

South Row		North Row	West End (Fence)
	70	End Page	
30 Hills @ 3 per hill Black and Tan		Tan and Black 30 hills @ 3 per hill less 3 beans total	Tasmanian (Pearce + Pearce)
	41		
	40	Space Pegs, no planting	
	39		
24 hills @ 4 per hill less 2 beans total all from Reversed Vines			
	17		
	16		
	15		
	14		
	13		
34 hills Black + Tan		34 hills Tan and Black @ 4 per hill all from normal vines.	Hawaiian (Grote Reber)
10 hills @ 4 per hill less 2 beans total all from Normal Vines			
	6		
	5	Space Pegs, no planting	
2 Hills @ 4 per hill, Tasmanian Black + Cream, (Bennett)	4		
No planting, Space Peg	3		
1 hill of 2, Tasmanian Brown + Grey, (Bennett)	2		
	1		
		4 Empty Hills	End Page
		Rows 5 feet apart Hills $2\frac{1}{2}$ feet apart	East End (Track)

18/10/61

Examined beans at Tolosa Rd. They are coming up well. Some have been up several days. Others only came up last night. Several hills show all four beans.

25/10/61

Plants larger but badly attacked by snails & slugs. Bought 2 lbs of Defender (a green powder) and put along edge of plot where snails come out of grass. Two small piles for each hill of beans.

27/10/61

Planted three pots each of 16 beans (4x4) at Staith. These are culls from Green Bank row #4 which turned into bush beans. They are to be controls of others to be X-Rayed.

28/10/61

Defender powder appears effective. I hit a lot of dead snails between green powder and grass. None penetrated as far as second row. Probably the beans will survive now.

3/11/61

Beans at Tolosa Rd doing well but need to have weeds cut. Some are throwing up runners & soon will need staking.

Only one bean in pots of 25/10/61 came up but it is doing well.

11/11/61

Hold beans. Only few hills total failures. Row near edge of grass not doing as well as other row.

(over)

14/11/61

Pot # 17 was complete failure. Cleaned it out,
Put in 12 beans (3 rows of 4 each) which were remains
of Row # 4 (Green Bank) part having 10000 R

Pot # 21 also failure. Replanted with 8 beans
(2 rows of 4 each) which were remains of 75000 R.

These are on side of pot with number.

Put in two beans which were remains of 5000 R.

These are on side of pot opposite number.

22/11/61 Only one control in pot # 29 planted on 27/10/61
has come up. Planted two extra half black Hawaiian
beans in this pot. If they come up they are to be
transplanted to Tolosa Rd.

28/11/61 Provided stake for good bindweed in pot # 25

29/11/61 Vine coiled itself up well overnight.

1/12/61 Cleaned the Petri dishes of all seeds putting them
in appropriate pots # 19, 24, 25, 26

5/12/61 The extra half black beans in pot # 29 have come up.

4/1/62

Some of Hawaii beans in south row have pods which are extra dark. The purple streaks nearly blot out the green background. These have had marking strings attached to appropriate pod stalks.

Position	Pods	Position	Pods
10	2	37	3 + 8
13	3 + 4	35	3 + 1
17	1	24	3
23	1	21	1
27	1 + 3	15	2
38	4	12	2
		8	1

22/1/62 examined pods and tied markers at base of more pods (purple).

Position 12 of north row has 2 purple pods at bottom (marked) plus 7 partly red pods with green markings higher up. These seven pods are different from any others in appearance. They are tied by string with only a single instead of double turn.

23 + 24/12/61

Twined vines again; cut off excess runners; removed weeds and watered plants.

30/12/61

Twined vines again; Watered. Noticed that some plants have total red flowers while others have red with pink center flowers. Apparently I'm working with two varieties of seed. The plants should be tagged with colored band for red-white flowers to differentiate from full red flowers, and thereby sort the seed out for future tests. The seed of two varieties looked the same before putting in ground. This will complicate things a bit.

4/1/62 Transplanted single bean plant from pot #33 to position 2 north row, also provided stake for position 5 north row as these plants are beginning to send out runners.

4/1/62 Twined vines again

14/5/1/62 Twined vines again. Cut off extra runners. Tied up bottom pods off ground, Hoed weeds. Hawaiian beans are about full grown. Leaves turning yellow at bottom of stake. Runner beans (Kentucky Wonder) position 5 of north row has good runners going up pole. X-Rayed bush beans in position 3 beginning to bud and may have runners.

18/11/61

Staked beans and transplanted a few plants to positions which were empty. Only transplanted a green bean to same kind. Tied up runners which needed it.

20/11/61

Turned Vines again. Most transplanted bean plants doing poorly. Roots too much torn.

23/11/61

Turned Vines again. Transplanted bean plants beginning to come to.

29/11/61 Turned vines again.

3/12/61 " " "

6/12/61 " " "

12/12/61 " " "

19/12/61 " " "

Also Transplanted two plants from pot # 17 to position 5 of north row. (runner Kentucky wonder)

Transplanted single flowering plant from pot # 29 (bush Kentucky wonder) to position 4 of north row.

Transplanted two small Hawaii half black bean plants from pot # 29 to position # 36 south row.

Transplanted six X-Rayed 5000R bush Kentucky Wonder from pot # 32 to position 3 of north row.

