

LINCOLN COLLEGE

DEPARTMENT OF FARM MANAGEMENT AND RURAL VALUATION

Farm Management Notes No. 7

January 1968 (J.D.S.)

Revised by R.A.B.

Analysis of Direct Costs and Returns on the
Lincoln College Medium Soils

Note: Gross Margin per acre equals the gross revenue less direct costs. It is therefore the amount contributed by the enterprise to the meeting of costs which are fixed in the short term and to profit. In the following Gross Margin calculations, yield and price have been varied to show the effect, of variation of these two parameters on the relative profitability of any particular enterprise.

Gross Margins can be thought of as mechanical guides to short term planning and budgeting. They do not take into account such basic considerations as the husbandries, labour and machinery availability, personal preferences, risk and uncertainty etc.

A. Crops

1. Garden Peas (ex old grass)

a. Gross Revenue

25 bus. @ \$1.20	\$30.00
25 bus. @ \$1.60	\$40.00
25 bus. @ \$2.00	\$50.00

Direct Costs

Cultivation 5 hrs @ \$0.3	1.50
Seed 4 hrs @ \$2.78	11.12
Fertiliser 1½ cwt @ \$1.12	1.40
Spraying material + ⅓rd hr tractor @ \$0.3 (\$3.32 + \$0.10)	3.42

Harvesting

Mowing 1 hr @ \$0.3	.30
Heading ½ hr @ \$0.4	.20
Sacks 8 @ \$0.11	.88
Cartage 8 sacks @ \$0.15	1.20
1½ cwt Fert. @ \$0.08	.10

Total Direct Costs

\$20.12

Gross Margins

\$30.00 - 20.12 = \$9.88

\$40.00 - 20.12 = \$19.88

\$50.00 - 20.12 = \$29.88

b. Gross Revenue

35 bus. @ \$1.20	\$42.00
35 bus. @ \$1.60	\$56.00
35 bus. @ \$2.00	\$70.00

Direct Costs

Cultivation)	1.50
Seed) same	11.12
Fertiliser) as	1.40
Spraying material) above	3.42
Mowing)	.30
Heading $\frac{3}{4}$ hr @ \$0.40		.30
Sacks 12 @ \$0.11		1.21
Cartage 12 @ \$0.15		1.80
$\frac{1}{4}$ cwt Fert. @ \$0.08		.10
Total Direct Costs		<u>\$21.15</u>

Gross Margins

\$42.00	-	21.15	=	<u>\$20.85</u>
\$56.00	-	21.15	=	<u>\$34.85</u>
\$70.00	-	21.15	=	<u>\$48.85</u>

c. Gross Revenue

45 bus. @ \$1.20	\$54.00
45 bus. @ \$1.60	\$72.00
45 bus. @ \$2.00	\$90.00

Direct Costs

Cultivation	1.50
Seed	11.12
Fertiliser	1.40
Spraying material	3.42
Mowing	.30
Heading 1 hr @ \$0.40	.40
Sacks 15 @ \$0.11	1.65
Cartage 15 @ \$0.15	2.25
$\frac{1}{4}$ cwt Fert. @ \$0.08	.10
Total Direct Costs	<u>\$22.14</u>

Gross Margins

\$54.00	-	22.14	=	\$31.86
\$72.00	-	22.14	=	\$49.86
\$90.00	-	22.14	=	\$67.86

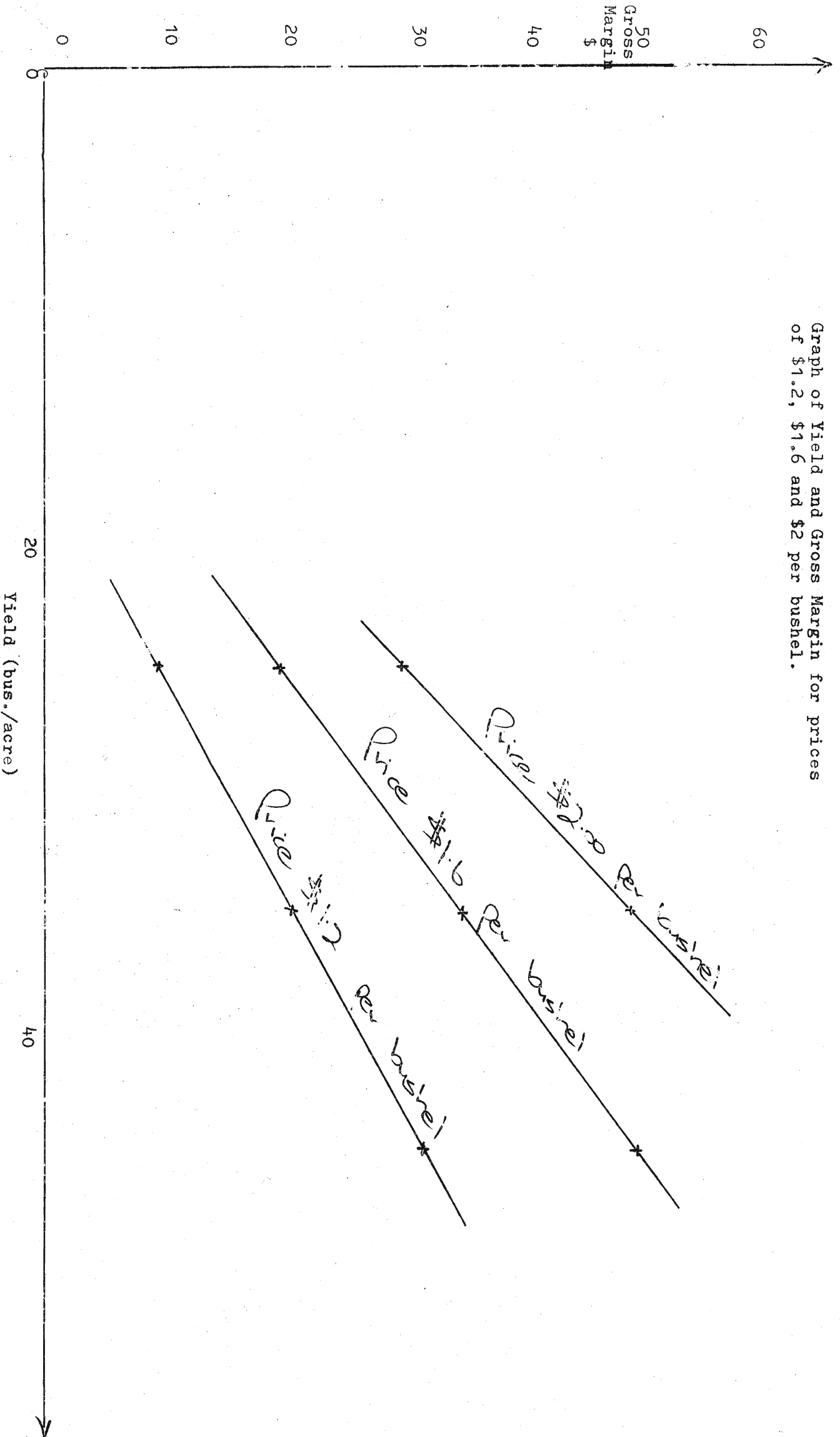
2. Partridge Peas (ex old grass)

a. Gross Revenue

25 bus. @ \$1.20	\$30.00
25 bus. @ \$1.60	\$40.00
25 bus. @ \$2.00	\$50.00

GARDEN PEAS

Graph of Yield and Gross Margin for prices of \$1.2, \$1.6 and \$2 per bushel.



Direct Costs

	\$
Cultivation 3 hrs @ \$0.30	.90
Seed 3 bus. @ \$2.475	7.42
Fertilizer 1 cwt @ \$1.18	1.18
Spraying material + $\frac{1}{3}$ hr tractor @ \$0.30 (\$3.32 + \$0.10)	3.42
Harvesting, Mowing 1 hr @ \$0.30	.30
Heading $\frac{1}{2}$ hr @ \$0.40	.20
Sacks 8 sacks @ \$0.11	.88
Cartage 8 sacks @ \$0.15	1.20
1 cwt super @ \$0.08	.08
	\$15.58

Gross Margins

\$30.00 - 15.58	=	<u>\$14.42</u>
\$40.00 - 15.58	=	<u>\$24.42</u>
\$50.00 - 15.58	=	<u>\$34.42</u>

b. Gross Revenue

35 bus. @ \$1.20	\$42.00
35 bus. @ \$1.60	\$56.00
35 bus. @ \$2.00	\$70.00

Direct Costs

	\$
Cultivation)	.00
Seed) same	7.42
Fertilizer) as	1.18
Spraying) above	3.42
Mowing)	.30
Heading $\frac{3}{4}$ hr @ \$0.40	.30
Sacks 12 @ \$0.11	1.21
Cartage 12 @ \$0.15	1.80
1 cwt Fert. @ \$0.08	.08
	\$16.61

Gross Margins

\$42.00 - 16.61	=	\$25.39
\$56.00 - 16.61	=	\$39.39
\$70.00 - 16.61	=	\$53.39

c. Gross Revenue

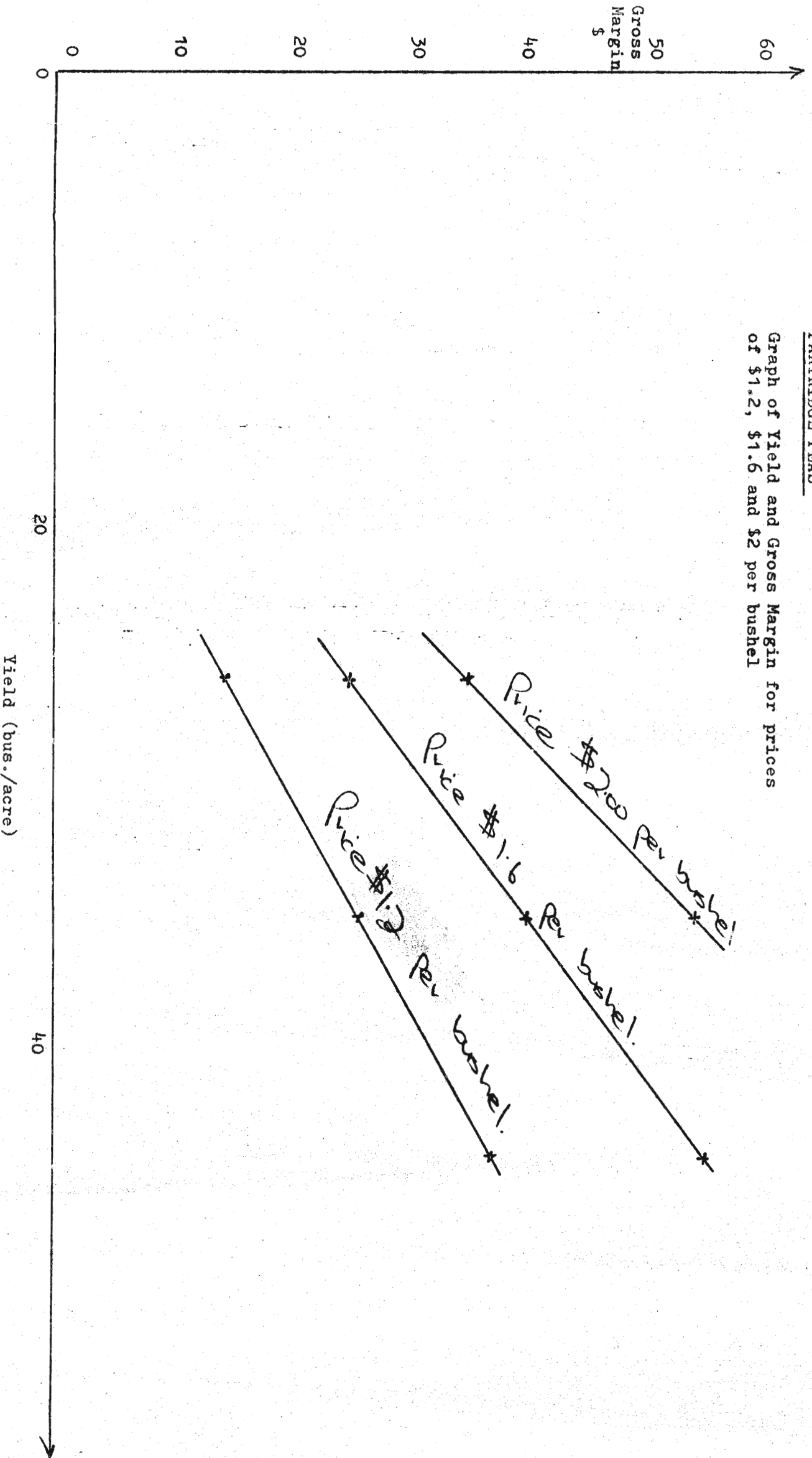
45 bus. @ \$1.20	\$54.00
45 bus. @ \$1.60	\$72.00
45 bus. @ \$2.00	\$90.00

