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FIELD EXPERIMENTS 1957

Pea

Sugar Beet Weed Control Experiments

Site: Sprowston (Oak Lodge Field)

Soil Type: Medium loam

PH 8.0

P medium high

K very low

Major Indigenous Weed Species:

Volunteer clover, chickweed; a little black bindweed, knotgrass, speedwell.

Experiment:

Peas Row-width/Spraying Trial

To assess the effect of two chemicals on weeds and yield of vining peas and to compare the different cultural methods of growing vining peas

Treatments:

- Main plots:
- 1) 7" rows
 - 2) 14" rows

- Sub-plots:
- 1) Unsprayed control
 - 2) 2lb DNBP per acre in 62.5 gall. water per acre.
 - 3) 2lb MCPB per acre in 62.5 gall. water per acre.

Layout:

4 randomised blocks with split plots.

Treatment Plot Size:

Main Plots: 24 yds x 6 yds

Sub plots: 8 yds x 6 yds = 1/100th acre

Harvest Plot Size:

6 yds x $4\frac{1}{2}$ yds = 27 sq. yds = 1/180th acre. i.e. 24 rows @ 7" or

Previous Cropping and Manuring: 12 rows @ 14".

1955. Red Clover Ley.

1956. Winter Wheat 2 cwt 10:10:15. 3 cwt Nitro-chalk.

Manuring of Experimental Crop:

3 cwt. 0:10:20.

Cultivation: $1\frac{1}{2}$ cwt. 50% muriate of potash.

Ploughed March 1957

Cultivated and rolled

Heavy harrowed before drilling and afterwards.

Drilling. Date: 15th April Rate: 15 stone per acre (both row-widths)

Drill: Mellicker cup-feed Seed: Thomas Laxton

Depth: 2"

Date of Brairding: about 25th April.

Spraying

1. Date: 27th May
2. Soil Condition (Previous weather): Cool dry conditions resulting in slow growth of weeds. Few present at time of spraying.
3. Weather Conditions During Spraying:
Fine, sunny, fairly warm. Slight breeze across plots from N.E.
4. Method Adopted:
Oxford Precision Sprayer. 30 p.s.i. DNBP - size 3 nozzles, 5 pints per plot. MCPB - size 0 nozzles, 2 pints per plot.
5. Order of Spraying:
6. Chemicals:
DNBP. Blocks I - IV; MCPB. Blocks I - IV (N), IV - I (S)

DNBP - Fisons 'Supersextox' 1956.
MCPB - Fisons 'Legumex' 1956.
7. State of Weeds: Clover: 2 leaf stage; Chickweed: branches 2-4" long;
black bindweed: 2 leaf stage; Knotgrass: 2-4 leaf stage.
8. State of Beets: Peas:
5 - 6 leaf stage, 6-9" high

Condition after Spraying:

Remaining warm and dry. No rain for 6 days.

Weed and Beet Counts:

Harvesting:

Date: 9-10/7/57

Method: Plots cut with hooks and haulm divided into four by a lengthwise and a cross-wise division. Diagonally opposite quarters were then bulked and each half weighed. One half taken and stripped of pods. Pods weighed. 2 1000 gm samples of pods weighed, shelled and resulting peas weighed. Peas from each pair of samples bulked thoroughly mixed and 2 10 gm samples minced and pickled for A.I.S. determinations. Approx 2000g pods taken for tenderometer readings.

General Observations:

- 28th May: No sign yet of damage to weed by dimoseb, MCPB causing chickweed leaves to curl but no other effect.
- 30th May: Marked scorch of chickweed, bindweed, knotgrass, speedwell etc., by dimoseb. No effect on peas. MCPB causing marked distortion to peas and weeds.
- 6th June: DNBP: slight scorch of lower leaves of peas but no permanent effect and growing away well. Chickweed killed well, clover not. Speedwell wild radish, etc. also killed. Knotgrass severely scorched. Gives a very clean appearance.

MCPB: peas still showing distortion at tips but growing away well and as tall as controls. Weed control useless, all appearing unaffected.
- 25th June: No sign of any control of weeds by MCPB. DNBP plots had recovered considerably but much cleaner than controls.

Peas Row-width/Spraying Trial 1957.

| Spray Treatment | Wide Rows | | | Narrow Rows | | | Mean of both row-widths | | |
|----------------------------|---------------------------|----------------------|---------|---------------------------|----------------------|---------|---------------------------|----------------------|---------|
| | Yield of peas (cwt /acre) | Tenderometer Reading | A.I.S % | Yield of peas (cwt /acre) | Tenderometer Reading | A.I.S % | Yield of peas (cwt /acre) | Tenderometer Reading | A.I.S % |
| Control (unsprayed) | 18.2 | 90.5 | 11.4 | 22.2 | 92.8 | 11.2 | 20.2 | 91.7 | 11.3 |
| DMBP 2lb/acre | 21.8 | 90.7 | 11.6 | 24.0 | 93.9 | 11.2 | 22.9 | 92.3 | 11.4 |
| MOPB 2lb/acre | 18.2 | 94.7 | 11.6 | 20.8 | 93.9 | 11.2 | 19.5 | 94.3 | 11.4 |
| Mean | 19.4 | 92.0 | 11.5 | 22.3 | 93.5 | 11.2 | 20.9 | 92.8 | 11.4 |
| Sig. Diff. (p= 0.05) | N.S | N.S | N.S | N.S | N.S | N.S | 2.0 (2.8 at p= 0.01) | N.S | N.S |
| <i>Coeff. of Variation</i> | | | | | | | 8.9% | 7.6% | 9.3% |

Differences between wide and narrow rows were non-significant for all three observations - yield, tenderometer reading, and A.I.S. %.