(over)

22/1/62 Examined beans again. Very little growth
so practically no turning necessary. Tied up
quite a lot of pods off ground to keep out of mud.

27/1/62 Examined bean vines again. Practically no growth.
Turned a half dozen vines. Tied up pods off ground
at various places. Couldn't find any more purple
pods. Hoed weeds. Watered a few small plants
at east end of north row.

3/2/61

Twining vines.

Examined beans. Quite a few more purple pods are forming on both reversed and normal vines, particularly on north row. Did not put tags marks on additional ones as plenty already marked. Probably 75 or 80 purple pods now.

Scarlet runner vines in north row are still growing slowly. I reverse trained several of them. Rest of vines are there growing.

Hawaiian beans are mature. The leaves are becoming yellow and falling. Quite a few pods are drying out or at least becoming tough.

The X-Rayd Kentucky Wonders are all four hills still growing.

Took 8 snap shots of bean patch for f11 at 1/25 sec.

(over)

5/3/62 Examined vines and pruned suckers. No vines had grown enough to require twining. Several hills of Hawaiian are ready to harvest, particularly in south row. Most of rest will be ready in a fortnight.

The scarlet runners are still very green with many green pods on upper parts of vines and a few flowers. The dry pods are of two kinds. Some are plain brown. These are on vines with pure red flowers. Other pods have black dots on brown background. Such pods are from vines with red & white flowers. These black dots begin to show when pod fills out. Very young pods all look alike as pure green. Probably six or eight weeks to harvest.

The Kentucky wonder are still very green and growing with many pods and some flowers. Most pods in position 3 are turning to wax beans before drying.

11/3/62 Examined vines & pruned suckers on Scarlet Runners. Hawaiian beans may be harvested as soon as a proper scale is obtained.

Scarlet runners still growing at top with a few flowers.

Kentucky wonder very green yet.

Bimweed is still green but is loaded with seed.

20/3/62 Some green pods still at top of scarlet runner. Also few partly dried pods on Hawaiian at tops. Need another week or two to dry properly.

19/2/62 The plant in position #2 was 11" high overall. It had 3 light yellow or cream colored flowers. Green pods $2\frac{1}{2}$ ", $1\frac{3}{4}$ ", $1\frac{1}{4}$ ", $1\frac{1}{4}$ ", $\frac{7}{8}$ " were present. The leaves are in groups of three leaves. Seven groups are present, about eight groups of flower buds had also formed. Examination of broken stem showed that it was partly broken several times before as the fibres were quite frayed, brown and dry, apparently the final break was only a few hours old.

25/2/62 Hawaiian beans continuing to dry. Most vines have lost over half their leaves. The south row is more advanced toward maturity. The purple pods do contain black beans. Probably ready for harvest about middle of March.

The scarlet runners are still continuing to grow slowly, particularly the south row. Most vines are still quite green on top half with some new flowers. Bottom half has quite a few dried pods. Some of these pods have faint black dots or short streaks. Other pods are pure brown color. About half and half. Quite a lot of secondary shoots were appearing, particularly on north row. I cut off all these if two or more inches long. Long time before ready to harvest. Kentucky Wonder still all green and growing. Lot of new pods + some flowers.

Several turned a few inches

On north row about half of pods marked with string had some black beans. About half of black beans came from standard pods. These statements exclude positions 12 and 24 where the purple pods marked with string had mostly black beans. However these black beans, particularly at position 12 are different from conventional black beans. The ones at position 12 are all pure black without any light markings. Thus some other effect is operating at these two positions. These should not be included with others on a statistical count.

1/4/62 Pruned secondary shoots and new flowers showing from north row scarlet runners in an attempt to make these vines come to a conclusion. Most scarlet runner vines still have some green pods near top. Harvest of these may begin in a week or ten days. Kentucky Wonder nearly dried out. Can harvest in about two weeks.

25+26/3/62 Harvested most of south row
of Hawaiian beans; positions 6 thru 39. a few
have been left to mature and dry out at positions
9, 14, 17, 29, 33, 35

26, 27, 31/3 and 1/4/62 Harvested most of north row
of Hawaiian beans. a few left to mature and dry
out at positions 6, 15, 17, 19, 22, 27, 28, 31, 33, 34, 35,
37, 38.

The height is measured from stem of pod to
ground. If less than four pods are in a category,
these are included in lower category.

Mature beans of all sizes are counted and weighed.
These show characteristic color markings. Immature
beans are small, wrinkled and brown without color
markings. These are included with vines.

On south row, not a single purple pod marked
with string had a black bean inside. All such pods
had standard beans. The black beans came from pods
which appeared standard. Thus there is no correlation
between color of pod and color of beans when black seed
is used.