Direct Costs

	\$
Cultivation)	.90
Seed) same	7.42
Fertilizer) as	1.18
Spraying) above	3.42
Mowing)	.30

PARTRIDGE PEAS

Graph of Yield and Gross Margin for prices of \$1.2, \$1.6 and \$2 per bushel



	\$	
Heading 1 hr @ \$0.40	.40	
Sacks 15 @ \$0.11	1.65	
Cartage 15 @ \$0.15	2.25	
1 cwt Fert. @ \$0.08	.08	
	<hr/>	
Total Direct Costs		\$17.60

Gross Margins

\$54.00	-	17.60	=	\$36.40
\$72.00	-	17.60	=	\$54.40
\$90.00	-	17.60	=	\$72.40

3. Vining Peas (ex old grass or Chou)

a. Gross Revenue

Payout based on tenderometer reading

2500 lbs at average reading of 95 @ \$72/ ton \$80.35

<u>Direct Costs</u>	\$	
Cultivation 5 hrs @ \$0/30	1.50	
Seed 4 bus. @ \$4.00	16.00	
Fertilizer 1 cwt @ \$1.12	1.12	
Cartage 1 cwt Fert. @ \$0.08	.08	
Spraying	3.50	
	<hr/>	
Total Direct Costs		\$22.2

Gross Margin

\$80.35 - 22.2
 = \$58.15

b. Gross Revenue

3500 lbs of average reading of 100 @ \$64/ton \$99.99

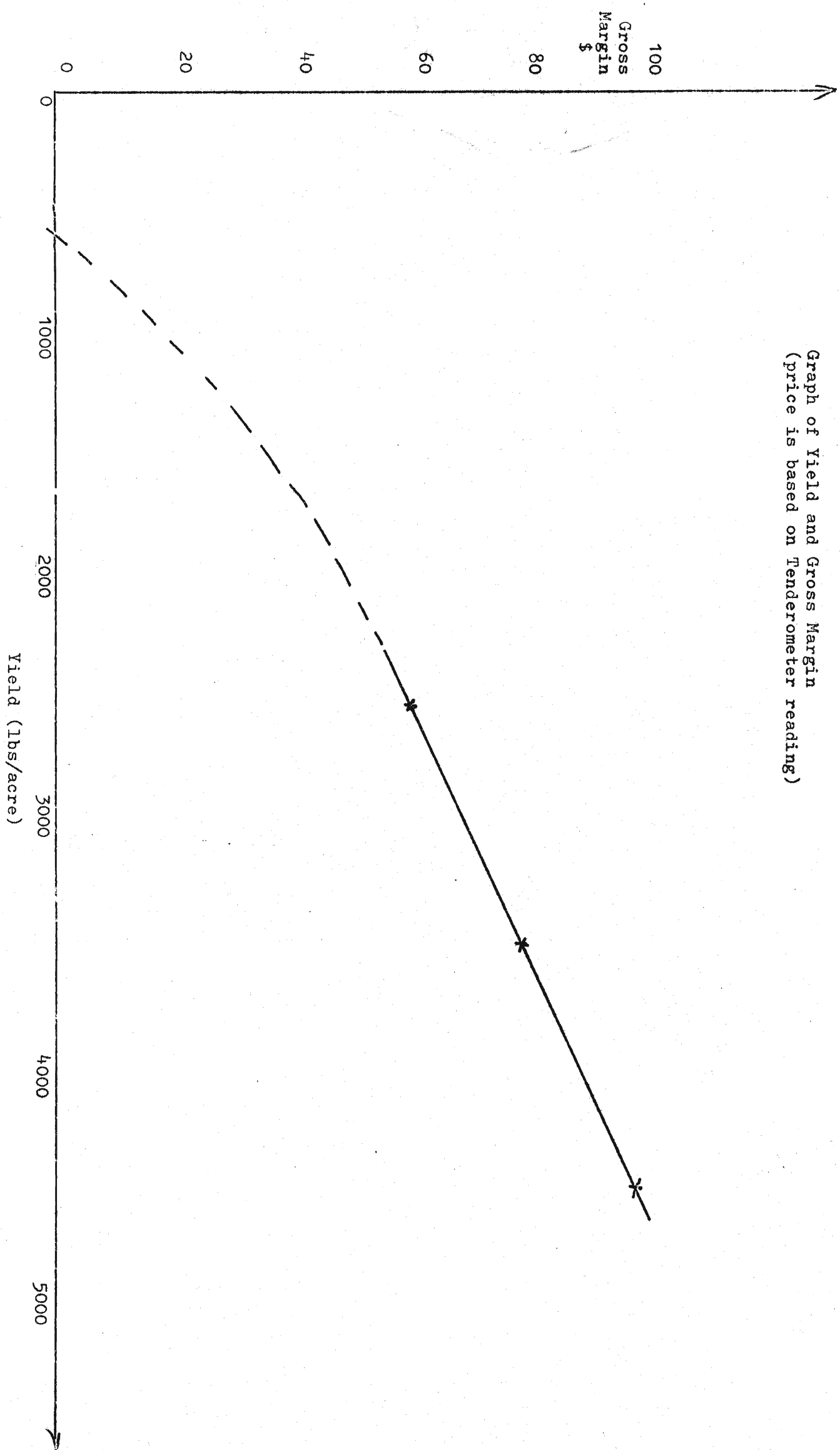
<u>Direct Costs</u>	\$	
Cultivation	1.50	} same } as } above
Seed	16.00	
Fertilizer	1.12	
Cartage	.08	
Spraying	3.50	
	<hr/>	
Total Direct Costs		\$22.2

Gross Margin

\$99.99 - 22.20
 = \$77.79

VINING PEAS

Graph of Yield and Gross Margin
(price is based on Tenderometer reading)



c. Gross Revenue

4500 lbs at average reading of 101 @ \$56/ton \$112.50

<u>Direct Costs</u>	¢
Cultivation	1.50
Seed	16.00
Fertilizer	1.12
Cartage	.08
Spraying	3.50

Total Direct Costs \$22.20

Gross Margin

\$112.50 - 22.20

= \$90.30

4. Wheat (ex peas)

a. Aotea

Gross Revenue

30 bus. @ \$1.35 \$40.50

<u>Direct Costs</u>	¢
Cultivation 3 hrs @ \$0.3	.90
Seed 1.5 bus. @ \$2.515	3.77
Harvesting, Heading $\frac{1}{4}$ hr @ \$0.4	.10
Sacks 10 @ \$0.11	1.10
Cartage 10 sacks @ \$0.15	1.50
Levy \$0.69/50 bus.	.41
Raking + Ploughing for fire break $\frac{1}{3}$ hr @ \$0.3	.10

Total Direct Costs \$7.88

Gross Margin

\$40.50 - 7.88

= \$32.62

Gross Revenue

50 bus. @ \$1.35 \$67.50

<u>Direct Costs</u>	¢	
Cultivation) same as above	.90
Seed		3.77
Harvesting, Heading $\frac{1}{3}$ hr @ \$0.4	.13	
Sacks 17 @ \$0.11	1.87	
Levy \$0.69/50 bus.	.69	
Cartage 17 sacks @ \$0.15	2.55	
Raking + Ploughing for fire break $\frac{1}{3}$ hr @ \$0.3	.10	

Total Direct Costs \$10.01

Gross margin

\$67.50 - 10.01

= \$57.49

Gross Revenue

70 bus. @ \$1.35 \$94.50

Direct Costs \$

Cultivation	}	same as	.90
Seed	}	above	3.77
Harvesting, Heading		$\frac{1}{2}$ hr @ \$0.4	.20
Sacks		23 @ \$0.11	2.53
Cartage		23 sacks @ \$0.15	3.45
Levy		\$0.69/50 bus.	.96
Raking + Ploughing for fire break		$\frac{1}{3}$ hr @ \$0.3	.10

Total Direct Costs \$11.91

Gross Margin

\$94.50 - 11.91

= \$82.59

b. Hilgendorf

Gross Revenue

30 bus. @ \$1.65 \$45.00

Direct Costs \$

Cultivation	3 hrs @ \$0.3		.90
Seed	1.5 bus. @ \$2.782		4.17
Harvesting, Heading	$\frac{1}{4}$ hr @ \$0.4		.10
Sacks	10 @ \$0.11		1.10
Cartage	10 sacks @ \$0.15		1.50
Levy	\$0.69/50 bus.		.41
Raking + Ploughing for fire break	$\frac{1}{3}$ hr @ \$0.3		.10

Total Direct Costs \$8.28

Gross Margin

\$45.00 - 8.28

= \$36.72

Gross Revenue

50 bus. @ \$1.50 \$75.00

Direct Costs \$

Cultivation	}	same as	.90
Seed	}	above	4.17
Harvesting, Heading		$\frac{1}{3}$ hr @ \$0.4	.13
Sacks		17 @ \$0.11	1.97
Cartage		17 sacks @ \$0.15	2.55
Levy		\$0.69/50 bus.	.69
Raking + Ploughing for fire break		$\frac{1}{3}$ hr @ \$0.3	.10

Total Direct Costs \$10.41

Gross Margin

\$75.00 - 10.41

= \$64.59

Gross Revenue

77 bus. @ \$1.35

\$105.00

Direct Costs

¢

Cultivation } same as
 Seed } above .90
 Harvesting, Heading $\frac{1}{2}$ hr @ \$0.4 4.17
 Sacks 23 @ \$0.11 .20
 Cartage 23 sacks @ \$0.15 2.53
 Levy \$0.69/50 bus. 3.45
 Raking + Ploughing for fire break
 $\frac{1}{2}$ hr @ \$0.3 .96

Total Direct Costs

\$12.31

Gross Margin

\$105.00 - 12.31

\$92.69

AWG

Gross Revenue

30 bus. @ \$1.30

\$39.00

Direct Costs

¢

Cultivation 3 hrs @ \$0.3 .90
 Seed 1.5 bus. @ \$2.498 3.75
 Harvesting, heading; $\frac{1}{4}$ hr @ \$0.4 .40
 Sacks 10 @ \$0.11 1.10
 Cartage 10 sacks \$0.15 1.50
 Levy \$0.69/50 bus. .41
 Raking + Ploughing for fire break
 $\frac{1}{2}$ hr @ \$0.3 .10

Total Direct Costs

\$7.86

Gross Margin

\$39.00 - 7.86

\$31.14

Gross Margin

50 bus. @ \$1.30

\$65.00

Direct Costs

¢

Cultivation } same as
 Seed } above .90
 Harvesting, Heading $\frac{1}{2}$ hr @ \$0.4 3.75
 Sacks 17 @ \$0.11 .13
 Cartage 17 sacks @ \$0.15 1.87
 Levy \$0.69/50 bus. 2.55
 Raking + Ploughing for fire break
 $\frac{1}{2}$ hr @ \$0.3 .69

Total Direct Costs

\$9.99

Gross Margin

\$65 - 9.99

\$55.01

Gross Revenue

70 bus. at \$1.30 \$91.00

Direct Costs

\$

Cultivation) same .90
Seed) as above 3.75
Harvesting, Heading $\frac{1}{2}$ hr at 4c .20
Sacks 23 at 11c 2.53
Cartage 23 sacks at 15c 3.45
Levy \$0.69/50 bus. .96
Raking + Ploughing for fire break
 $\frac{1}{3}$ hour at 3c .10

