Table 21-b

C sh bz wx, ds ac ♀ x Dup. I Ds^1 Sh Bz Wx Wx Sh Ds^2 Ac ac ♂ (main)
Norm. C sh bz wx and
Ac ac, Ac ac (tiller) ♂

Kernel type	Pollen from main stalk 4806-7 x 4876A-2	Pollen from tiller 4806-4 x 4876A-2	Totals
I Sh Wx (not obv. var.)	41	32	73
I Bz - C Bz - C bz, Sh, Wx-wx	42	50	92
I Sh wx	37	28	65
I Bz - C bz - C bz, Sh wx	39	42	81
I sh wx (not obv. var.)	12	7	19
I bz - C bz, sh wx	9	4	13
I bz - C bz, Sh wx	4	3	7
C Sh Bz Wx	25	15	40
C Bz - C bz, Sh wx	31	29	60
C sh bz wx	184	105	289
Odds	1 C Sh Bz wx	1 C Sh Bz wx 1 C sh Bz wx	3
Totals	425	317	742

205 Wx : 537 wx

Table 21-c

c sh Bz wx, ds ac ♀ x Dup. I Ds Sh Bz Wx Wx Bz Sh Ds
Nor. C sh bz wx

Ac ac, Ac ac ♂

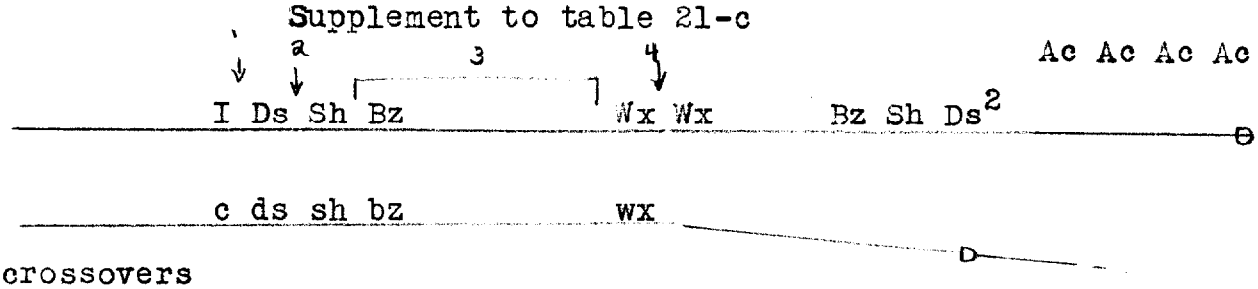
Kernel type	4785-9 x 4876A-1	4785-15 x 4876A-1	4786-75 x 4876A-4	Totals
I Sh Wx (no obv. wx spots)	22*	25*	23*	70
I(-c), Sh,Wx-wx	37	61	45	143
I sh wx	14	10	10	34
I Sh wx	48	49	37	134
C Sh Wx	5	14	8	27
C-c, Sh, Wx-wx	22	31	15	68
C sh wx	169	175	88	432
Odds	0	1 C Sh wx non-var.	0	1
Totals	317	366	226	909

* Some probably I Ds Ac but no losses to give wx during dicentric formation

Summary:

[308 Duplication : 601 normal (wx)
(minus few (wx) (plus few
c.o. 4) c.o. 4)]

Supplement to table 21-c



Non crossovers

Dup. I Ds Sh Bz Wx Wx Bz Sh Ds
- 3 Ac = I-c Sh Wx-wx
- 1 ac = Sh Wx non-var.

Norm. C ds sh bz wx Ac & ac = C sh wx non-var. = 432

Region 1

Norm. I sh wx Ac & ac = I sh wx

Dup. C Ds^1 Sh Bz Wx Wx Bz Sh Ds^2
- 3 Ac = C-c Sh Wx-wx (c areas Wx-wx or wx)
- 1 ac = C Sh Wx non-var.

Region 2

Norm. I Ds sh wx Ac & ac = I sh wx

Dup. C ds Sh Bz Wx Wx Bz Sh Ds^2
- 3 Ac = C-c Sh Wx-wx (c areas wx)
- 1 ac = C Sh Wx non-var.

Region 3

Norm. I Ds Sh wx
- 3 Ac = I(-c) Sh-sh wx (deficient classification)
- 1 ac = I Sh wx

Dup. c ds sh Wx Wx Sh Ds^2
- 3 Ac = C-c Sh Wx-wx (c areas wx)
- 1 ac = C Sh Wx non-var.