(over)

Hawaiian North Row

26/3/62

Pod No.	(a) Up to 1ft					(b) 1 to 4 ft					(c) Over 4 ft					Vines	Black Beans		
	Pods		Beans		shucks	Pods		Beans		shucks	Pods		Beans		shucks		Pods	Beans	
	No.	Gm.	No.	Gm.	Gm.	No.	Gm.	No.	Gm.	Gm.	No.	Gm.	No.	Gm.	Gm.		No.	Gm.	Pods
6	30	71.3	81	39.8	30.3	30	99.7	90	48.7	49.4	27	77.4	88	47.7	29.7	3	49	1,1	2,7,6
7	26	98.8	111	61.3	26.9	25	77.7	80	48.3	28.2						2	136	2,1,5	4,2,7
8	17	54.0	59	31.8	22.1	29	99.4	94	47.6	48.2	16	49.1	48	23.0	26.2	4	117	3,1	4,3,4
9	16	56.2	67	34.6	21.0	24	73.9	79	44.0	28.6	7	17.1	23	11.0	6.1	3	25.8	1,1	3,5,3
10	16	41.6	55	25.9	15.9	35	115.6	109	62.8	51.8						4	81.7	2,	1,
11	14	41.8	53	25.8	15.0	28	77.9	87	47.6	30.4	13	26.3	33	16.0	10.3	4	65.1	1,1	1,1,1
12	14	34.3	42	21.1	12.2	37	106.9	128	66.7	39.8	4	12.3	13	7.7	4.8	4	43.5	4,1,2	20,59
13	21	54.1	65	35.4	17.7	24	56.2	64	35.2	20.0						4	98.4	1,	1,2
14	10	35.7	32	20.0	16.0	16	51.7	59	30.3	21.9						2	33.0	1,	1,
15	14	35.8	52	24.4	10.8	27	67.9	75	40.9	27.2	1	1.3	2	0.8	0.5	4	65		
16	12	31.3	35	19.3	11.2	14	44.6	45	26.0	17.2						3	39.7	1,	1,
17	15	35.5	46	23.1	12.1	21	66.8	74	42.2	23.9	1	2.0	3	1.3	0.7	3	70	1,1	5,1
18	23	70.2	74	42.9	26.3	17	42.5	49	26.5	15.9						4	61.6		
19	11	24.6	35	16.8	7.1	18	57.9	65	36.9	20.2	4	4.4	7	3.0	1.3	3	39.5	3,2,	8,7,
20	21	63.1	66	39.0	23.1	14	40.0	49	25.3	14.2						3	64.5		
21	12	30.5	35	18.4	11.0	34	97.6	118	61.6	35.3						3	59.8	2,	1,
22	10	37.2	41	22.9	14.0	17	72.2	71	37.6	34.1	9	18.2	25	10.2	7.8	3	105		
23	14	45.4	44	28.5	16.7	24	76.1	85	45.0	26.7	7	21.3	23	15.0	6.8	2	78.4	1,	1,
24	14	46.2	48	27.9	15.8	22	62.0	71	40.8	21.0						3	105.1	1,13	4,38
25	14	37.0	45	21.1	15.3	25	63.2	74	38.7	25.0	11	23.2	31	15.2	8.5	4	81.1	1,	1,
26	8	20.9	28	11.1	10.0	29	89.2	104	49.8	37.9	17	40.3	56	24.5	15.6	3	76.0		
27	23	68.0	69	39.3	27.0	22	57.9	64	31.9	24.8	7	16.8	18	9.2	7.7	4	126	1,2,	26,1
28	9	32.1	34	17.1	14.2	24	64.0	72	31.3	30.4	18	36.2	46	18.3	18.1	2	124	3,	1,
29	27	70.1	100	45.4	24.3	29	80.0	102	50.5	28.3						4	82.4		
30	19	48.8	62	32.1	16.8	29	74.0	92	44.0	29.6						3	79.7		
31	15	41.0	54	27.0	13.7	28	86.8	107	56.1	27.7	9	17.4	25	11.8	5.6	3	66	1,	1,5
32	9	34.2	39	22.5	12.0	29	96.2	92	52.2	35.2	5	9.2	12	4.8	4.8	3	119.5	1,2,1	3,7,3
33	13	36.4	39	20.6	15.5	23	64.0	75	35.4	28.0	8	20.0	26	14.6	5.6	2	23.5	1,	3,
34						16	22.3	33	12.9	9.6	9	11.6	13	4.9	6.9	3	50	1,	1,5
35	11	20.8	28	12.0	8.8	21	67.1	76	40.1	26.8	13	31.9	41	19.5	12.0	3	38	1,	5
36	18	35.0	59	24.7	10.6	28	66.2	89	42.4	24.1	11	34.1	43	23.1	10.4	3	50.5	1,3,	1,9,
37	22	48.9	66	30.9	16.1	28	64.0	96	41.9	21.3	7	21.6	24	14.8	7.3	2	85	1,1,5	1,1,1
38	21	40.0	59	26.1	12.9	16	38.0	61	26.4	11.0						1	46.7		
39	12	18.9	32	12.4	6.5	13	25.0	44	16.4	8.2						3	28.6	4,	12,

Hawaiian North Row Normal

19/10/62

(a) Up to 1ft (b) 1 to 4 ft (c) Over 4 ft.

