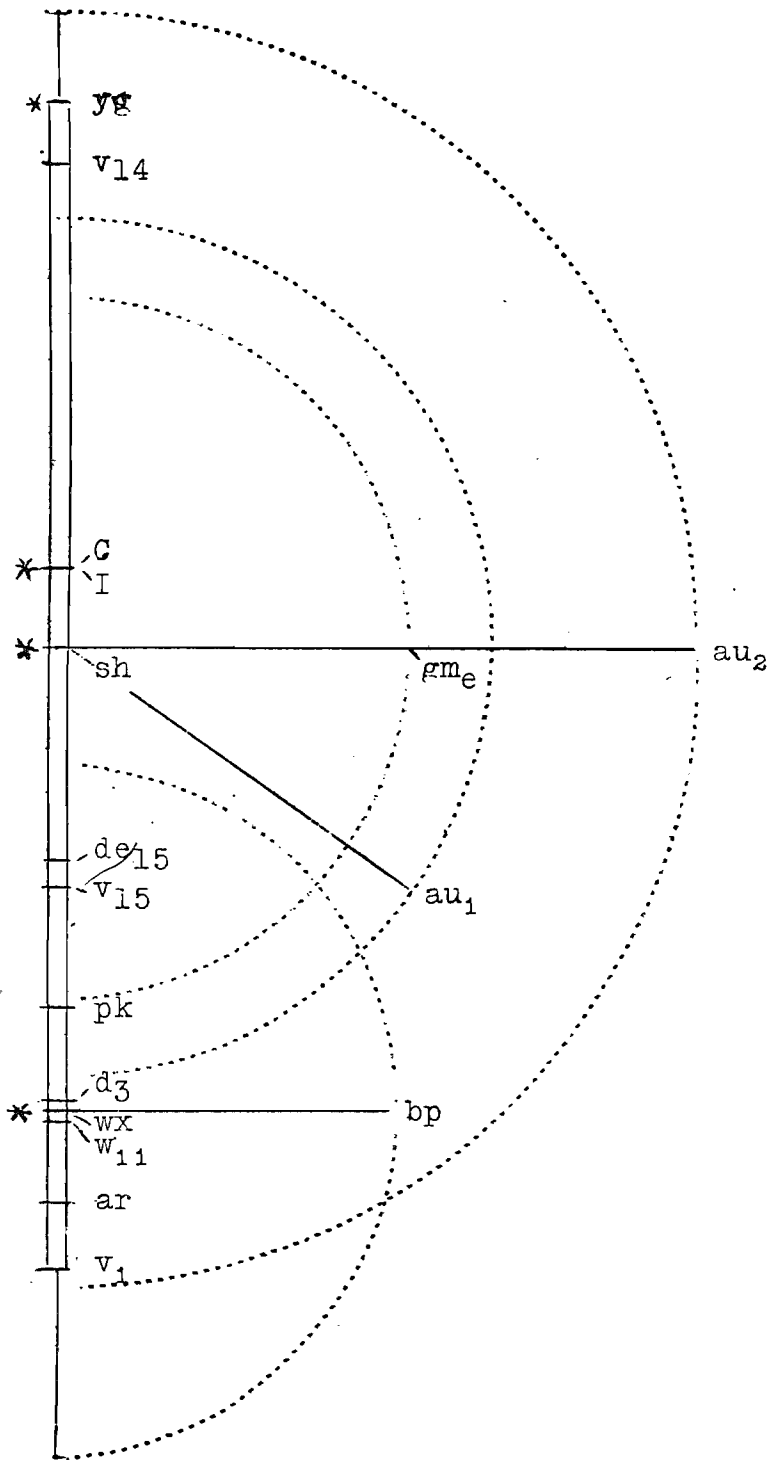
no 3

a	Anthocyanin pigment	Emerson 1918
na	Nana - dwarf plant	Suttle
ts ₄	Tassel-seed	Phipps 1928