Total Direct Costs \$11.89

Gross Margin

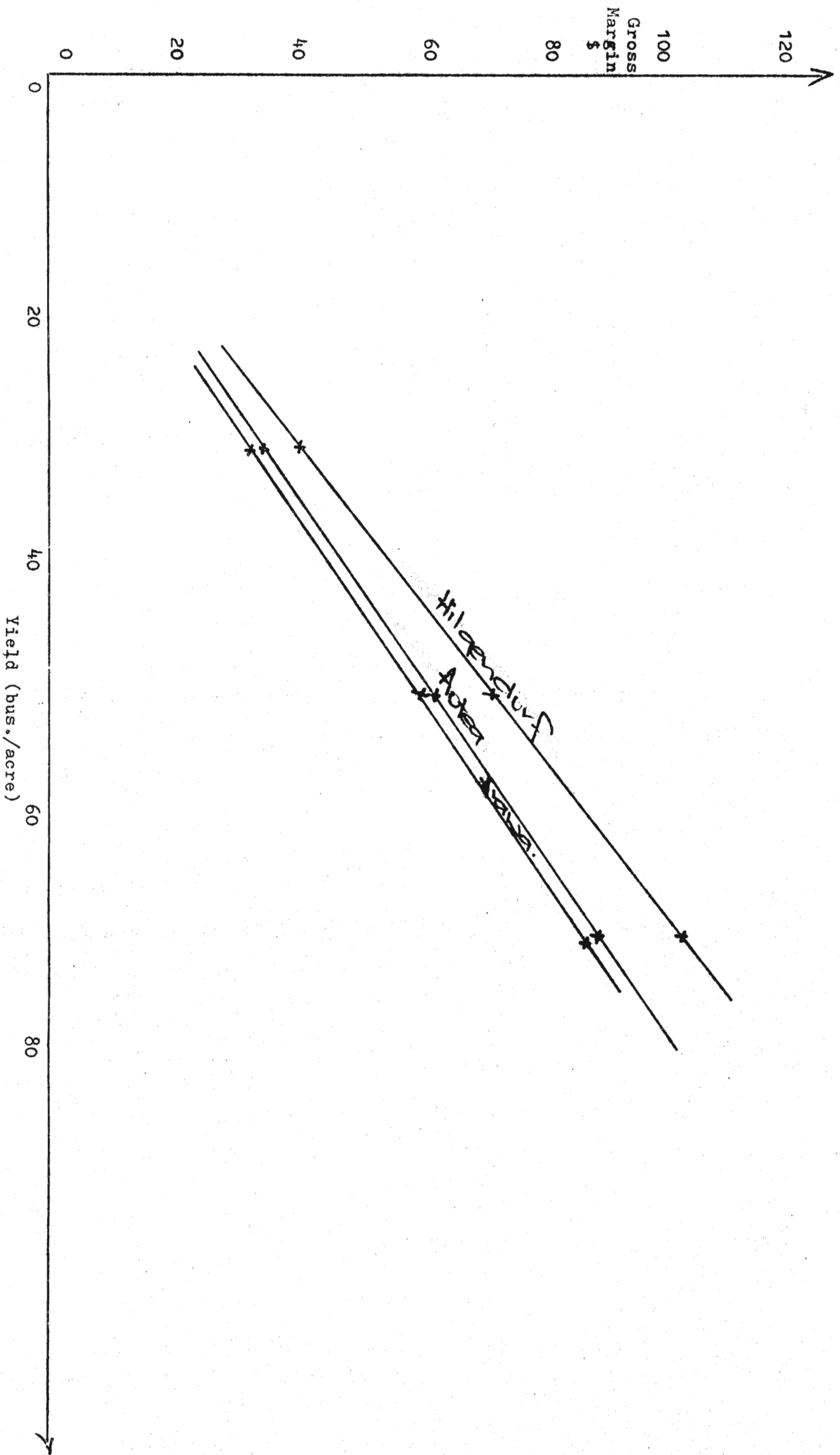
\$91.00 - 11.89

\$79.11

Summary of Wheat Gross Margins

	<u>30 bus/ac</u>	<u>50 bus/ac</u>	<u>70 bus/ac</u>
Hilgendorf	\$36.72	\$64.59	\$92.69
Aotea	\$32.62	\$57.49	\$82.59
Arawa	\$31.14	\$55.01	\$79.11

This summary can be shown in graphical form as follows



5. Wheat (ex wheat)

Gross Revenue (Aotea)

45 bus. @ \$1.35 \$60.75

Direct Costs

	\$
Cultivation 4 hrs @ \$0.3	1.20
Seed 1.5 bus. @ \$2.515	3.77
Fertilizer 1 cwt @ \$1.18	1.18
Harvesting, Heading $\frac{1}{3}$ hr @ \$0.4	.20
Sacks 17 @ \$0.11	1.87
Cartage 17 sacks @ \$0.15	2.55
1 cwt super @ \$0.08	.08
Levy \$0.69/50 bus.	.69
Raking + Ploughing for fire break $\frac{1}{3}$ hr @ \$0.3	.10

Total Direct Cost \$11.64

Gross Margin

\$60.75 - 11.64

\$49.11

Compare this Gross Margin with that of 50 bus. wheat (ex peas) i.e. \$57.49. This lower Gross Margin for wheat (ex wheat) is due to lower yield for the second year wheat and to slightly higher cultivation and fertilizer costs.

6. Bulk Wheat (ex peas)

Gross Revenue (Aotea)

	\$
50 bus. @ \$1.35	67.50
50 bus. @ \$0.15 storage increment	7.50

\$75.00

Direct Costs

	\$
Cultivation 3 hrs @ \$0.3	.90
Seed 1.5 bus. @ \$2.515	3.77
Harvesting, Heading $\frac{1}{3}$ hr @ \$0.4	.13
Cartage in bulk @ \$1.13/ton	1.51
Levy \$0.69/50 bus.	.69
Raking + Ploughing for fire break	.10

Total Direct Costs \$7.10

Gross Margin

\$75.00 - 7.10

\$67.90

Compare this Gross Margin with that for bagged Aotea, i.e. \$57.49
Note the economy of bulk handling.

7. Barley

Gross Revenue

50 bus. @ \$0.95 \$47.50

Direct Costs \$

Cultivation 4½ hrs @ \$0.3	1.35
Seed 2 bus. @ \$1.95	3.90
Fertilizer 1 cwt @ \$1.18	1.18
Spraying (weeds) materials + ¼ hr tractor @ \$0.3	1.10
Harvesting, Heading ½ hr @ \$0.4	.20
Sacks 17 @ \$0.11	1.87
Cartage 17 sacks @ \$0.15	2.55
1 cwt Fert. @ \$0.08	.08
Raking + Ploughing for a fire break ¼ hr tractor @ \$0.03	.01

Total Direct Costs \$12.24

Gross Margin

\$47.50 - 12.24

= \$35.26

Gross Revenue

60 bus. @ \$0.95 \$57.0

Direct Costs \$

Cultivation	1.35
Seed	3.90
Fertilizer	1.18
Spraying	1.10
Heading	.20
Sacks 20 @ \$0.11	2.20
Cartage 20 sacks @ \$0.15	3.00
1 cwt Fert. @ \$0.08	.08
Raking + Ploughing for a fire break ¼ hr tractor @ \$0.03	.01

Total Direct Costs \$13.02

Gross Margin

\$57.00 - 13.02

= \$43.98

Gross Revenue

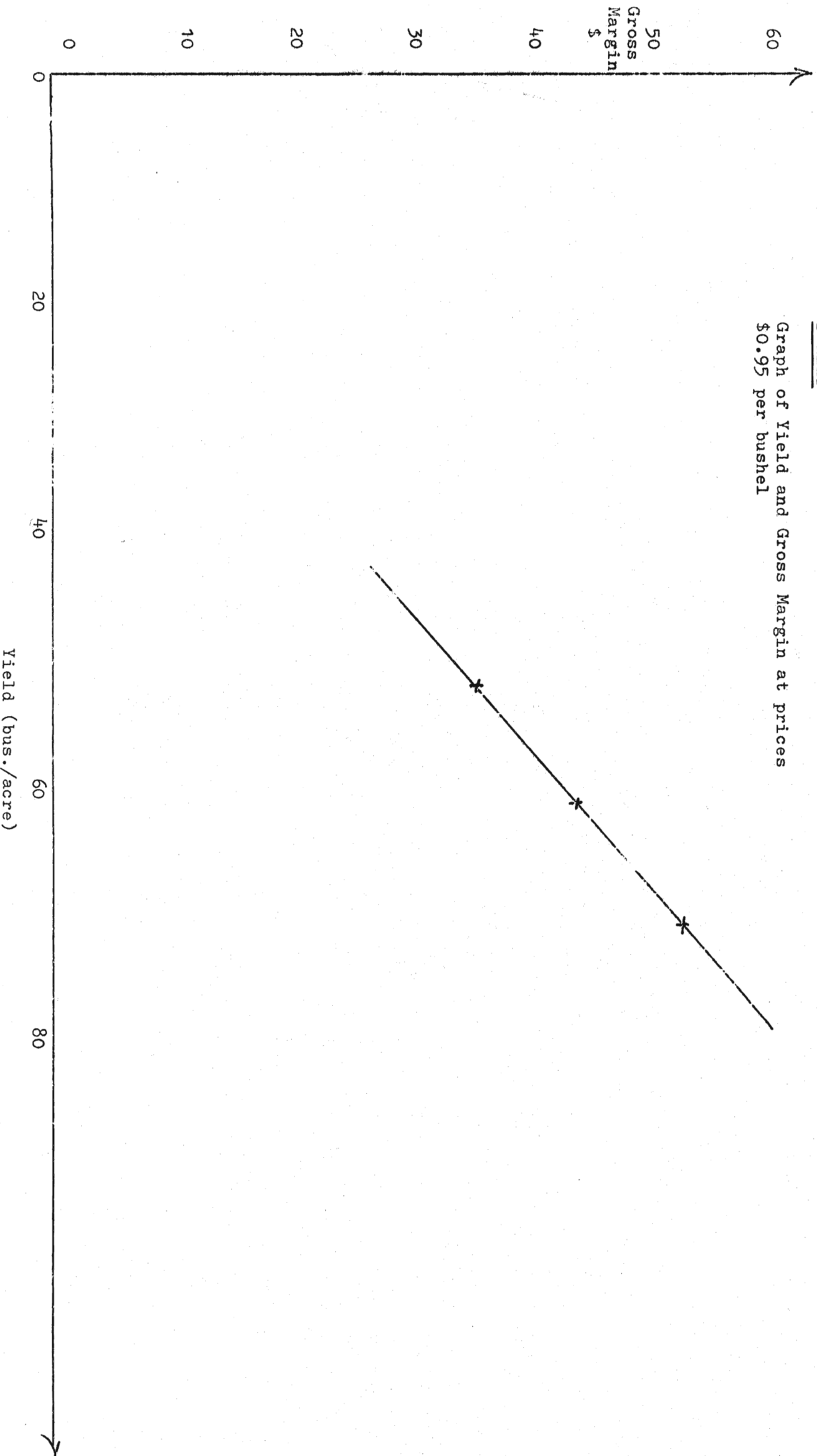
70 bus. @ \$0.95 \$66.50

Direct Costs \$

Cultivation	1.35
Seed	3.90
Fertilizer	1.18
Spraying	1.10
Heading	.20
Sacks 23 @ \$0.11	2.53
Cartage 23 sacks @ \$0.15	3.45
1cwt Fert. @ \$0.08	.08
Raking + Ploughing for a fire break ¼ hr tractor @ \$0.3	.01