Position	(a) Up to 1ft				(b) 1 to 4 ft				(c) Over 4 ft.			
	Gms Pod	Beans Pod	Beans Gm	Gms Beans Shucks	Gms Pod	Beans Pod	Beans Gm	Gms Beans Shucks	Gms Pod	Beans Pod	Beans Gm	Gms Beans Shucks
6	2.38	2.70	2.03	1.31	3.32	3.00	1.85	.99	2.87	3.26	1.85	1.61
8	3.18	3.47	1.85	1.44	3.42	3.24	1.97	.99	3.07	3.00	2.09	.88
10	2.60	3.44	2.12	1.63	3.30	3.12	1.75	1.21	-	-	-	-
12	2.45	3.00	1.99	1.73	2.89	3.46	1.92	1.68	3.08	3.25	1.69	1.61
14	3.57	3.20	1.60	1.25	3.23	3.68	1.95	1.38	-	-	-	-
16	2.61	2.92	1.81	1.73	3.19	3.21	1.73	1.51	-	-	-	-
18	3.05	3.21	1.73	1.63	2.50	2.88	1.85	1.67	-	-	-	-
20	3.00	3.14	1.69	1.69	2.86	3.50	1.94	1.78	-	-	-	-
22	3.72	4.10	1.80	1.63	4.25	4.17	1.89	1.10	2.02	2.78	2.45	1.31
24	3.30	3.42	1.61	1.89	2.82	3.23	1.74	1.94	-	-	-	-
26	2.61	3.50	2.52	1.11	3.07	3.59	2.09	1.32	2.37	3.30	2.28	1.57
28	3.57	3.78	1.99	1.21	2.67	3.00	2.30	1.03	2.01	2.56	2.51	1.01
30	2.57	3.27	1.93	1.91	2.55	3.17	2.09	1.49	-	-	-	-
32	3.80	4.33	1.73	1.88	3.11	3.17	1.76	1.48	1.84	2.40	2.50	1.00
34	-	-	-	-	1.39	2.06	2.56	1.35	1.29	1.44	2.65	.71
36	1.95	3.27	2.37	2.33	2.37	3.17	2.10	1.76	3.10	3.91	1.86	2.22
38	1.91	2.81	2.27	2.02	2.37	3.81	2.31	2.40	-	-	-	-
Sum	46.27	53.56	31.04	26.39	49.31	55.46	33.30	25.08	21.65	25.90	19.88	11.92
Number	16	16	16	16	17	17	17	17	9	9	9	9
Average	2.89	3.35	1.94	1.649	2.90	3.26	1.99	1.475	2.40	2.88	2.21	1.324
Σ^2				45.1249				61.0570	39.2560			17.922
(Σ) ² /n				2.81270				67.2024	37.0004			15.714
Σ^2/n				1.5979				.8546	2.2556			1.5048

Hawaiian North Row

19/10/62

Reversed

(a) Up to 1ft

(b) 1 to 4ft

(c) Over 4ft.

Position	(a) Up to 1ft				(b) 1 to 4ft				(c) Over 4ft.			
	Gms Pod	Beans Pod	Beans Gm	Gms Beans Shucks	Gms Pod	Beans Pod	Beans Gm	Gms Beans Shucks	Gms Pod	Beans Pod	Beans Gm	Gms Beans Shucks
7	3.80	4.27	1.81	2.28	3.11	3.20	1.66	1.71	-	-	-	-
9	3.51	4.18	1.93	1.65	3.08	3.29	1.80	1.53	2.44	3.29	2.09	1.81
11	2.98	3.79	2.06	1.72	2.78	3.11	1.83	1.57	2.02	2.54	2.06	1.55
13	2.58	3.09	1.89	2.00	2.34	2.67	1.82	1.76	-	-	-	-
15	2.55	3.71	2.13	2.26	2.52	2.78	1.83	1.50	1.30	2.00	2.50	1.60
17	2.37	3.07	1.99	1.91	3.18	3.52	1.75	1.77	2.00	3.00	2.31	1.86
19	2.24	3.18	2.08	2.37	3.22	3.61	1.76	1.83	1.10	1.75	2.33	2.31
21	2.54	2.92	1.90	1.67	2.87	3.47	1.92	1.75	-	-	-	-
23	3.24	3.14	1.55	1.71	2.96	3.54	1.89	1.68	3.04	3.29	1.53	2.21
25	2.64	3.21	2.13	1.38	2.53	2.96	1.91	1.55	2.11	2.82	2.04	1.79
27	2.96	3.00	1.76	1.45	2.63	2.91	2.01	1.29	2.41	2.58	1.96	1.20
29	2.59	3.70	2.21	1.87	2.76	3.51	2.03	1.78	-	-	-	-
31	2.73	3.60	2.00	1.97	3.10	3.82	1.91	1.89	1.94	2.78	2.12	2.11
33	2.80	3.00	1.90	1.33	2.78	3.26	2.12	1.27	2.50	3.25	1.78	2.60
35	1.89	2.55	2.33	1.37	3.19	3.62	1.90	1.50	2.46	3.16	2.10	1.63
37	2.23	3.00	2.14	1.92	2.29	3.43	2.29	1.97	3.08	3.42	1.62	2.03
39	1.58	2.67	2.58	1.91	1.92	3.38	2.68	2.00	-	-	-	-
Sums	45.23	56.08	34.39	30.77	47.26	56.08	33.11	28.35	26.40	33.88	24.44	22.70
Number	17	17	17	17	17	17	17	17	12	12	12	12
Average	2.66	3.30	2.02	1.81	2.78	3.30	1.95	1.668	2.20	2.82	2.04	1.892
Percent Normal	.92	.985	1.04	1.09	.96	1.012	.980	1.14	.92	.979	.923	1.43
Σ				57.5299				47.9951				22.5524
(Σ)²/n				33.6987				47.2778				62.9408
Diff				1.6362				.7173			(over)	1.6115