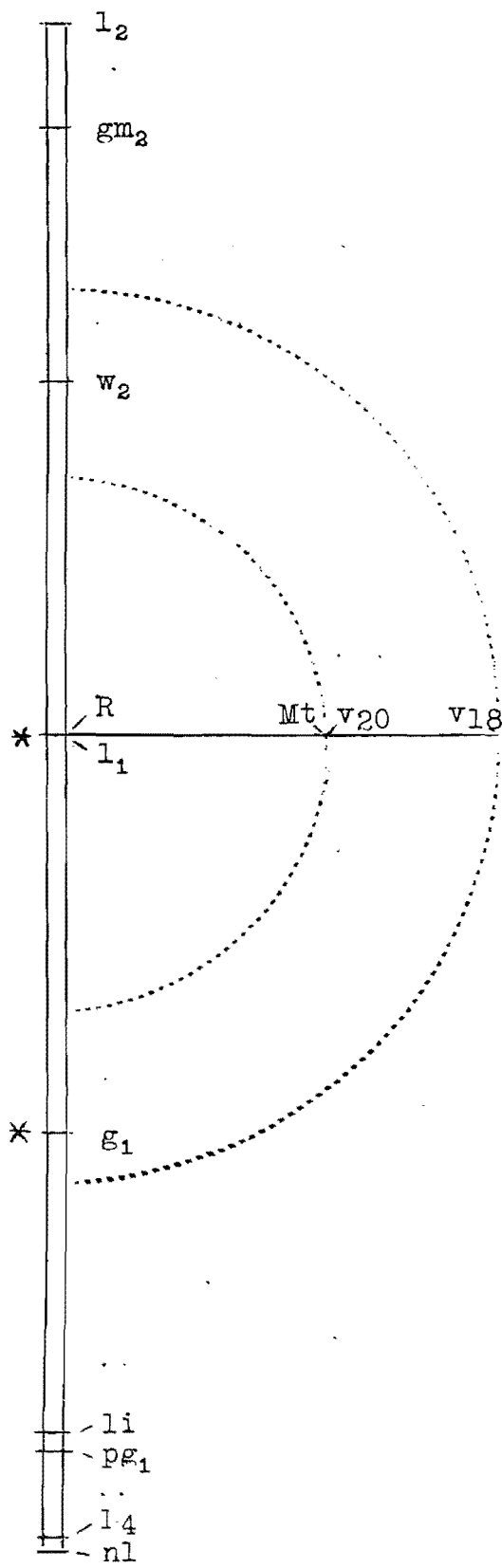
no 8

Ch?