BARLEY

Graph of Yield and Gross Margin at prices
\$0.95 per bushel



Total Direct Costs \$13.80

Gross Margin

\$66.50 - 13.80

\$52.70

8. Potatoes

a. Gross Revenue

8 tons table @ \$20 \$160

4 tons seed @ \$40 \$160

\$320

8 tons table @ \$30 \$240

4 tons seed @ \$50 \$200

\$440

Direct Costs \$

Cultivation 12 hrs @ \$0.3 3.60

Seed 1 ton @ \$61 61.00

Fertilizer (5P:5N) 3 cwt @ \$1.60 4.80

Spraying (defoliate) materials +
 1/2 hr tractor @ \$0.3 1.61

Picking 168 bags 50.40

Cartage 168 bags to grader @ \$0.08 13.44

168 bags F.O.B. table
 @ \$2.54/ton 20.32

F.O.R. seed @ \$1.11/ton 4.44

3 cwt Fert. @ \$0.08 .24

Sacks 168 @ \$0.25 42.00

Grading 12 tons @ \$6.00 72.00

Levy 8 tons @ \$2.50 20.00

Certification 2.00

Total Direct Costs \$295.85

Gross Margins

\$320 - 295.85 = \$24.15

\$440 - 295.85 = \$144.15

b. Gross Revenue

14 tons table @ \$20 \$280

7 tons seed @ \$40 \$280

\$560

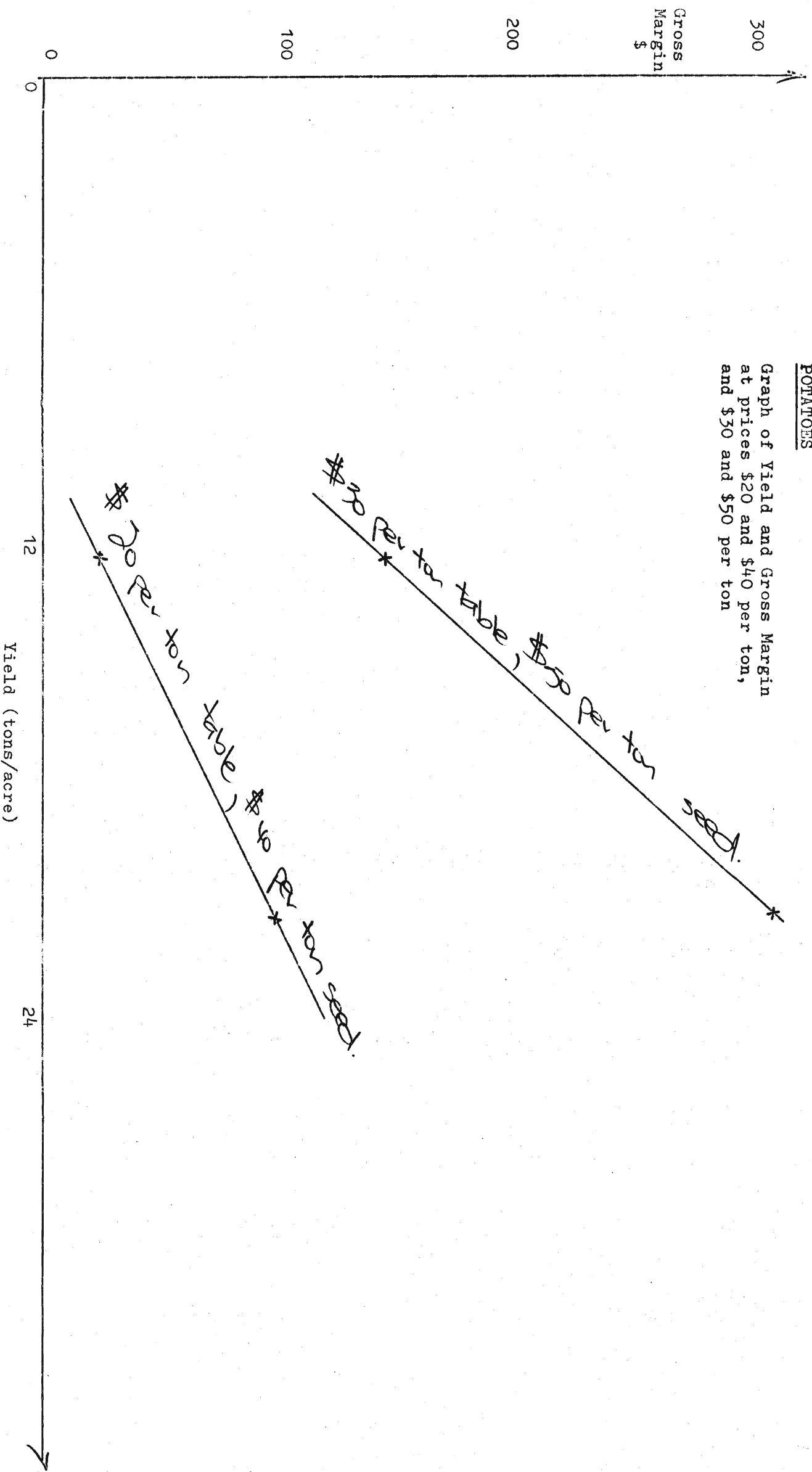
14 tons table @ \$30 \$420

7 tons seed @ \$50 \$350

\$770

POTATOES

Graph of Yield and Gross Margin at prices \$20 and \$40 per ton, and \$50 and \$50 per ton



<u>Direct Costs</u>	\$	
Cultivation	3.60	
Seed	61.00	} same } as } above
Fertilizer	4.80	
Spraying	1.61	
Picking 294 bags @ \$0.3	88.20	
Cartage 294 bags to grader @ \$0.08	23.52	
294 bags F.O.B. table @ \$2.54/tn	35.56	
F.O.R. seed @ \$1.11/ton	7.77	
3 cwt Fert. @ \$0.08	.24	
Sacks 294 @ \$0.25	73.50	
Grading 21 tons @ \$6.00	126.00	
Levy 14 tons @ \$2.50	35.00	
Certification	2.00	
	<hr/>	
Total Direct Costs		\$462.80
Gross Margins		
\$560 - 462.80 =	\$97.20	
\$770 - 462.80 =	\$307.20	

9. Wheat u/s White Clover

Part (a)

Wheat

50 bus. @ \$1.35 \$67.50

<u>Direct Costs</u>	\$
Cultivation 4 hrs @ \$0.3	1.20
Seed 1.5 bus. @ \$2.515	3.77
Fertilizer 1 cwt super @ \$1.18	1.18
Harvesting, Heading $\frac{1}{3}$ hr @ \$0.4	.13
Sacks 17 @ \$0.11	1.87
Cartage 17 sacks @ \$0.15	2.55
Levy \$0.69/50 bus.	.069

Total Direct Costs \$11.39

Gross Margin

\$67.50 - 11.39

= \$56.11

White Clover

(i) Gross Revenue

160 lbs @ \$0.28 \$44.8

<u>Direct Costs</u>	\$
Cultivation 1 hr @ \$0.30	.30
Seed 3 lbs clover @ \$0.45	1.35
1 cwt reverted super @ \$1.12	1.12
Harvesting, Mowing $\frac{2}{3}$ hr @ \$0.3	.20
Heading 1 hr @ \$0.4	.40

	\$	
Bailing, Carting, Twine	.30	
Sacks 2 @ \$0.11	.22	
Twine	.02	
Cartage 2 sacks @ \$0.15	.30	
1 cwt Fert. @ \$0.08	.08	
Dressing and Certification		
160 lbs @ \$0.064	10.24	
Total Direct Costs		\$14.53

Gross Margin

\$44.80 - 14.53

= \$30.27

(ii) White Clover

Gross Revenue

320 lbs @ \$0.28 \$89.60

Direct Costs

	\$	
Cultivation	.30	
Seed	1.35	same
Fertilizer	1.12	as
Mowing	.20	above
Heading	.40	
Bailing etc.	.30	
Sacks 4 @ \$0.11	.44	
Twine	.02	
Cartage 4 sacks @ \$0.15	.60	
1 cwt Fert. @ \$0.08	.08	
Dressing and Certification		
320 lbs @ \$0.064	20.48	

Total Direct Costs \$25.29

Gross Margin

\$89.60 - 25.29

= \$64.31

The yearly Gross Margin for a wheat-white clover rotation is as follows:

$$\frac{\text{G.M. wheat} + \text{G.M. white clover}}{2}$$

Therefore in case (i) 50 bus. wheat + 160 lbs w.c. gives a yearly G.M. of

$$\frac{\$56.11 + 30.27}{2}$$

$$= \underline{\$43.19} / \text{year}$$

In case (ii) 50 bus. wheat + 320 lbs w.c. gives a yearly G.M. of

$$\frac{\$56.11 + 64.31}{2}$$

$$= \underline{\$60.21} / \text{year}$$

The effect on the yearly G.M. if wheat yield is increased to 70 bus. can be seen thus:

Gross Revenue

70 bus. @ \$1.35 \$94.50

Direct Costs \$

Cultivation 4 hrs @ \$0.3	1.20
Seed 1.5 bus. @ \$2.515	3.77
Harvesting, Heading @ $\frac{1}{2}$ hr @ \$0.4	.20
Sacks 23 @ \$0.11	2.53
Cartage 23 sacks @ \$0.15	3.45
Levy \$0.69/50 bus.	.96
Raking + Ploughing for fire break $\frac{1}{3}$ hr @ \$0.3	.10

Total Direct Costs \$12.21

Gross Margin

\$94.50 - 12.21

\$82.29

White Clover

(i) G.M. for yield of 160 lbs/ac
\$30.27

(ii) G.M. for yield of 320 lbs/ac
\$64.31

Therefore yearly G.M. for case (i)
70 bus. wheat + 160 lbs clover, is:

$$\frac{\$82.29 + 30.27}{2} = \$56.28$$

In case (ii) 70 bus. wheat + 320 lbs clover gives a yearly G.M. of

$$\frac{\$82.29 + 64.31}{2}$$

$$= \$73.30$$

Summary of wheat - w.c. G.M.'s

	160 lbs w.c.	320 lbs w.c.
50 bus/ac	\$43.19	\$60.21
70 bus/ac	\$56.28	\$73.30

10. Greenfeed \$

Cultivation 2 hrs @ \$0.30	.60
Seed 2 bus. Alg. Oats @ \$1.35	2.70
Fertilizer 1 cwt super @ \$1.18	1.18
Cartage 1 cwt super @ \$0.09	.09

Total Direct Costs \$4.57

Forage Crop Seeds

Forage crop seeds are not taken off the College farms. A property in the Highbank area on Barrhill silt loam was used to collect the following data. In this analysis both yield and price are varied for each of the crops to show the effect of variation of these two parameters on the Gross Margin.