Hawaiian North Row

20/10/62

Normal, Full Pole Data

Position	Pods		Beans		Shucks Gm	Gms Pod	Beans Pod	Beans Gm	Gms Beans Shuck	Gms Beans Vines	Black Beans		Dev	Dev ²
	No	Gm	No	Gm							No	%		
6	87	248.4	259	136.2	109.4	2.86	2.98		1.25		15	5.8	+3.1	9.6
8	62	202.4	201	102.4	96.5	3.26	3.24		1.06		11	5.5	+2.8	7.8
10	51	157.2	164	88.7	67.7				1.31		1	.6	-2.1	4.4
12	55	153.5	183	95.5	56.8				1.68		-	0	-2.7	7.3
14	26	87.4	91	50.3	37.9				1.33		1	1.1	-1.6	2.6
16	26	75.9	80	45.3	28.4				1.60		1	1.2	-1.5	2.3
18	40	112.7	123	69.4	42.2				1.65		-	0	-2.7	7.3
20	35	103.1	115	64.3	37.3				1.72		-	0	-2.7	7.3
22	36	127.6	137	70.6	55.9				1.26		-	0	-2.7	7.3
24	36	108.2	119	70.7	36.8				1.92		-	0	-2.7	7.3
26	54	150.4	188	85.4	63.5				1.34		-	0	-2.7	7.3
28	51	132.3	152	66.7	62.7				1.07		9	5.9	+3.2	10.2
30	48	122.8	154	76.1	46.4				1.64		-	0	-2.7	7.3
32	43	133.6	143	79.5	52.0				1.53		13	9.1	+6.4	41.0
34	25	33.9	46	17.8	16.5				1.08		5	10.9	+8.2	67.3
36	57	135.3	191	90.2	45.1				2.00		10	5.2	+2.5	6.3
38	37	78.0	120	52.5	23.9				2.20		-	0	-2.7	7.3

Sum
Number
Average

45.3 53.0 209.9
17 17 11
2.67 SE = .88

25.64

~~33037~~ Σ

Group Data 1.508 average

769 2162.7 2466 1261.6 879.0 2.81 3.21 1.95 1.44 66 2.68

Σ^2 104602.66 Σ^2 40.98

$(\Sigma)^2$ 98625.56 $(\Sigma)^2$ 3867.12

Σ^2 10977.10 Σ^2 18146

Σ^2 68607 Σ^2 1072

Wt. Beans .512

Hawaiian North Row 20/10/62

Reversed, Full Pole Data

Position	Pods		Beans		Shuck	Gms Pod	Beans Pod	Beans Gm	Gms Beans	Gms Beans	Black Beans No	Beans %	Dev.	Dev. ²	
	No	Gm	No	Gm					Shuck	Shuck					Yms
7	51	176.5	191	109.6	55.1			1.99			6	3.1	-0.5	0.3	
9	47	147.2	169	89.6	55.7			1.61			6	3.6	0	0	
11	55	146.0	173	89.4	55.7			1.61			2	1.2	-2.4	5.8	
13	45	110.3	129	70.6	37.7			1.87			2	1.5	-2.1	4.4	
15	42	105.0	129	66.1	38.5			1.72			-	0	-3.6	13.0	
17	37	104.3	123	66.6	36.7			1.81			6	4.9	+1.3	1.7	
19	33	86.9	107	56.7	28.6			1.99			15	14.0	+10.4	112.2	
21	46	128.1	153	80.0	46.3			1.73			4	2.6	-1.0	1.0	
23	45	137.8	152	88.5	50.2			1.76			1	.7	-2.9	8.4	
25	50	123.4	150	75.0	48.8			1.54			1	.7	-2.9	8.4	
27	52	142.7	151	80.4	59.5			1.35			6	4.0	+0.4	0.2	
29	56	150.1	202	95.9	52.6			1.82			-	0	-3.6	13.0	
31	52	145.2	186	94.9	49.0			1.94			5	2.7	-0.9	0.8	
33	44	120.4	140	70.6	49.1			1.44			3	2.1	-1.5	2.3	
35	45	119.8	145	71.6	47.6			1.50			5	3.5	-0.1	0	
37	57	134.5	186	87.6	44.7			1.96			2	1.1	-2.5	6.3	
39	25	43.9	76	28.8	14.7			1.96			12	15.8	+12.2	148.8	
Sum												61.5	48.3	326.6	
Number												17	17	17	
Average												3.62	SE=1.10		
								29.60				54.81			

Group Data n=17 = average

782	2122.1	2562	1321.9	770.5	2.72	3.27	1.92	1.72		76	2.97
	$\Sigma^2 = 3695331$										
	$(\Sigma)^2 = 3492177$										
	$\Sigma^2 = 2031.54$										
	$\Sigma^2 = 126.97$.97	1.02	.99	1.20			1.1
	$\Sigma^2 = .526$										