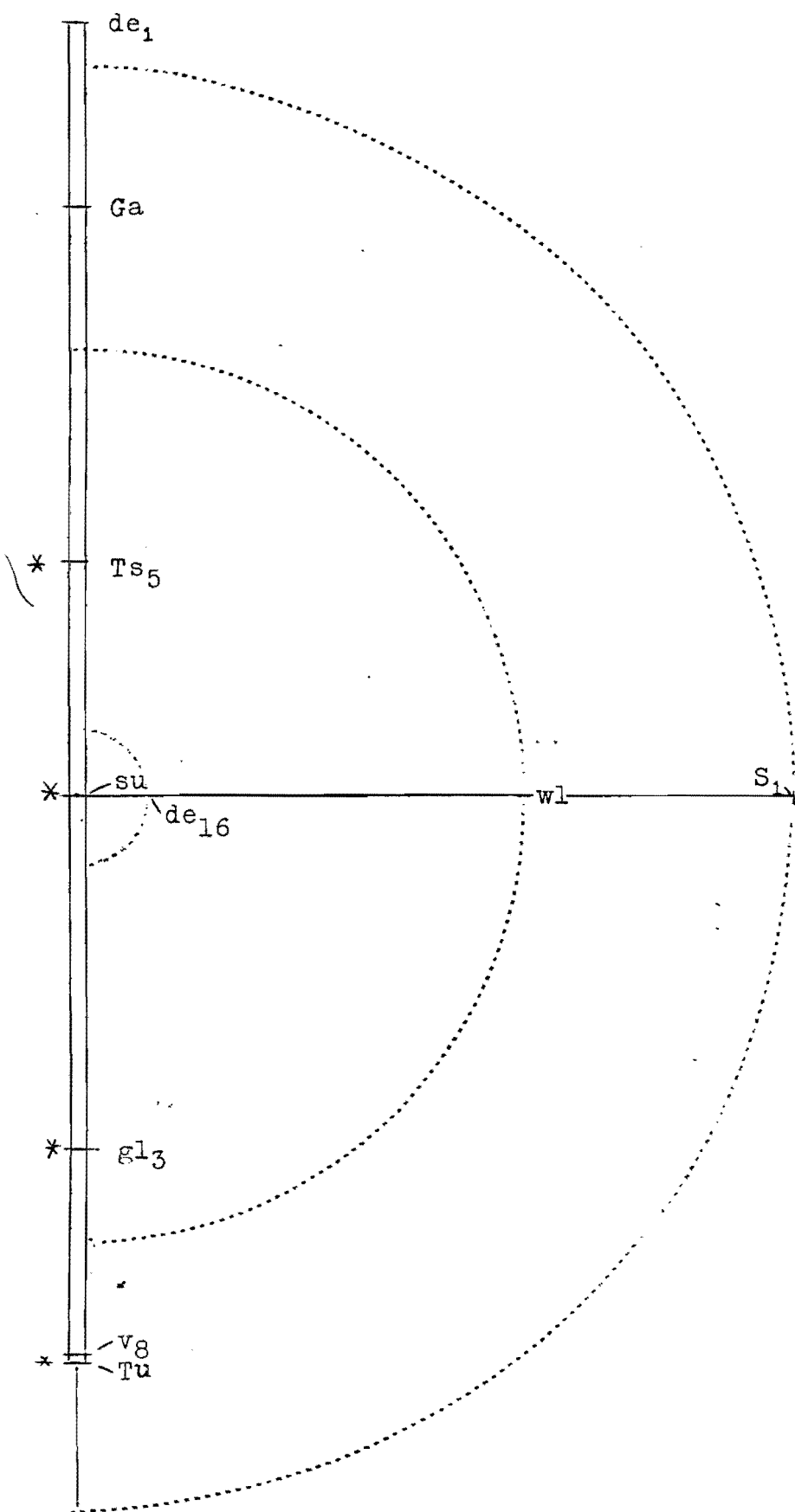
C WX GROUP



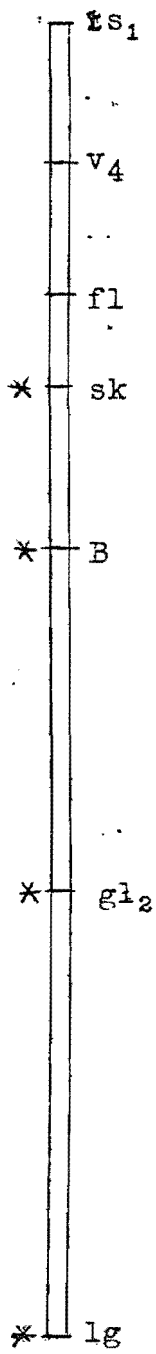
R G GROUP