11. Rape (ex old Grass)

a. Gross Revenue

700 lbs @ \$0.075 \$52.50
 700 lbs @ \$0.15 \$105.00

Direct Costs

	\$
Cultivation 6 hrs @ \$0.3	1.80
Seed 5 lbs @ \$0.25	1.25
Fertilizer 1½ cwt Serp. super @ \$1.18	1.77
Harvesting, Windrowing	2.20
Heading 1 hr @ \$0.4	.40
Cartage sacks 6 @ \$0.12	.31
Fertilizer 1½ cwt @ \$0.21	.31
Sacks 6 @ \$0.08	.48
Twine 6 @ \$0.01	.06
Sundry	.30

Total Direct Costs \$9.29

Gross Margins

\$52.50 - 9.29 = \$43.21

\$105.00 - 9.29 = \$95.71

b. Gross Revenue

1000 lbs @ \$0.075 \$75.00
 1000 lbs @ \$0.15 \$150.00

Direct Costs

	\$
Cultivation)	1.80
Seed) same	1.25
Fertilizer) as	1.77
Windrowing) above	2.20
Heading)	.40
Cartage sacks 9 @ \$0.12	1.08
Fertilizer 1½ cwt @ \$0.21	.31
Sacks 9 @ \$0.08	.72
Twine 9 @ \$0.01	.09

Total Direct Costs \$9.62

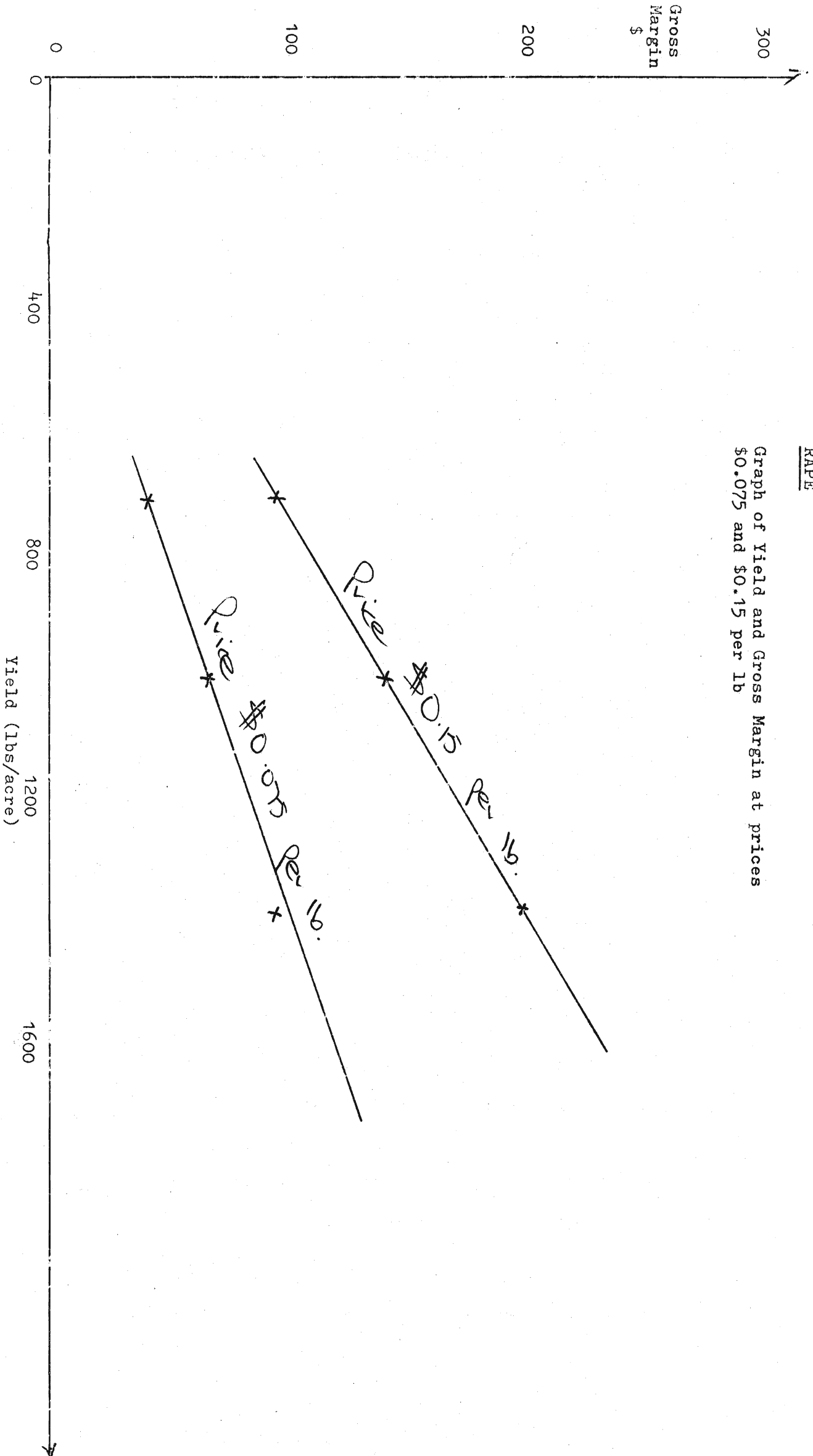
Gross Margins

\$75.00 - 9.62 = \$65.38

\$150.00 - 9.62 = \$140.38

RAPF

Graph of Yield and Gross Margin at prices
\$0.075 and \$0.15 per lb



b. Gross Revenue

500 lbs at \$0.25 \$125.00
 500 lbs at \$0.30 \$150.00

<u>Direct Costs</u>	\$	
Cultivation)	1.80	
Seed) same	2.10	
Fertilizer) as	3.54	
Windrowing) above	2.50	
Heading)	.40	
Cartage Sacks 5 at \$0.14	.70	
Fertilizer 3 cwt at \$0.21	.63	
Sacks 5 at \$0.08	.40	
Twine 5 at \$0.01	.05	
Sundry	<u>.30</u>	
Total Direct Costs		\$12.42

Gross Margins

\$125.00 - 12.42 = \$112.58
 \$150.00 - 12.42 = \$137.58

c. Gross Revenue

700 lbs at \$0.25 \$175.00
 700 lbs at \$0.30 \$210.00

<u>Direct Costs</u>	\$	
Cultivation)	1.80	
Seed) same	2.10	
Fertilizer) as	3.54	
Windrowing) above	2.50	
Heading)	.40	
Cartage Sacks 7 at \$0.14	.98	
Fertilizer 3 cwt at \$0.21	.63	
Sacks 7 at \$0.08	.56	
Twine 7 at \$0.01	.07	
Sundry	<u>.30</u>	
Total Direct Costs		\$12.88

Gross Margins

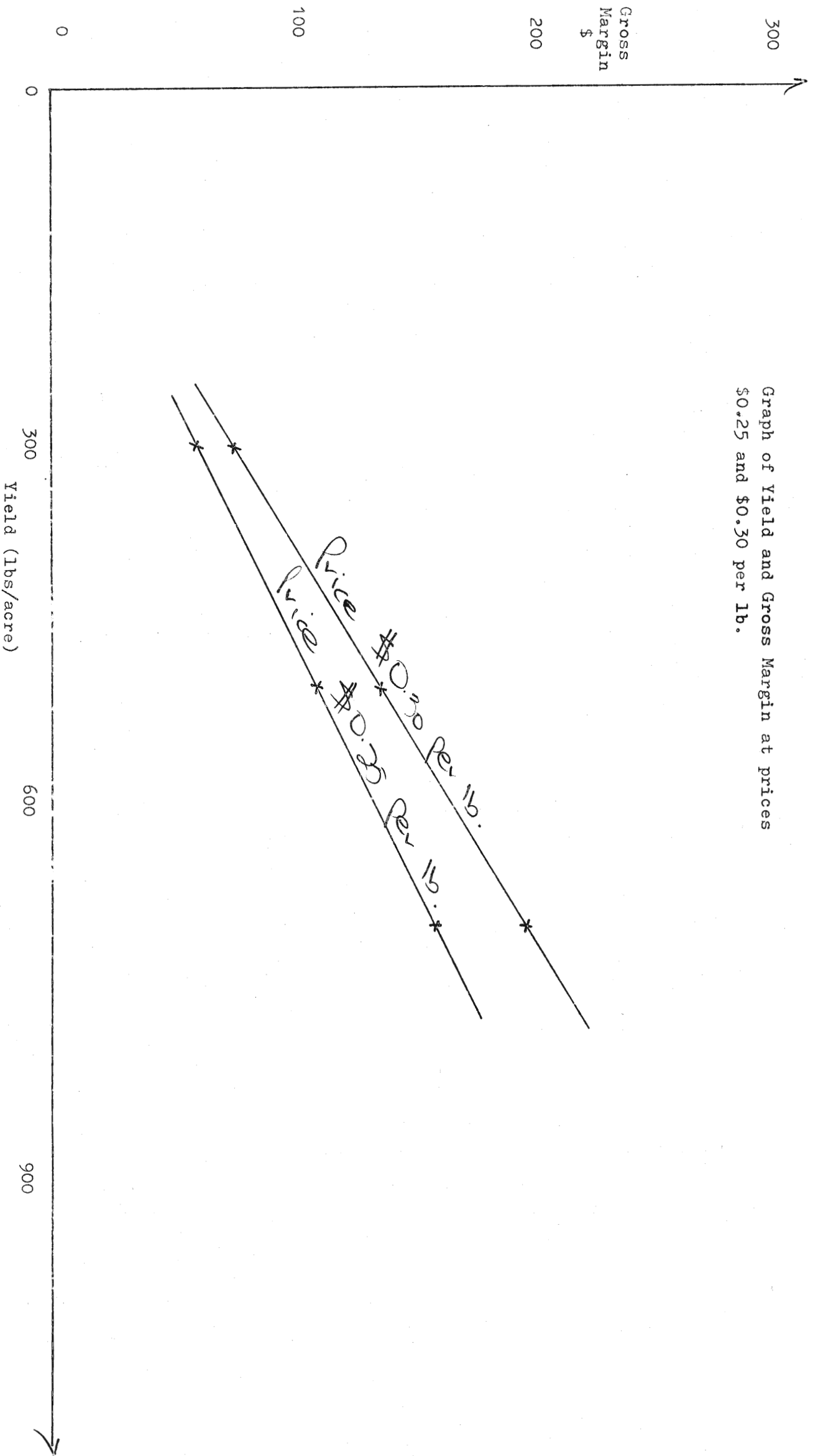
\$175.00 - 12.88 = \$162.12
 \$210.00 - 12.88 = \$197.12

Summary of Chou Seed Gross Margins Yield

Price	300 lbs	500 lbs	700 lbs
\$0.25	\$62.96	\$112.58	\$162.12
\$0.30	\$77.96	\$137.58	\$197.12

CHOU

Graph of Yield and Gross Margin at prices
\$0.25 and \$0.30 per lb.



B. Pastures

Estimates of the costs and returns from pasture are complicated by the fact that the average annual costs depend upon the life of the pasture and also because returns may be in the form of livestock or pasture seeds. That is there is a complementary relationship between the alternative products from pasture.

The following is an estimate of the annual average direct costs per acre of pasture, based on a five year life and excluding any direct costs associated with the harvesting of small seeds.

1. Summer Fallow to New Grass

<u>Establishment</u>	\$	
Cultivation 7.5 hrs at \$0.30	2.25	
Seed 1 bus. Ped. at \$2.2	2.20	
3 lbs Ped. wc at \$0.45	1.35	
Lime 1 ton	6.00	
Super 2 cwt	2.36	
Cartage	<u>.16</u>	
		14.32

Maintenance (Total 5 years)

2 cwt DDT super (standard)	4.16	
8 cwt super	9.46	
Cartage	.80	
Contract topdressing	<u>2.40</u>	
		\$16.82

Total Cost (Establishment and 5 year maintenance) \$31.14

Annual Cost - \$6.23

2. Lucerne

<u>Establishment</u>	\$	
Cultivation 6 hrs at \$0.30	1.80	
Seed 12 lbs at \$0.75	9.00	
Lime 1 ton at \$6.00	6.00	
Fertilizer 2 cwt Reverted super	2.24	
Cartage	<u>.16</u>	
		\$19.20

Estimated life of stand - 7 years

Therefore, annual average establishment cost
 $\$19.20 \div 7 = \2.74

Maintenance

Fertilizer 2 cwt (200lb) S.super	2.70	
Spreading	.48	
Cartage	.16	
Lime	<u>2.00</u>	
		\$5.34

Therefore, annual average total cost
 $\$2.74 + 5.34 = \8.08

Haymaking

a. Own baling and carting

Estimated yield 120 bales/acre	\$	
Mowing + raking 5 hrs at \$0.3		1.50
Baling 1 $\frac{1}{2}$ hrs at \$0.3 (tractor)		.45
1 $\frac{1}{2}$ hrs at \$0.3 (baler)		.45
Twine 120 at \$.025		3.00
Carting 1.5 hrs at \$0.4		<u>.60</u>

\$6.00

Add annual average cost of lucerne stand

8.08

\$14.08

Cost per bale $\frac{\$14.08}{120} = \underline{\$0.117}$

Note: Excludes storage and insurance

b. Contract baling and carting

Mowing and raking		1.50
Baling 120 bales at \$0.1		12.00
Carting 120 bales at \$0.075		<u>9.00</u>