Region 4

Norm. I Ds Sh Wx
- 3 Ac = I(-c) Sh Wx-wx
- 1 ac = I Sh Wx

Dup. C ds sh Wx Wx Sh Ds^2
- 3 Ac = C-c Sh Wx-wx (c areas wx)
- 1 ac

Regions 2 + 3

Norm. C Sh wx Ac & ac = C Sh wx non-var.

Normal chromatids:	Non c.o.	= 432	= C sh wx	
	Reg. 1+2	= 34	= I sh wx	c.o. I to Sh = 5.8%
	Reg. 3	= 134	= I Sh wx	" Sh to Wx = 22.4%
	Reg. 2+3	= 1	= C Sh wx	
	Total	601		

Table 22

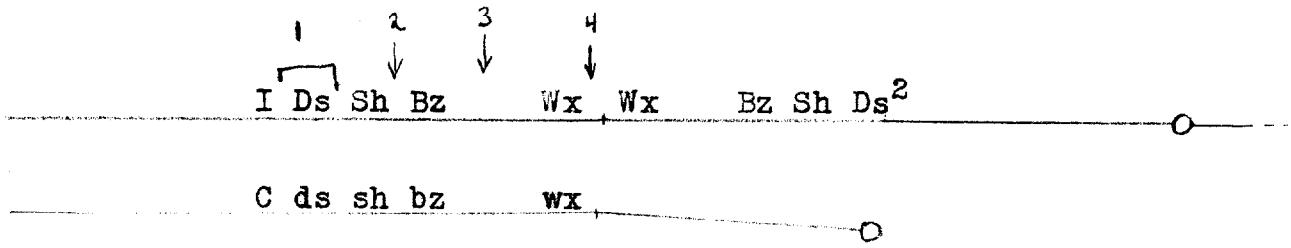
Dup. I Ds^1 Sh Bz Wx Wx Bz Sh Ds^2 ♀ x C sh bz wx, ds ac ♂

Norm. C sh bz wx

Kernel type	4876A-1 x 4803-27	4876A-2 x 4807-1	4876A-4 x 4804-11	4876A-5 x 4806-11	Totals
I Sh Wx	117 (58 are I - C Bz-C bz)	110 (52 I-C Bz-C bz)	125	154	506
I Sh wx	22 (8 I -C Bz- C bz)	52 (16 I-C Bz - C Bz Sh)	40	22	136
I sh wx	3	3	10	7	23
C Sh Bz Wx	32 (6 C Bz-C bz)	49	71	29	181
C sh bz Wx	0	0	0	0	0
C sh bz wx	139	128	172	183	622
Odds	0	0	0	0	0
Totals	313	342	418	395	1468

665 I : 803 C 687 Wx = 781 wx 823 Sh : 645 sh

Supplement to Table 22



Non-crossovers

Dup.	I Sh Bz Wx Wx Bz Sh Ds	= I Sh Wx	
Nor.	C ds sh bz wx	= C sh bz wx	= 622

<u>Region 1</u> (I to Sh)