SU TU GROUP

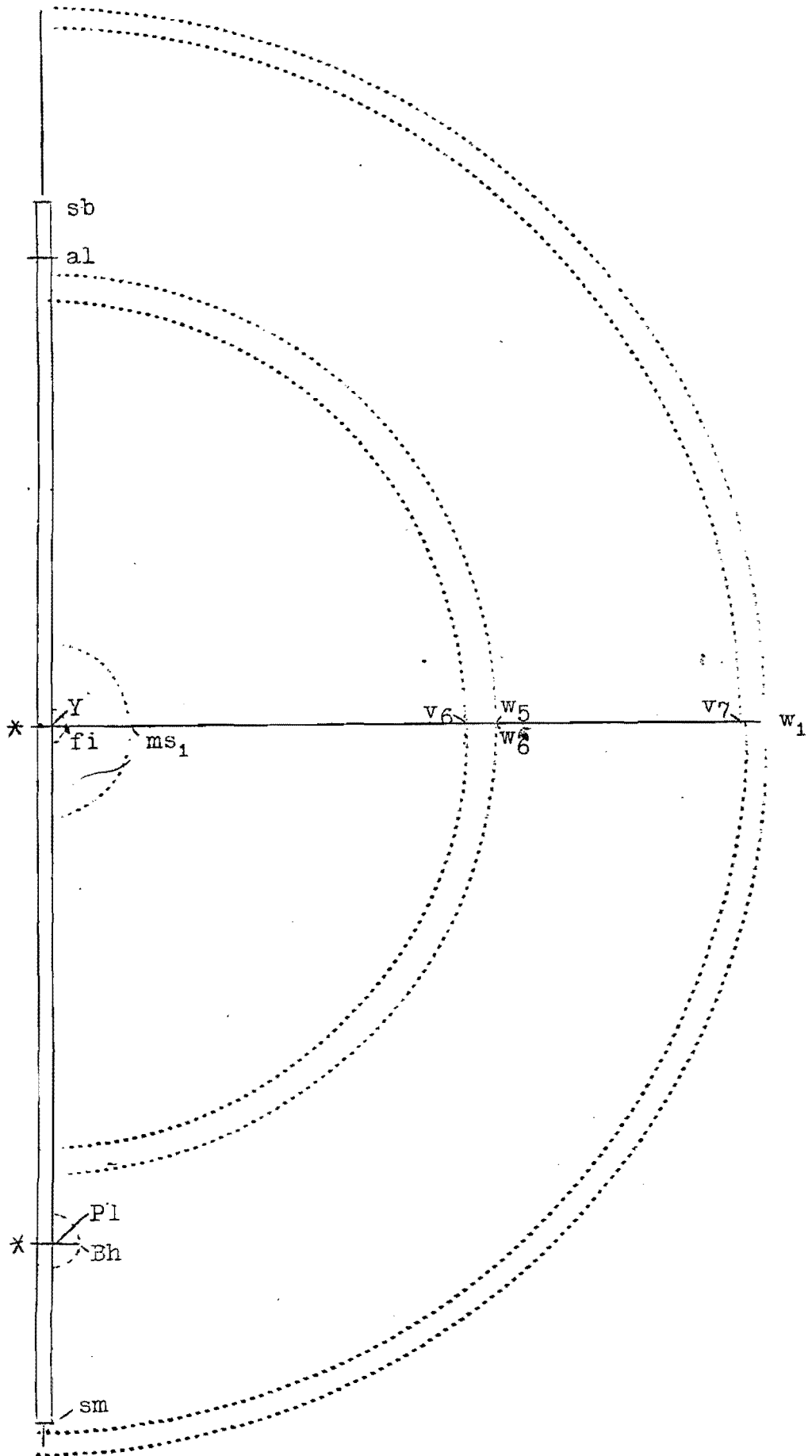


B LG GROUP

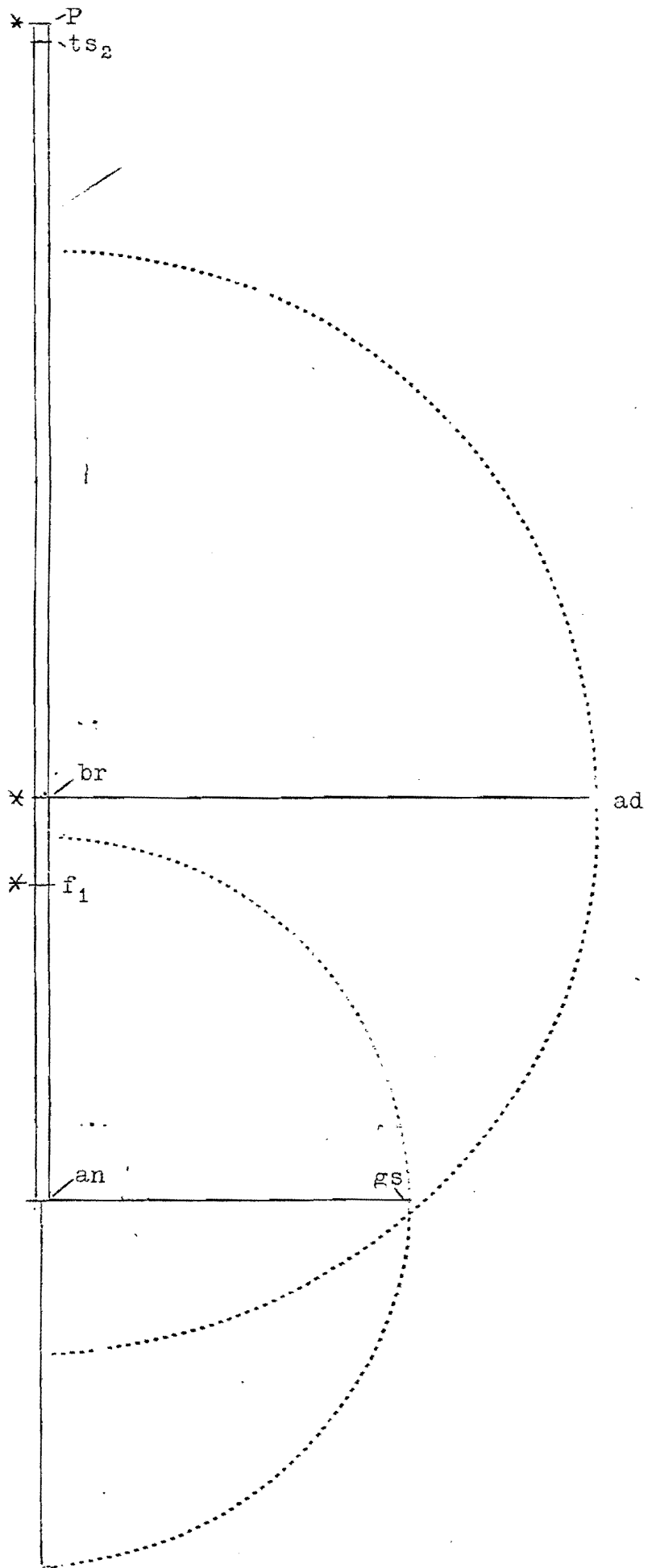