\$22.50

Add annual average cost of lucerne stand

8.08

\$30.58

Cost per bale $\frac{\$30.58}{120} = \underline{\$0.25}$

3. Lucerne Hay for Sale

a. Own baling and carting

Gross Revenue

120 bales at \$0.5 per bale 60.00
 (the equivalent of \$15.00 per ton)

Direct Costs

120 bales at \$0.117 per bale 14.08

Gross Margin

\$60.00 - 14.08

\$45.92

b. Contract baling and carting

Gross Revenue

120 bales at \$0.5 per bale 60.00
 (the equivalent of \$15 per ton)

Direct Costs

120 bales at \$0.25 per bale 30.58

Gross Margin

\$60.00 - 30.58

\$29.42

Note: Excluding storage and insurance

C. Small Seeds

1. White Clover Seed from Pasture

Gross Revenue

80 lbs at \$0.22 per 1 lb \$17.6
80 lbs at \$0.28 per 1 lb \$22.4

Direct Costs

\$
Harvesting, Mowing $\frac{2}{3}$ hr at \$0.3 .20
Baling, Baling Twine etc. .30
Heading 1 hr at \$0.4 .40
Sacks 1 at \$0.11 .11
Twine 1 at \$0.01 .01
Dressing and Certification
80 lbs at \$0.064 5.12
Cartage 1 bag at \$0.17 .17

Total Direct Costs \$6.31

Gross Margins

\$17.6 - 6.31 = \$11.29
\$22.4 - 6.31 = \$16.09

Gross Revenue

160 lbs at \$0.22 \$35.2
160 lbs at \$0.28 \$44.8

Direct Costs

\$
Harvesting, Mowing $\frac{2}{3}$ hr at \$0.3 .20
Baling, Baling twine etc. .30
Heading 1 hr at \$0.4 .40
Sacks 2 at \$0.11 .22
Twine 2 at \$0.01 .02
Cartage 2 bags at \$0.17 .34
Dressing and Certification
160 lbs at \$0.064 10.24

\$11.72

Gross Margins

\$35.2 - 11.72 = \$23.48
\$44.8 - 11.72 = \$33.08

Gross Revenue

320 lbs at \$0.22 \$70.4
320 lbs at \$0.28 \$89.6

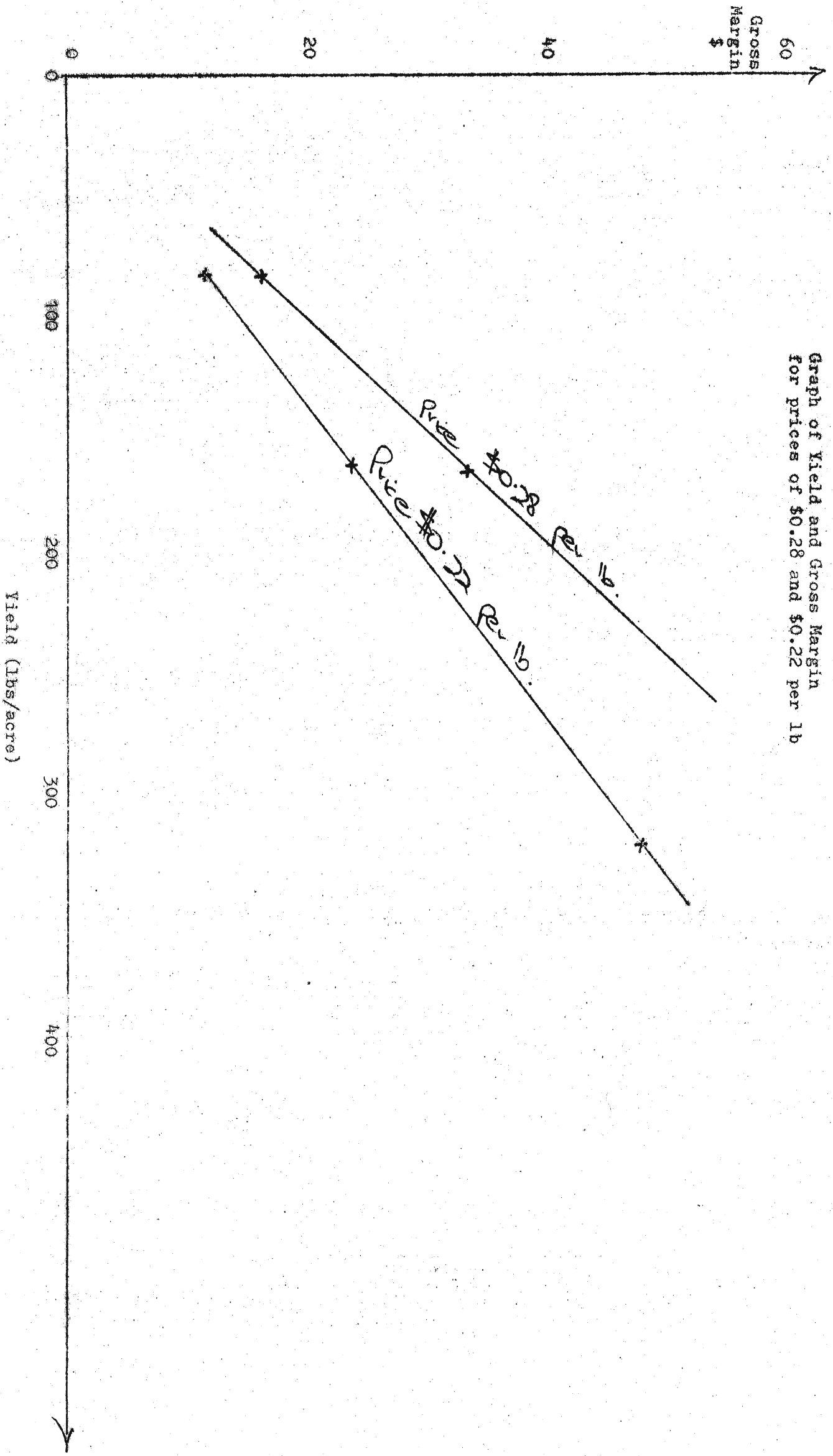
Direct Costs

\$
Harvesting, Mowing $\frac{2}{3}$ hr at \$0.3 .20
Baling, Baling Twine etc. .30
Heading 1 hr at \$0.4 .40
Sacks 4 at \$0.11 .44
Twine 4 at \$0.01 .04
Cartage 4 bags at \$0.17 .68
Dressing and Certification
320 lbs at \$0.064 20.48

Total Direct Costs \$22.54

WHITE CLOVER SEED FROM PASTURE

Graph of Yield and Gross Margin
for prices of \$0.28 and \$0.22 per lb



Gross Margins

\$70.4 - 22.54 = \$47.86

\$89.6 - 22.54 = \$67.06

2. Short Rotation Ryegrass Seed from Pasture

Gross Revenue

30 bus at \$1.50 \$45.00
30 bus at \$2.50 \$75.00

Direct Costs

\$

Nitrogen 2 cwt S/A 5.46
Harvesting, Mowing 5 hrs at \$0.3 .15
Heading $\frac{1}{4}$ hr at \$0.4 .10
Sacks 10 at \$0.138 1.38
Twine 10 at \$0.01 .10
Cartage 10 at \$0.11 1.10
 $1\frac{1}{2}$ cwt Fert. At \$0.08 .12
Spreading Nitrogen .48
Dressing and certification
30 bus at \$0.308 9.24

Total Direct Costs

\$18.13

Gross Margins

\$45.00 - 18.13 = \$26.87

\$75.00 - 18.13 = \$56.87

Gross Revenue

40 bus at \$1.50 \$60.00
40 bus at \$2.50 \$100.00

Direct Costs

\$

Nitrogen 2 cwt S/A 5.46
Harvesting, Mowing $\frac{1}{2}$ hr at \$0.3 .15
Heading $\frac{1}{4}$ hr at \$0.4 .10
Sacks 13 at \$0.138 1.79
Twine 13 at \$0.01 .13
Cartage 13 at \$0.17 2.21
 $1\frac{1}{2}$ cwt Fert. at \$0.08 .12
Spreading Nitrogen .48
Dressing and Certification
40 bus at \$0.308 12.32

Total Direct Costs

\$22.76

Gross Margin

\$60.00 - 22.76 = \$37.24

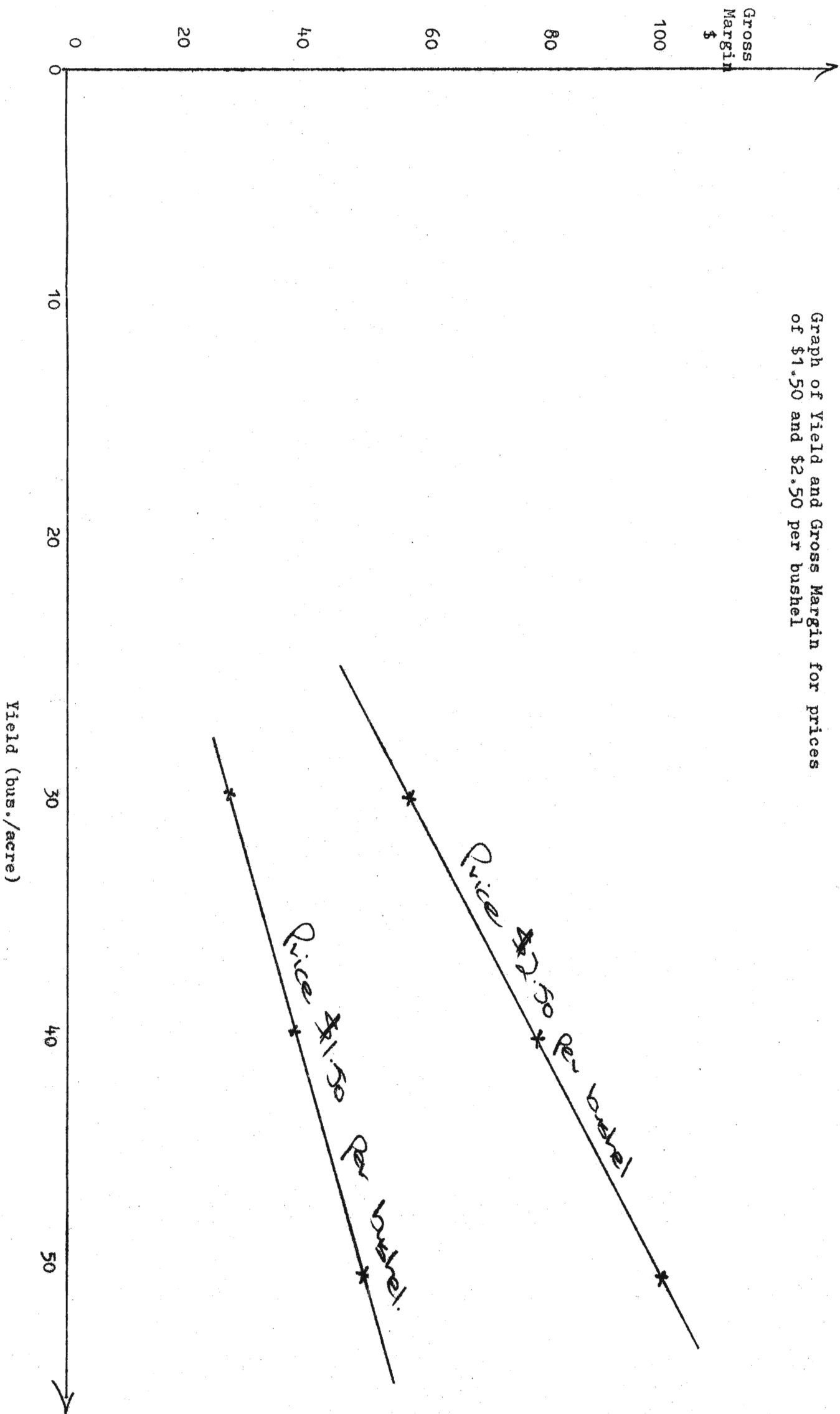
\$100.00 - 22.76 = \$78.24

Gross Revenue

50 bus at \$1.50 \$75.00
50 bus at \$2.50 \$125.00

SHORT ROTATION RYEGRASS SEED FROM PASTURE

Graph of Yield and Gross Margin for prices of \$1.50 and \$2.50 per bushel



<u>Direct Costs</u>	\$
Nitrogen 2 cwt S/A	5.46
Harvesting, Mowing $\frac{1}{2}$ hr at \$0.3	.15
Heading $\frac{1}{3}$ hr at \$0.4	.10
Sacks 17 at \$0.138	2.35
Twine 17 at \$0.01	.17
Cartage 17 at \$0.11	1.87
$1\frac{1}{2}$ cwt Fert. at \$0.08	.12
Spreading Nitrogen	.43
Dressing and Certification	
50 bus. at \$0.308	<u>15.40</u>