Dup.	C Sh Bz Wx Wx Bz Sh Ds^2	= C Sh Bz Wx	
Nor.	I sh bz wx	= I sh wx	= 23

<u>Region 2</u>

Dup.	C sh Bz Wx Wx Bz Sh Ds	= C Sh Bz Wx	
Nor.	I Sh Bz wx	= I Sh wx	

<u>Region 3</u>

Dup.	C sh bz Wx Wx Bz Sh Ds	= C Sh Bz Wx	= 136
Nor.	I Ds Sh Bz wx	= I Sh wx	

<u>Region 4</u>

Dup.	C sh bz wx Wx Bz Sh Ds	= C Sh Bz Wx	
Nor.	I Ds Sh Bz Wx	= I Sh Wx	

C.o. I to Sh = 2.9%

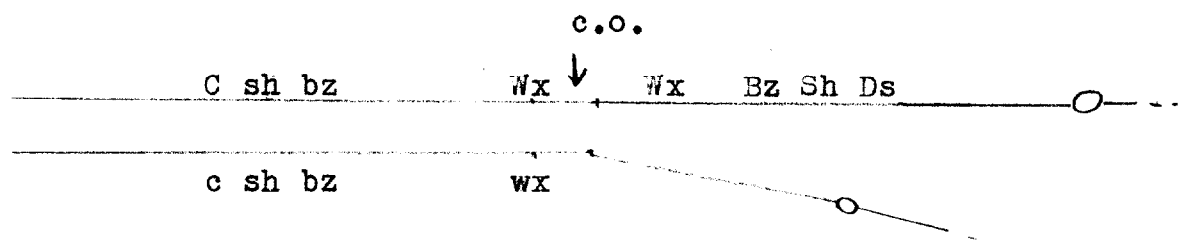
C.o. Sh to Wx = 17.5%

Table 23-a

C sh bz wx ds ac ♀ x Dup. C sh bz Wx Wx Bz Sh Ds f.l. / Norm. C sh bz wx — Ac Ac ♂ prob. *

4898-1

Kernel type	4803-19 x 4898-1	4803-24 x 4898-1	Totals
C Sh Bz Wx not obv.var.	49	25	74
C Bz - C bz, Sh, Wx-wx	68	40	108
C sh bz Wx not var.	13	5	18
C sh bz wx	284	145	429
Totals	414	215	629



Normal chromosomes 9:

Non-c.o. = 429
C.o. = 18 = 4.03%

Total = 447

* Ac locus had the "few-late" state. Therefore detection of all of the variegated kernels was not possible.

Table 23-b

Dup. C sh bz Wx Wx Sh Bz Ds ♀ x C sh bz wx, ds ac ♂

Norm. C sh bz wx
Ac Ac

Kernel type	4898-1 x 4803-27
C Sh Bz Wx*	139
C sh bz Wx non-var.	2
C sh bz wx	120
Total	261

* Variegation class not recorded because of Ac Ac condition in endosperm.

C.o.

C sh bz Wx Wx Bz Sh Ds

C sh bz wx

Normal chromosomes 9:

Non-crossover = 120

C.o. = 2 = 1.63%

Total 122

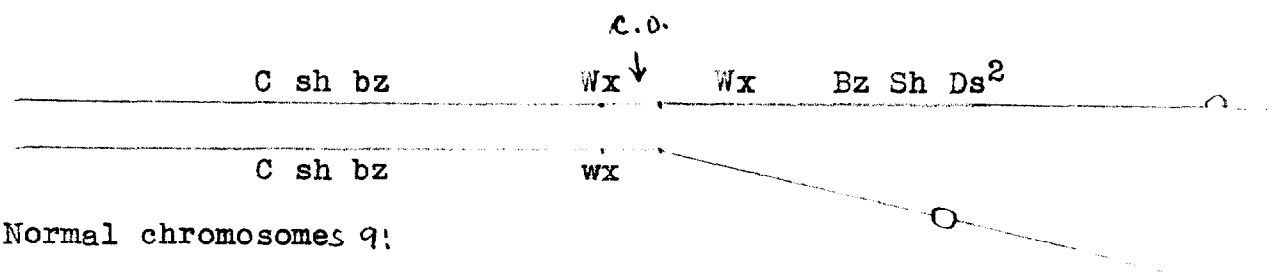
Table 24-a

C sh bz wx, ds ac ♀ x Dup. C sh bz Wx Wx Bz Sh Ds^2 Ac Ac ♂

Norm. C sh bz wx

4898-3

Kernel type	4804-2 x 4898-3	4804-18 x 4898-3	Totals
C Sh Bz Wx non-var.	18	11	29
C Bz - C bz, Sh, Wx-wx	78	81	159
C sh bz Wx	4	14	18
C sh bz wx	206	357	563
Totals	306	463	769



Normal chromosomes 9:

Non-crossovers = 563

C.o. = 18 = 3.2%

Total 581

Table 24-b

C sh bz Wx Wx Bz Sh Ds^2 ♀ x C sh bz wx, ds ac ♂

C sh bz wx

4898-3

4898-3 x 4803-38	
	73
	3
	63
	139

Kernel type	4
C Sh Bz Wx*	
C sh bz Wx non-var.	
C sh bz wx	
Total	

ecorded because of Ac Ac consti-

c.o.

Wx ↓ Wx Bz Sh Ds f.l.

wx

.5%

* Variegation class not re
tution of endosperm.