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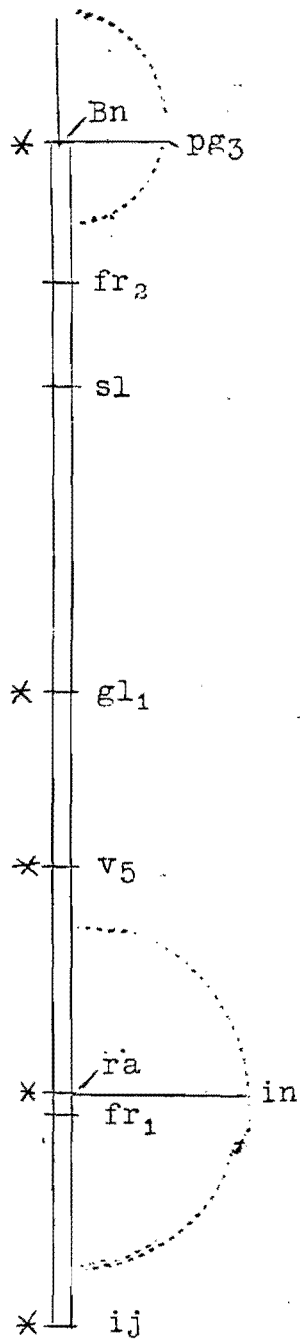
Y PL GROUP