Total Direct Costs \$26.10

Gross Margin

\$75.00 - 26.10 = \$48.90

\$125.00 - 26.10 = \$98.90

3. Ryegrass Straw

Gross Revenue

30 bales at \$0.20 \$6.00

Direct Costs \$

Harvesting, Baling $\frac{1}{3}$ hr at \$0.30	.10
Carting $\frac{1}{3}$ hr at \$0.40	.13
Baler engine $\frac{1}{3}$ hr at \$0.30	.10
Twine, Baling 30 bales at \$.025	.75

Total Direct Costs \$1.08

Gross Margin

\$6.00 - 1.08

= \$4.92

(This figure should be added to the figure for Gross Margin for Ryegrass seed to obtain the effective Gross Margin per acre)

4. Cocksfoot (ex Summer fallow, 8 year life)

Establishment \$

Summer Fallow 7.5 hrs at \$0.30	2.25
3 lbs Cocksfoot at \$0.60	1.80
3 lbs W.C. at \$0.40	1.20
2 cwt super at \$1.18	<u>2.36</u>

\$7.61

Therefore average annual establishment cost:

$\frac{\$7.61}{8} = \0.95

a. Gross Revenue

100 lbs at \$0.25 \$25.00
 100 lbs at \$0.50 \$50.00

<u>Direct Costs</u>	\$
Average renewal	0.95
3 cwt Nitrogen S/A	8.20
Harvesting \$2.00 per acre	2.00
Heading 1 hr at \$0.40	.40
Sacks 2 at \$0.138	.27
Twine 2 at \$0.01	.02
Cartage 2 sacks at \$0.11	.22
3 cwt N. at \$0.08	.24
Spreading Nitrogen	.48
Dressing and Certification	
100 lbs at \$0.05	<u>5.00</u>
 Total Direct Costs	 \$17.78

Gross Margins

\$25.00	-	17.78	=	<u>\$7.22</u>
\$50.00	-	17.78	=	<u>\$32.22</u>

b. Gross Revenue

300 lbs at \$0.25	\$75.00
300 lbs at \$0.50	\$150.00

<u>Direct Costs</u>	\$
Average renewal)	0.95
3 cwt Nitrogen) same	8.20
Harvesting) as	2.00
Heading) above	.40
Sacks 6 at \$0.138	.83
Twine 6 at \$0.01	.06
Cartage 6 sacks at \$0.11	.66
3 cwt Nitrogen at \$0.08	.24
Spreading Nitrogen	.48
Dressing and Certification	
300 lbs at \$0.05	<u>15.00</u>
 Total Direct Costs	 \$28.82

Gross Margins

\$75.00	-	28.82	=	\$46.18
\$150.00	-	28.82	=	\$121.18

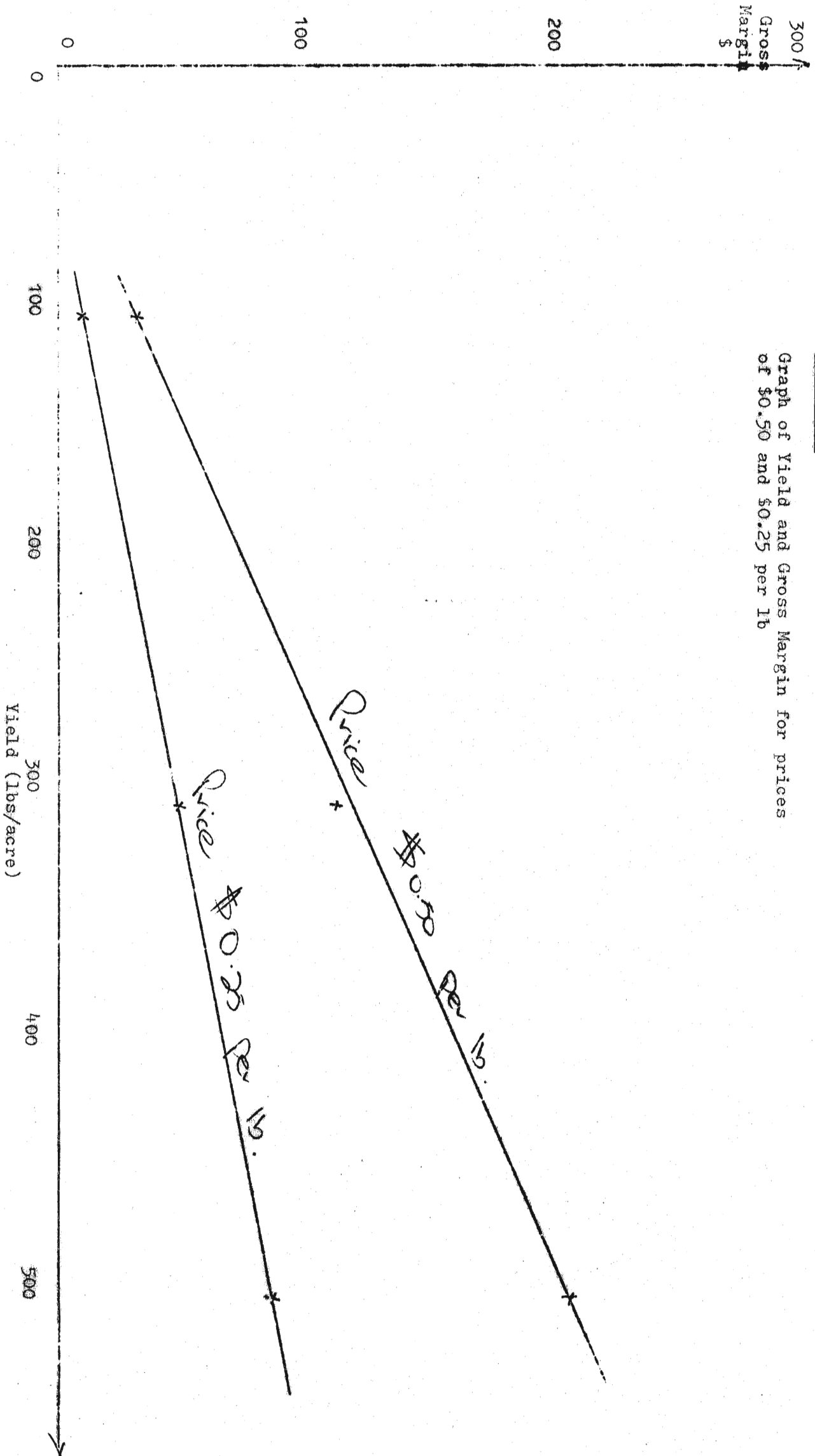
c. Gross Revenue

500 lbs at \$0.25	\$125.00
500 lbs at \$0.50	\$250.00

<u>Direct Costs</u>	\$
Average renewal)	0.95
3 cwt Nitrogen) same	8.20
Harvesting) as	2.00
Heading) above	.40
Sacks 10 at \$0.138	1.38
Twine 10 at \$0.01	.10
Cartage 10 at \$0.11	1.10
3 cwt Nitrogen at \$0.08	.24
Spreading Nitrogen	.48
Dressing and certification	
500 lbs at \$0.05	<u>25.00</u>
 Total Direct Costs	 \$39.85

COCKSFOOT

Graph of Yield and Gross Margin for prices of \$0.50 and \$0.25 per lb



Gross Margins

\$125.00 - 39.85 = \$85.15
 \$250.00 - 39.85 = \$210.15

1. Sheep

The Gross Margins for (1) Ewe Flock, (2) Buying in 2T replacements and, (3) 2 year Fat lamb Ewe Flock, have been calculated using these different sets of prices:

	<u>Lamb</u>	<u>Wool</u>
Low prices	\$4/head	18 cents
Average prices	\$4.5/head	25 cents
High prices	\$5/head	32 cents

1. Ewe Flock (Breeding own replacements)

Feed requirements 1.154 S.U.
 (5 lambs/Ewe 110% lambing)

a. Low Prices

<u>Gross Revenue</u> (including replacement)	\$	
Lamb 0.89 at \$4	3.56	
Wool Hogget (6lbs) and Ewe (10.5 lbs) 11.7 lbs at 18 cents	2.11	
Culled Ewe .15 at \$2.50	<u>.37</u>	
		<u>\$6.04</u>

Direct Costs (including replacement)

	\$
Shearing 1.2 at \$15.00/100	.18
Crutching 1.2 at \$5.00/100	.06
Vaccination	.05
Drenching	.05
Docking	.01
Footrot	.01
Dipping 1.2 at .04	.05
Ram cost net	.10
Cartage of C.F.A. Ewe 1/5th of \$0.09	<u>.02</u>

Total Direct Costs \$0.53

Gross Margin

\$6.04 - 0.53

= \$5.51 (\$5.51)

b. Average Prices

Gross Revenue

Lamb .89 at \$4.5	4.00	
Wool Hogget (6lbs) and Ewe (10.5 lbs) 11.7 lbs at 25 cents	2.92	
Culled Ewe .15 at \$2.5	<u>.37</u>	
		<u>\$7.29</u>
<u>Direct Costs</u>		\$0.53

Gross Margin

\$7.20 - 0.53

= \$6.66

c. High Prices

Gross Revenue

\$

Lamb .89 at \$5

4.45

Wool Hogget (6lbs) and Ewe
(10.5 lbs) 11.7 lbs at 32 cents

3.74

Culled Ewe 0.15 at \$2.50

.37

\$8.56

Direct Costs

0.53

Gross Margin

\$8.65 - 0.53

= \$8.03

2. Buying in 2T replacements

Feed requirement 1.014 S.U.