Reversed
Normal

Check Sheet

24/9/63

Hawaiian North Row, Normal 1961/2

Position	Up to 1 ft			1 to 4 ft			Over 4 ft			Entire Vine		
	Grams Beans		Dev. ²	Grams Beans		Dev. ²	Grams Beans		Dev. ²	Grams Beans		Dev. ²
	Shucks	Dev.		Shucks	Dev.		Shucks	Dev.		Shucks	Dev.	
6	1.31	-.34	.116	.99	-.49	.240	1.61	+.29	.084	1.25	-.26	.068
8	1.44	-.21	.044	.99	-.49	.240	.88	-.44	.194	1.06	-.45	.202
10	1.63	-.02	0	1.21	-.27	.073	-	-	-	1.31	-.20	.040
12	1.73	+.08	.006	1.68	+.20	.040	1.61	+.29	.084	1.68	+.17	.029
14	1.25	-.40	.160	1.38	-.10	.010	-	-	-	1.33	-.18	.032
16	1.73	+.08	.006	1.51	+.03	.001	-	-	-	1.60	+.09	.008
18	1.63	-.02	0	1.67	+.19	.036	-	-	-	1.65	+.14	.020
20	1.69	+.04	.002	1.78	+.30	.090	-	-	-	1.72	+.21	.044
22	1.63	-.02	0	1.10	-.38	.144	1.31	-.01	0	1.26	-.25	.063
24	1.89	+.24	.058	1.94	+.46	.212	-	-	-	1.92	+.41	.168
26	1.11	-.54	.292	1.32	-.16	.026	1.57	+.25	.063	1.34	-.17	.029
28	1.21	-.44	.194	1.03	-.45	.202	1.01	-.31	.096	1.07	-.44	.194
30	1.91	+.26	.068	1.49	+.01	0	-	-	-	1.64	+.13	.017
32	1.88	+.23	.053	1.48	.00	0	1.00	-.32	.102	1.53	+.02	0
34	-	-	-	1.35	-.13	.017	.71	-.61	.372	1.08	-.43	.185
36	2.33	+.68	.463	1.76	+.28	.078	2.22	+.90	.810	2.00	+.49	.240
38	2.02	+.37	.137	2.40	+.92	.846	-	-	-	2.20	+.69	.475
Sum	26.39		1.599	25.08		2.255	11.92		1.805	25.64		1.814
Number	16			17			9			17		
Average	1.649			1.475			1.324			1.508		

The calculations by Buck Mezetis of last year are OK. I also re-estimated all the p values more closely. This 1961/2 data is in good order.

Hawaiian South Row

20/10/62

Normal

(a) Up to 1ft

(b) 1 to 4ft

(c) Over 4ft

Position	(a) Up to 1ft				(b) 1 to 4ft				(c) Over 4ft			
	Gms Pod	Beans Pod	Beans Gm	Gms Beans Shucks	Gms Pod	Beans Pod	Beans Gm	Gms Beans Shucks	Gms Pod	Beans Pod	Beans Gm	Gms Beans Shucks
6	2.42	3.34	2.11	1.90	2.20	3.00	2.21	1.70				
8	2.07	2.64	1.99	1.78	2.32	3.36	2.15	1.96				
10	2.65	2.93	1.90	1.33	2.58	2.75	2.11	.96				
12	2.48	3.53	2.14	2.07	2.68	3.71	1.96	2.50				
14	3.09	4.09	2.01	2.03	3.08	3.69	1.83	1.95				
16	3.07	3.42	2.11	1.16	2.57	3.05	1.80	1.83				
18	3.80	4.25	1.79	1.53	2.29	2.76	1.87	1.91				
20	2.24	3.20	2.32	1.81	2.45	3.73	2.16	2.60				
22	2.21	3.14	2.08	1.96	2.18	3.28	2.13	2.35				
24	2.40	3.22	2.03	1.99	2.87	3.50	1.67	2.40				
26	2.72	3.00	1.86	1.49	—	—	—	—				
28	2.81	3.63	1.92	2.12	—	—	—	—				
30	2.56	3.20	1.76	2.33	—	—	—	—				
32	3.82	4.60	1.87	1.84	4.00	4.25	1.77	1.39				
34	2.78	3.40	2.13	1.45	—	—	—	—				
36	—	—	—	—	—	—	—	—				
38	1.63	2.33	2.69	1.18	—	—	—	—				
Sums	42.75	53.92	32.71	27.97	29.11	37.08	21.66	21.55				
Number	16	16	16	16	11	11	11	11				
Average	2.67	3.37	2.04	1.75	2.65	3.37	1.97	1.96				