C sh bz

C sh bz

Normal chromosomes ♀:

Non-crossovers = 63

C.o. = 3 = 4

Total 66

Table 25-a

Dup. C sh bz Wx Wx Bz Sh Ds², Ac Ac ♀ x C sh bz wx, ds ac ♂
Norm. C sh bz wx

4898-4

Kernel type	4898-4 x 4804-14
C Sh Bz Wx	24
C sh bz Wx non-var.	0
C sh bz wx	12
Totals	36

Table 25-b

C sh bz wx, ds ac ♀ x Dup. C sh bz Wx Wx Bz Sh Ds ♂
Norm. C sh bz wx Ac Ac

4898-4

Kernel type	4803-18 x 4898-4
C Sh Bz Wx not obv. var.	15
C Bz - C bz, Sh, Wx-wx	65
C sh bz Wx non-var.	6
C sh bz wx	157
Totals	253

c.o.

C sh bz Wx Wx Bz Sh Ds

C sh bz wx

Non-c.o. in normal cnr. class = 157
C.o. 6 = 3.6%

Total 163

Table 26-a

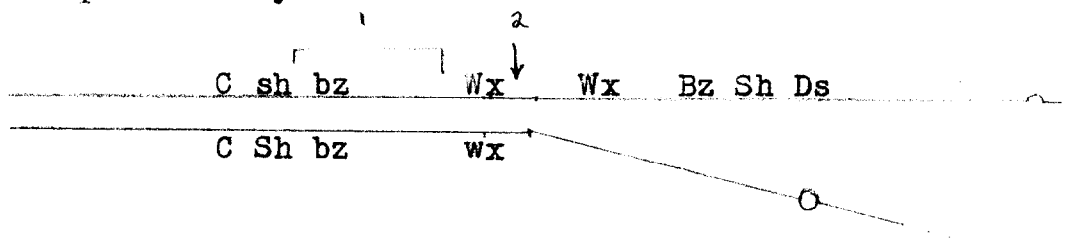
C sh bz wx, ds ac ♀ x Dup. C sh bz Wx Wx Bz Sh $Ds^{f.l.}$ Ac Ac ♂
Norm. C Sh bz wx 4898-2

Kernel type	4801-37 x 4898-2 (tiller)	4803-28 x 4898-2	4805B-22 x 4898-2	4880C-2 x 4898-2	Totals
C Sh Bz Wx (Majority obviously var. C Bz - C bz, Wx-wx)	145	125	154	88	512
C Sh bz wx Non-var.	143	126	121	150	540
C sh bz wx	67	68	75	64	274
C sh bz Wx Non-var.	2	3	2	3	10
C Sh bz Wx Non-var.	3	2	0	1	6
Totals	360	324	352	306	1342

512 Bz : 830 bz

Supplement to table 26-a

Gametes produced by 4898-2



Non-crossover:

Dup.	C sh bz Wx Wx Bz Sh Ds	= C Bz - C bz, Sh, Wx-wx	
Norm.	C Sh bz wx	= C Sh bz wx	= 540

Region 1

Dup.	C Sh bz Wx Wx Bz Sh Ds	= C Bz - C bz, Sh, Wx-wx	
Norm.	C sh bz wx	= C sh bz wx	= 274

Region 2

Dup.	C Sh bz wx Wx Bz Sh Ds	= C Bz - C bz, Sh, Wx-wx	
Norm.	C sh bz Wx	= C sh bz Wx	= 10

Regions 1 + 2

Dup.	C sh bz wx Wx Bz Sh Ds	= C Bz - C bz, Sh, Wx-wx	
Norm.	C Sh bz Wx	= C Sh bz Wx	= 6
		Total	= 830

Cross-over percentages based upon the population of recovered normal chromosomes:

	Kernels	Per cent crossing-over
C. o. Region 1	274+6 = 280	= 33.7%
C. o. Region 2	10+6 = 16	= 1.9%
C. o. Regs. 1+2	6 = 0.72%	