(110% lambs, 5 lambings/ewe)

a. Low Prices

Gross Revenue

\$

Lambs 1.1 at \$4

4.40

Wool 10.5 lbs at 18 cents

1.89

Culled Ewe 1/5th at \$2.5

.50

\$6.79

Direct Costs

\$

Replacement .25 (deaths 5%) at \$8

2.00

Shearing \$15.00/100

.15

Crutching \$5.00/100

.05

Vaccination

.05

Drenching

.05

Docking

.01

Footrotting

.01

Dipping

.05

Ram cost net

.10

Cartage of culled ewe and 2T

.08

Total Direct Costs

\$2.55

Gross Margin

\$6.79 - 2.55

\$4.24

Average Prices

<u>Gross Revenue</u>	\$	
Lambs 1.1 at \$4.50	4.95	
Wool 10.5 lbs at 25 cents	2.62	
Culled Ewe 1/5th at \$2.5	<u>.50</u>	\$8.07
<u>Direct Costs</u>		\$2.55
Gross Margin		
\$8.07 - 2.55		
=	<u>\$5.52</u>	

c. High Prices

<u>Gross Revenue</u>	\$	
Lambs 1.1 at \$5.00	5.50	
Wool 10.5 lbs at 32 cents	3.36	
Culled Ewe 1/5th at \$2.5	<u>.50</u>	\$9.36
<u>Direct Costs</u>		\$2.55
Gross Margin		
\$9.36 - 2.55		
=	\$6.81	

3. 2 year Fat Lamb Ewe Flock S.U. = 1,014

a. Low Prices

<u>Gross Revenue</u> (lambing 115%)	\$	
Lambs 1.15 at \$4 net	4.60	
Wool 10 lbs at 18 cents	1.80	
Culled Ewe $\frac{1}{2}$ at \$2.5	<u>1.25</u>	\$7.65
<u>Direct Costs</u>	\$	
Ewe replacement $\frac{1}{2}$ + 0.05 (deaths) at \$5	2.75	
Shearing at \$15/100	.15	
Crutching at \$5/100	.05	
Vaccination	.05	
Drenching	.05	
Dipping	.05	
Docking	.01	
Footrotting	.01	
Ram Costs (net)	.10	
Cartage	<u>.11</u>	
Total Direct Costs		\$3.33
Gross Margin		
\$7.65 - 3.33		
=	<u>\$4.32</u>	

b. Average Prices

<u>Gross Revenue</u>	\$	
Lambs 1.15 at \$4.5	5.17	
Wool 10 lbs at 25 cents	2.50	
Culled Ewe $\frac{1}{2}$ at \$2.5	<u>1.25</u>	
		\$8.92
<u>Direct Costs</u>		\$3.33
Gross Margin		
\$8.92 - 3.33		
= <u>\$5.59</u>		

c. High Prices

<u>Gross Revenue</u>	\$	
Lambs 1.15 at \$5.00	5.75	
Wool 10 lbs at 32 cents	3.20	
Culled Ewe $\frac{1}{2}$ at \$2.5	<u>1.25</u>	
		\$10.20
<u>Direct Costs</u>		\$3.33
Gross Margin		
\$10.20 - 3.33		
= \$6.87		

4. Hoggets (winter fattening)

<u>Gross Revenue</u>	\$	
One hogget at \$6.5 net	6.50	
Wool $6\frac{1}{2}$ lbs at 25 cent (average price)	<u>1.62</u>	
		\$8.12
<u>Direct Costs</u>	\$	
Replacement of Hogget and deaths		
1.05 at \$5 net	5.25	
Shearing \$15.00/100	.15	
Crutching \$5.00/100	.05	
Drenching	.05	
Footrot	.01	
Dipping	.05	
Cartage	<u>.18</u>	
Total Direct Costs	\$5.74	
Gross Margin		
\$8.12 - 5.74		
= <u>\$2.38</u>		

5. Selling Ewes and Lambs all Counted

Feed requirement 0.014 S.U. for complete year
1.00 S.U. for winter period
110% lambing

5. <u>Gross Revenue</u>	\$	
Ewe 1 at \$3.8	3.80	
Lamb 1.1 at \$3.8	<u>4.18</u>	\$7.98
<u>Direct Costs</u>	\$	
Replacement 1.05 at \$4.50	4.72	
Crutching \$5.00/100	.05	
Docking	.01	
Footrot	.01	
Ram Cost (net)	.10	
Cartage	<u>.22</u>	
Total Direct Costs		\$5.11
Gross Margin		
\$7.98 - 5.11		
= <u>\$2.87</u>		

SUMMARY

A. CROPS (per acre)

	Yield	Price \$	Gross Rev. \$	Direct Cost \$	Gross Margin \$	
1. Garden Peas (ex old grass)	25 bus.	1.2	30.0	20.12	9.88	
		1.6	40.0	20.12	19.88	
		2.0	50.0	20.12	29.88	
	35 bus.	1.2	42.0	21.15	20.85	
		1.6	56.0	21.15	34.85	
		2.0	70.0	21.15	48.85	
	45 bus.	1.2	54.0	22.14	31.86	
		1.6	72.0	22.14	49.86	
		2.0	90.0	22.14	67.86	
2. Partridge Peas	25 bus.	1.2	30.0	15.58	14.42	
		1.6	40.0	15.58	24.42	
		2.0	50.0	15.58	34.42	
	35 bus.	1.2	42.0	16.61	25.39	
		1.6	56.0	16.61	39.39	
		2.0	70.0	16.61	53.39	
	45 bus.	1.2	54.0	17.60	36.40	
		1.6	72.0	17.60	54.40	
		2.0	90.0	17.60	72.40	
3. Vining Peas (ex old grass or Chou)	2500 lbs	\$72/tn	80.35	22.2	58.15	
	3500 lbs	\$64/tn	99.99	22.2	77.79	
	4500 lbs	\$56/tn	112.50	22.2	90.30	
4. Wheat (ex peas) Aotea	30 bus	1.35	40.5	7.88	32.62	
	50 bus	1.35	67.5	10.01	57.49	
	70 bus	1.35	94.5	11.91	82.59	
	Hilgendorf	30 bus	1.50	45.0	8.28	36.72
		50 bus	1.50	75.0	10.41	64.59
		70 bus	1.50	105.0	12.31	92.69
	Arawa	30 bus	1.30	39.0	7.86	31.14
		50 bus	1.30	65.0	9.99	55.01
		70 bus	1.30	91.0	11.89	79.11
	5. Wheat (ex wheat)	45 bus	1.35	60.75	11.64	49.11
	6. Wheat Bulk (ex peas)	50 bus	1.50	67.50	7.10	67.90
	7. Barley	50 bus	0.95	47.50	12.24	35.26
60 bus		0.95	57.00	13.02	43.98	
70 bus		0.95	66.50	13.80	52.70	
8. Potatoes		20.00				
	12 tons	&40.00	320.0	295.85	24.15	
		30.00				
	12 tons	&50.00	440.0	295.85	144.15	
		20.00				
	21 tons	&40.00	560.0	462.80	97.20	
		20.00				
	21 tons	&40.00	770.0	462.80	307.20	

	<u>Yield</u>	<u>Price</u> \$	<u>Gross</u> <u>Rev.</u> \$	<u>Direct</u> <u>Costs</u> \$	<u>Gross</u> <u>Margin</u> \$
9. Wheat W.C.					
W	50 bus.	1.35	67.50	11.39	56.11)
W.C.	160 lbs	0.28	44.8	14.53	30.27) 43.19
W	50 bus.	1.35	67.50	11.39	56.11)
W.C.	320 lbs	0.28	89.60	25.29	64.31) 60.21
W	70 bus.	1.35	94.50	12.21	82.29)
W.C.	160 lbs	0.28	44.8	14.53	30.27) 56.28
W	70 bus.	1.35	94.50	12.21	82.29)
W.C.	320 lbs	0.28	89.60	25.29	64.31) 73.30
10. Greenfeed				4.57	
11. Rape	700 lbs	0.075	52.50	9.29	43.21
		0.15	105.00	9.29	95.71
	1000 lbs	0.075	75.00	9.62	65.38
		0.15	150.00	9.62	140.38
	1400 lbs	0.075	105.00	10.25	94.75
		0.15	210.00	10.25	199.75
12. Chou	300 lbs	0.25	75.00	12.04	62.96
		0.30	90.00	12.04	77.96
	500 lbs	0.25	125.00	12.42	112.58
		0.30	150.00	12.42	137.58
	700 lbs	0.25	175.00	12.88	162.12
		0.30	210.00	12.88	197.12

B. PASTURE (5 year life)

1. Establishment (ex fallow)	\$14.32
Maintenance	<u>16.82</u>
	\$31.14
Therefore, per acre per annum	\$6.23
2. <u>Lucerne</u> (7 year life)	
Establishment (ex fallow)	<u>\$19.20</u>
Therefore average establishment cost	\$ 2.74
Annual maintenance	<u>5.34</u>
Therefore annual direct costs	\$ 8.08
Haymaking (120 bales/ac yield)	
a. Own baling and carting	
Direct Costs	\$ 6.00
Add annual average cost of lucerne stand	<u>8.08</u>
	\$14.08
Cost per bale	\$0.117

b. Contract baling and carting

Direct Costs	\$22.50
Add annual average cost of lucerne stand	<u>8.08</u>
	\$30.58
Cost per bale \$0.25	

3. Lucerne Hay for sale			Gross Rev.	Direct Costs	Gross Margin
	<u>Yield</u>	<u>Price</u>			
a. Own baling and carting	120	0.50	60.00	14.08	45.92
b. Contract baling and carting	120	0.50	60.00	30.58	29.42

C. SMALL SEEDS

		<u>Yield</u>	<u>Price</u>	<u>Gross Rev.</u>	<u>Direct Costs</u>	<u>Gross Margin</u>
1. White Clover	80 lbs	0.22	17.60	6.31	11.29	
		0.28	22.40	6.31	16.09	
	160 lbs	0.22	35.20	11.72	23.48	
		0.28	44.80	11.72	33.08	
	320 lbs	0.22	70.40	22.54	47.86	
		0.28	89.60	22.54	67.06	
2. HI Ryegrass	30 bus.	1.50	45.00	18.13	26.87	
		2.50	75.00	18.13	56.87	
	40 bus.	1.50	60.00	22.76	37.24	
		2.50	100.00	22.76	78.24	
	50 bus.	1.50	75.00	26.10	48.90	
		2.50	125.00	26.10	98.90	
3. Ryegrass Straw	30 bales	0.20	6.00	1.08	4.92	
4. Cocksfoot	100 lbs	0.25	25.00	17.78	7.22	
		0.50	50.00	17.78	32.22	
	300 lbs	0.25	75.00	28.82	46.18	
		0.50	150.00	28.82	121.18	
	500 lbs	0.25	125.00	39.85	85.15	
		0.50	250.00	39.85	210.15	

D. SHEEP

	<u>Unit</u>	<u>Stock Units</u>	<u>Prices</u>	<u>Gross Rev. per Unit</u>	<u>Direct Costs Per U't</u>	<u>Gross Margin Per Unit</u>
1. Ewe Flock (breeding own replacements)	1E +repl +rams	1.154	Low	6.04	0.53	5.51
			Average	7.29	0.53	6.66
			High	8.56	0.53	8.03
2. Ewe Flock (buying 2T's)	1E +rams	1.014	Low	6.79	2.55	4.24
			Average	8.07	2.55	5.52
			High	9.36	2.55	6.81

	<u>Unit</u>	<u>Stock Units</u>	<u>Prices</u>	<u>Gross Rev. per Unit</u>	<u>Direct Costs Per U't</u>	<u>Gross Margin Per Unit</u>
3. Ewe Flock (2 yr ewes)	1E +rams	1.014	Low	7.65	3.33	4.32
			Average	8.92	3.33	5.59
			High	10.20	3.33	6.87
4. Hoggets (wintering)	1 Hgt	.66 (winter only)	Average	8.12	5.74	2.38
5. Ewes & Lambs all counted	1E	1.0 (winter only)		7.98	5.11	2.87

Interpretation

- Where there is complementarity, say wintering hoggets and then white clover seed, the aggregate Gross Margin for the year would be calculated as follows:

Gross Margin from 320 lbs W.C.
at \$0.22 per lb \$47.86

Gross Margin from Hoggets \$2.38 x 3
(estimated carrying capacity on winter grass) -6.84
\$57.70

less annual costs of pasture \$6.23
Less Lucerne hay, say 1 bale per hogget
3 bales at \$0.25 0.75
\$6.98

Estimated Aggregate Gross Margin \$47.72

- The time crops are in the ground is also a factor for consideration. For example, vining peas, sown in November and harvested the following January, utilize a paddock for only three months whereas a seed crop of rape sown in February will not be harvested till the following February and hence utilizes an area for in excess of 12 months. When comparing gross margins, therefore, this factor should be taken into consideration.
- In all cases lime has been regarded as an overhead cost, except with lucerne, which has additional requirements.
- It is a matter of judgement as to whether the differences in these estimated gross margins are significant in relation to the respective levels of uncertainty. For example, consider the alternatives of breeding replacements for the ewe flock against purchasing 2 yr ewes. The latter policy is generally practised on this class of farm. It has obvious management advantages, flexibility etc. The calculated gross margins for these two alternatives corrected for their S.U. basis is:

Breeding (average Prices)

Gross Margin	\$6.66
S.U.	1.154
G.M./S.U.	\$5.77

2 yr Ewes (average Prices)

Gross Margin	\$5.59
S.U.	1.014
G.M./S.U.	\$5.51

This is an advantage of \$0.26 to the breeding policy. But breeding is rarely practised on this class of property, which would seem to indicate that managerial factors which cannot be included in this kind of analysis are generally more important.