Hawaiian South Row Reversed

20/10/62

Position	(a) Up to 1 ft				(b) 1 to 4 ft				(c) Over 4 ft.				
	Gms	Beans	Beans	Gms	Gms	Beans	Beans	Gms	Gms	Beans	Beans	Gms	Beans
	Pod	Pod	Gm	Gms Shucks	Pod	Pod	Gm	Gms Shucks	Pod	Pod	Gm	Gms Shucks	Gms Shucks
7	2.14	3.28	2.50	1.77	1.72	1.60	2.11	.83					
9	2.08	2.50	2.09	1.39	2.23	3.00	1.93	2.58					
11	2.11	3.00	2.20	2.06	2.65	3.42	2.05	1.70					
13	3.67	4.45	1.94	1.81	2.72	3.17	1.87	1.71	Combined into 1 to 4 ft level data				
15	2.70	4.08	2.18	2.38	3.13	4.08	1.82	2.47					
17	2.28	3.42	2.07	2.68	2.10	2.50	1.90	1.60					
19	1.65	2.67	2.43	2.36	1.92	2.42	1.93	2.03					
21	1.96	2.60	2.17	1.82	—	—	—	—					
23	2.22	2.78	2.12	1.56	2.02	2.67	2.11	1.68					
25	2.44	4.29	2.35	2.67	1.52	2.42	2.21	2.22					
27	2.72	3.00	1.76	1.63	2.28	2.72	1.96	1.65	Combined into 1 to 4 ft level data				
29	3.60	4.57	1.97	1.81	2.50	2.78	1.79	1.47					
31	1.75	2.25	2.28	1.36	2.14	2.36	2.17	1.12					
33	1.36	1.50	1.52	2.39	—	—	—	—					
35	1.50	2.25	2.47	1.41	—	—	—	—					
37	2.42	3.80	2.72	1.37	—	—	—	—					
39	2.90	4.00	1.91	2.62	—	—	—	—					
Sums	39.50	54.44	36.68	33.09	26.93	33.14	23.85	21.06					
Number	17	17	17	17	12	12	12	12					
Average	2.32	3.20	2.16	1.95	2.24	2.78	1.99	1.75					
Reversed Normal	.87	.95	1.06	1.12	.85	.82	1.01	.89					

Hawaiian, South Row 21/10/62

Normal, Full Pole Data

Position	Pods		Beans		Shucks	Gms	Beans	Beans	Gms	Gms	Block Beans		Dev ²	
	No	Gms	No	Gms	Gms	Pod	Pod	Gm	Shucks	Vines	No	%		Dev
6	11	25.5	35	16.3	9.0				1.81		-	0	-2.7	7.3
8	22	48.3	66	31.8	17.0				1.87		-	0	-2.7	7.3
10	17	44.8	49	25.2	20.4				1.24		-	0	-2.7	7.3
12	31	79.7	112	54.5	24.1				2.26		2	1.8	-0.9	0.8
14	24	74.1	93	48.7	24.5				1.99		-	0	-2.7	7.3
16	35	95.9	111	58.4	38.0				1.54		5	4.5	+1.8	3.2
18	25	63.4	75	40.6	22.5				1.81		1	1.3	-1.4	2.0
20	16	38.2	57	25.9	11.1				2.33		12	21.0	+18.3	335.0
22	14	30.8	45	21.4	10.0				2.14		2	4.4	+1.7	2.9
24	17	44.6	57	31.1	14.2				2.19		-	0	-2.7	7.3
26	13	35.3	39	21.0	14.1				1.49		-	0	-2.7	7.3
28	8	22.5	29	15.1	7.1				2.13		3	10.3	+7.6	57.7
30	10	25.6	32	18.2	7.8				2.33		-	0	-2.7	7.3
32	9	35.1	40	21.9	13.6				1.61		-	0	-2.7	7.3
34	5	13.9	17	8.0	5.5				1.46		-	0	-2.7	7.3
36	-	-	-	-	-				-		-	-	-	-
38	3	4.9	7	2.6	2.2				1.18		-	0	-2.7	7.3
Sum												43.3	58.7	474.6
Number												16	16	16
Average												2.71	SE = 1.41	
												59163	Σ(-)	

Group Data

260	682.6	864	440.7	241.1	2.63	3.33	1.96	1.83	25	2.89
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Hawaiian, South Row 21/10/62
 Reversed, Full Pole Data

Position	Pods		Beans Shucks			Gms Beans	Beans	Gms Beans	Gms Beans	Black Beans				
	No	Gms	No	Gms	Gms	Pod	Pod	Gm	Gms Shucks	Gms Vines	No	%	Dev	Dev ²
7	12	23.6	31	13.0	9.8				1.33		-	0	-2.5	6.3
9	18	38.4	48	23.7	14.0				1.69		-	0	-2.5	6.3
11	23	55.0	74	35.0	19.1				1.84		7	9.4	+6.9	47.6
13	29	89.3	106	55.8	31.9				1.75		16	15.1	+12.6	158.8
15	25	72.7	102	51.2	21.1				2.43		6	5.9	+3.4	11.6
17	31	68.5	95	47.2	21.6				2.19		1	1.1	-1.4	2.0
19	18	32.9	45	21.6	10.2				2.12		1	2.2	-0.3	0.1
21	10	19.6	26	12.0	6.6				1.82		-	0	-2.5	6.3
23	24	50.3	65	30.8	18.9				1.63		-	0	-2.5	6.3
25	19	35.4	59	25.9	10.7				2.42		3	5.1	+2.6	6.8
27	23	54.6	64	33.5	20.4				1.81		-	0	-2.5	6.3
29	16	47.7	57	30.3	18.5				1.64		2	3.5	+1.0	1.0
31	22	44.0	51	23.1	19.4				1.19		-	0	-2.5	6.3
33	8	10.9	12	7.9	3.3				2.39		-	0	-2.5	6.3
35	8	12.0	18	7.3	5.2				1.39		-	0	-2.5	6.3
37	5	12.1	19	7.0	5.1				1.37		-	0	-2.5	6.3
39	1	2.9	4	2.1	0.8				2.62		-	0	-2.5	6.3
Sum												42.3	53.2	290.9
Number												17	17	17
Average												2.49	SE =	1.03
												-395.99	Σ(-)	