Table 26-b

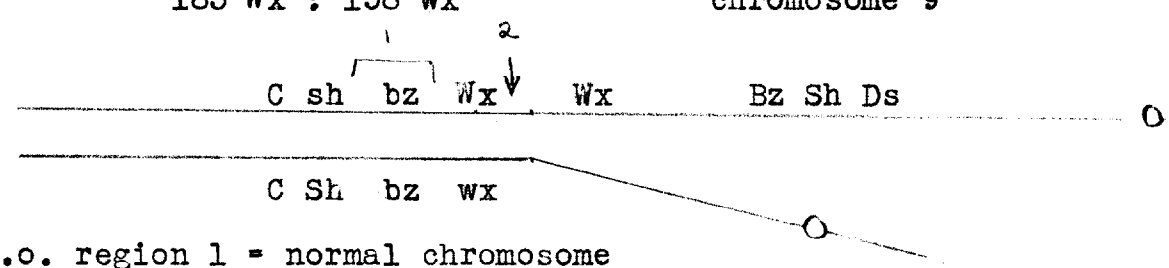
Dup. C sh bz Wx Wx Bz Sh Ds
Norm. C Sh bz wx

Ac Ac ♀ x C sh bz wx, ds ac ♂

4898-2

Kernel type	4898-2 x 4803-27
C Sh Bz Wx (Some obviously variegated)	180
C Sh bz wx	120
C sh bz Wx	3
C sh bz wx	38
Totals	341

Summary = 180 Bz : 161 bz No selection against duplication chromosome '9
183 Wx : 158 wx



C.o. region 1 = normal chromosome
with C sh bz wx = 38 = 11.1%
C.o. region 2 = ~~genes~~ normal chromosome with C sh bz Wx = 3 = 0.88%

Table 26-c

Yg c sh Bz wx, ds ac ♀ x $\frac{\text{Dup. C sh bz Wx Wx Bz Sh Ds}}{\text{Norm. C Sh bz wx}}$ f.l. Ac Ac ♂

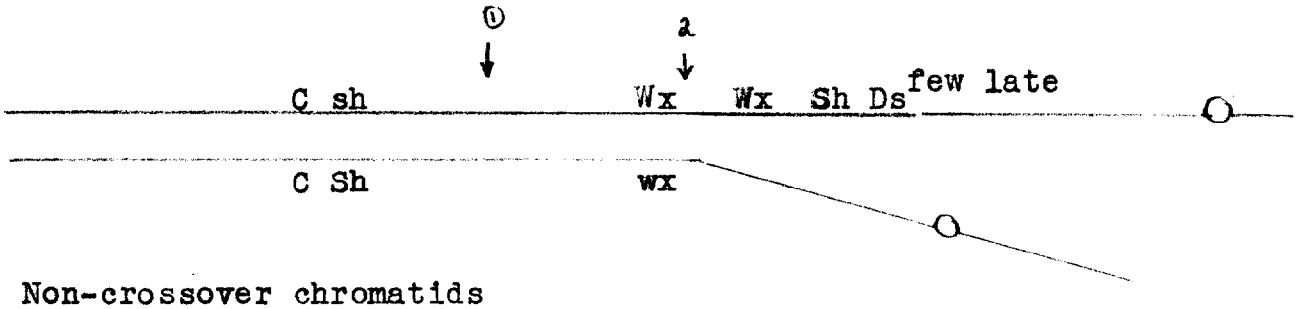
4898-2

Kernel type	4790-21 x 4898-2
C Sh Wx with few small c wx spots	38
C - c, Sh - sh, Wx-wx (c areas wx)	89
C Sh wx non-variegated	83
C sh Wx	2
C sh wx non variegated	58
Totals	270

Summary = 210 Sh : 60 sh

129 Wx : 141 wx

Supplement to table 26-c



Non-crossover chromatids

Dup. C sh Wx Wx Sh Ds, Ac	=	C-c Sh Wx-wx		
Norm. C Sh wx, Ac	=	C Sh wx	=	83

<u>C. o. Region 1</u>

Dup. C Sh Wx Wx Sh Ds, Ac	=	C-c Sh Wx-wx		
Norm. C sh wx, Ac	=	C sh wx	=	58

<u>C.o. Region 2</u>

Dup. C sh wx Wx Sh Ds$^{f.l.}$,Ac	=	C-c Sh wx-wx		
Norm. C sh Wx Ac	=	C sh Wx	=	2

Crossing-over percentages based on normal chromosomes =

Total = 143

Cross-overs, Region 1 = 58 = 40.5%

" " " 2 = 2 = 1.3%

Table 27-a

Dup. C sh bz Wx Wx Bz Sh Ds

Norm. C sh bz wx

Ac ac ♀ x C sh bz wx, ds ac ♂

Kernel type	4877C-7 x 4807-1	4878D-2 x 4804-11	Totals	4878D-5 4804-11
C Sh Bz Wx (not classif. for var.)	229	190	419	155
C sh bz Wx	2	2	4	0
C sh bz wx	230	170	400	148
Totals	461	362	823	303