P BR GROUP

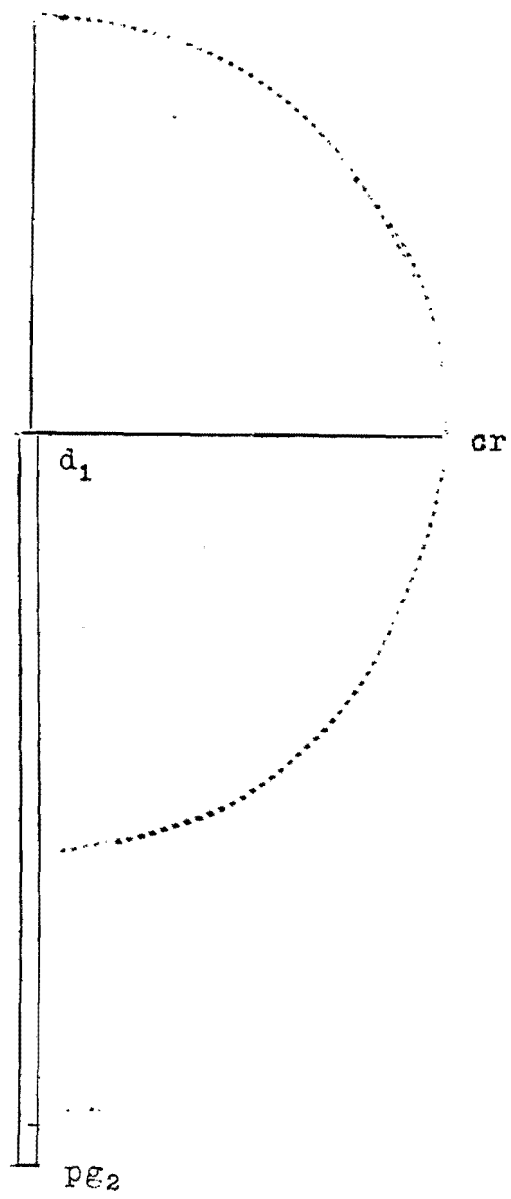


RA GL_1 GROUP



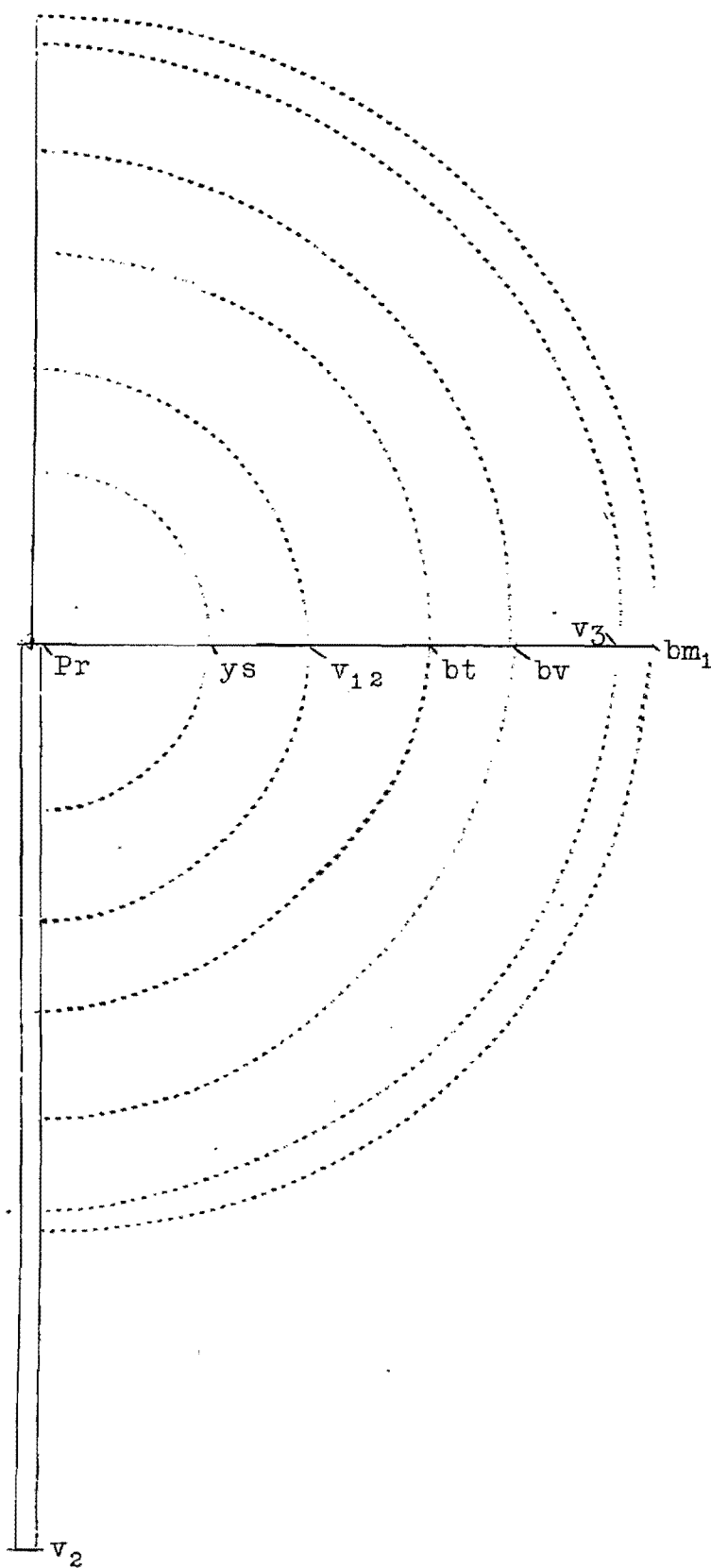
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D_1 PG_2 GROUP