Group Data

292 669.9 876 427.4 236.6 2.29 3.00 2.05 1.81 36 4.11

Reversed
Normal

.87 .90 1.05 .99

1.4

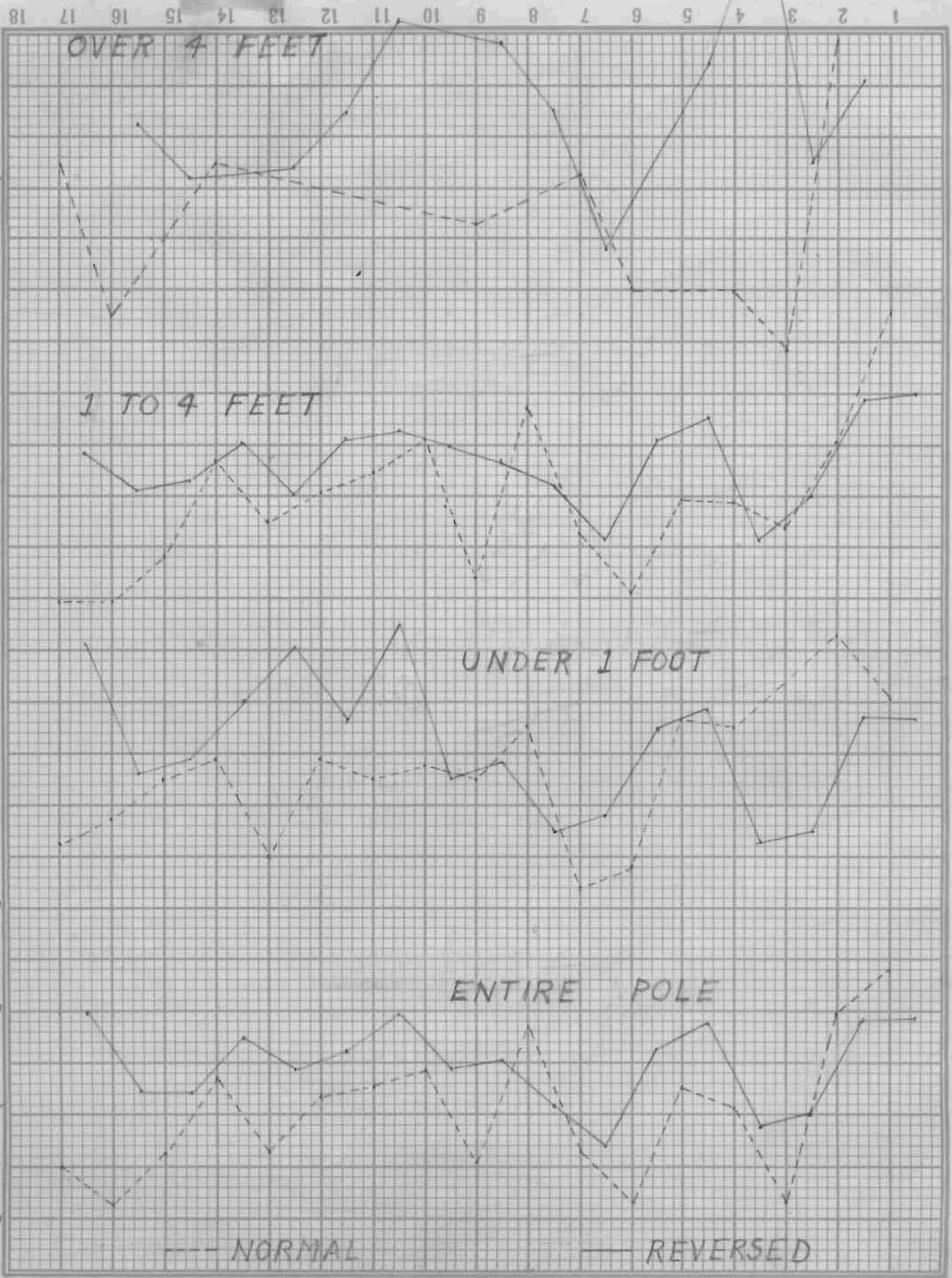
29/10/62

Weighed Overall amounts as follows,

Hawaiian Beans. Grams Weight

Row		North	South
Vines	Normal	491	135
	Reversed	455	160
Shucks (a)	Normal	267	139
	Reversed	272	120
Shucks (b)	Normal	492	112
	Reversed	446	109
Shucks (c)	Normal	125	-
	Reversed	74	8.8
Tan Beans	Normal	1182	431
	Reversed	1148	410
Black Beans	Normal	1259	14.5
	Reversed	27.5	20.5
Jet Black Beans	Normal	34	

(Grams of Beans) / (Grams of Shredded)



Pole Position Number

Hawaiian Tan (note row)