Table 27-b

C sh bz wx, ds ac ♀ x Dup. C sh bz Wx Wx Bz Sh Ds Ac ac ♂
Norm. C sh bz wx

Kernel type	4805B-23 x 4877C-5
C Sh Bz Wx not obviously var.	57
C Bz - C bz, Sh, Wx-wx (bz areas wx)	35
C sh bz Wx	0
C sh bz wx	239
Totals	331

Table 27-c

c sh Bz wx, ds ac ♀ x Dup. C sh bz Wx Wx Sh Bz Ds Ac ac

Norm. C sh bz wx

Kernel type	4785-11 x 4877C-5	4785-86 x 4877C-5	4785-24 x 4877C-6	4969-11 x 4878D-6	Totals
C Sh Wx non-var.	51	67	92	57	267
C-c, Sh, Wx-wx (c areas wx)	38	60	59	35	192
C sh Wx non-var.	3	4	8	0	15
C sh wx	278	230	200	239	947
Totals	370	361	359	331	1421

Table 27-d

Dup. C sh bz Wx Wx Bz Sh Ds

Norm. C sh bz wx

Ac ac, self-pollinated

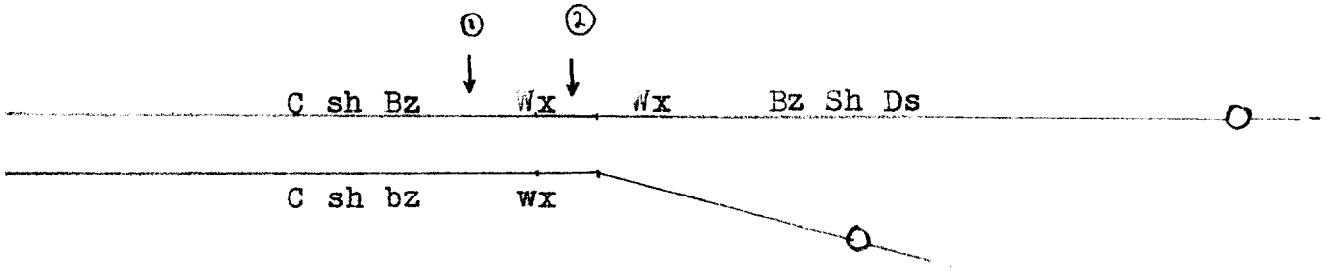
Kernel type	4877C-4	4878D-6	Totals
C Sh Bz Wx (not classified for var.)	351	362	713
C sh bz Wx	6	4	10
C sh bz wx	206	185	391
Totals	563	551	1114

Table 28

Dup. C sh Bz Wx Wx Bz Sh Ds ♀ x C sh bz wx, ds ac ♂

Norm. C sh bz wx
Ac ac

Kernel type	4878D-1 x 4804-11
C Sh Bz Wx (not exam. for var.)	166
C sh bz wx	162
C sh Bz Wx, non-var.	1 (cross-over, region 2)
C sh Bz wx, non-var.	27 (cross-overs, region 1
Totals	356



Among C sh kernels = normal chromosome 9

Non-c.o. = 162

Reg. 1 = 27 = 14.2%

Reg. 2 = 1 = 0.52%

Totals 190

Table 29

I Ds Sh Bz wx
C sh bz wx Ac ac ♀ x C sh bz wx, ds ac ♂

Kernel type	4877A-1 x 4807-1	4877A-6 x 4807-1	Totals
I Sh* Not obviously var.	113	25	138
I Bz - C Bz - C bz, Sh	87	17	104
I sh* Not obviously var.	4	1	5
C Sh Bz	4	1	5
C sh Bz	0	1	1
C sh bz	220	35	255
Totals	428	80	508

* Probably includes some I bz - C bz var. but bz areas not recognized in Ac Ac ac constitutions.

Table 30

C Sh Bz wx
C sh bz wx ♀ x C sh bz wx ds, Ac ac ♂

Kernel type	4877E-1 x 4809-10	4877E-2 x 4809-10	Totals
C Sh Bz, non-var.	217	193	410
C sh Bz, non-var.	12	5	17
C Sh bz	10	3	13
C sh bz	230	193	423
Totals	469	394	863

C.o. Sh to Bz = 3.47%