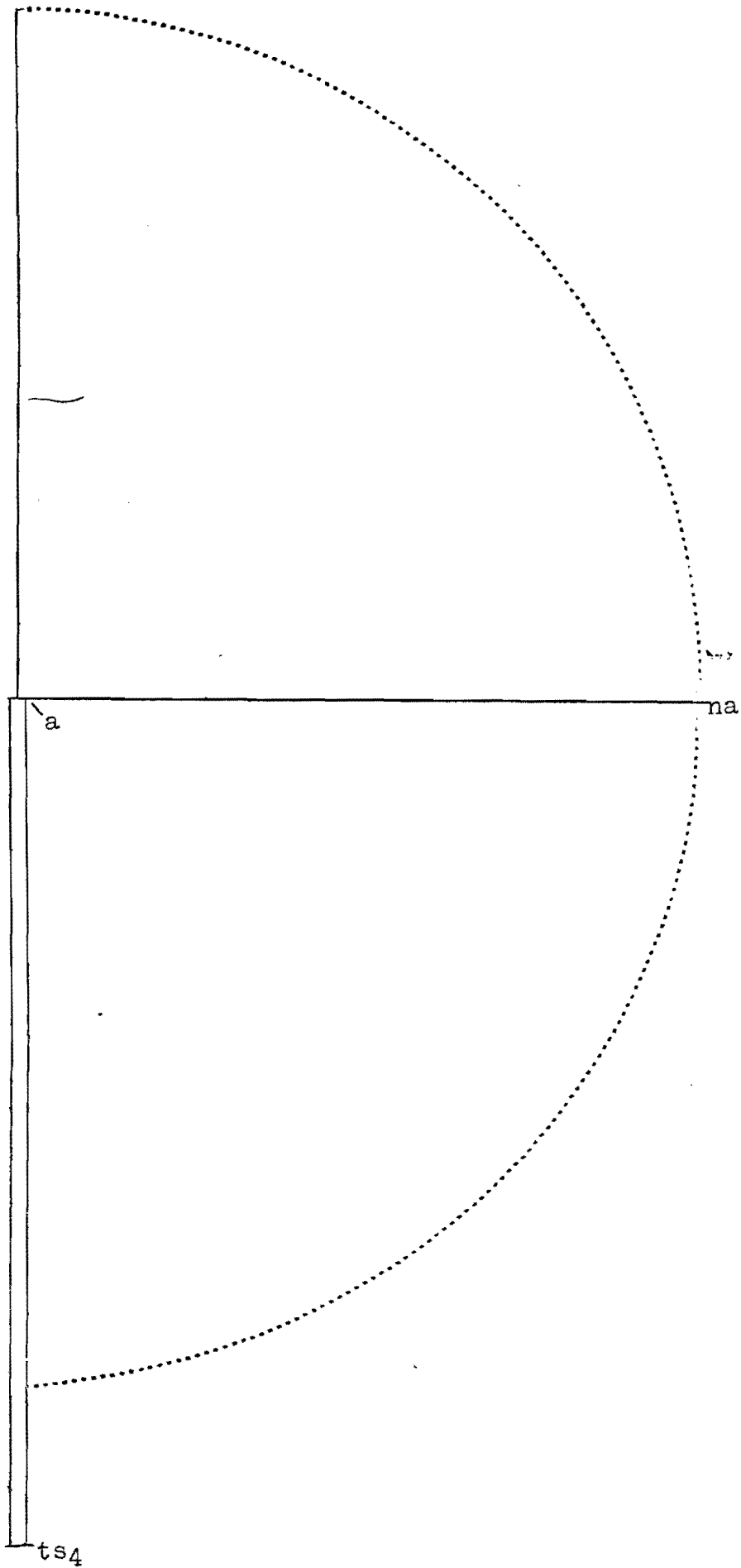


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PR V_2 GROUP



A TS_4 GROUP



2-11

v ₅	ra	in	d ₁	pg ₂	cr	pr	v ₂	bm ₁	bv	v ₃	v ₁₂
<u>7</u>	12		<u>3</u>		<u>7</u>	A)	<u>20</u>	14	<u>5</u>	14	<u>3</u>
14						19		23	<u>1</u>		
<u>2</u>						<u>3</u>				<u>4</u>	
<u>13</u>			<u>2</u>		<u>5</u>						
13			10								
<u>2</u>					<u>3</u>						
			<u>4</u>								
<u>5</u>	<u>5</u>										
	<u>3</u>										

Figures in table represent approximately the number of hundreds of individuals counted, the counts indicating independent inheritance.

Counts on backcrosses are distinguished by an underscore from counts from self pollinations or their equivalent.

- II Chromosome size or morphology different (McClintock)
- T Trisomic groups indicate independence (McClintock)
- A Aberrant endosperm development shows independence (Emerson, 1924)
- S Semi-sterile shows that groups are different (Brink, 1929).