

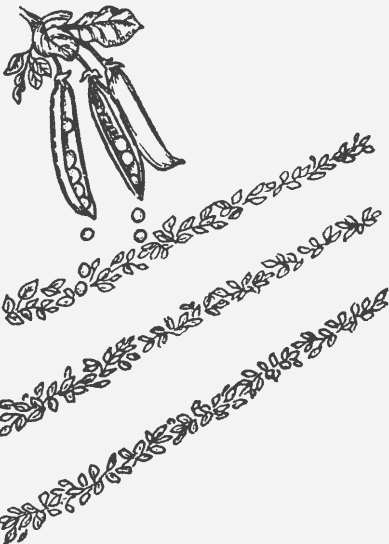
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## **Tests With Peas**

*Outlying Testing Report 8*



Extension Service  
Institute of Agricultural Sciences  
State College of Washington  
Pullman, Washington

# 1956

## Tests With Peas

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### CONCLUSIONS AND RECOMMENDATIONS

The 1956 pea fertility trials were conducted on land that had been fertilized previously and cropped under irrigation for two or more years.

#### Results:

- N - No response to nitrogen
- P - No response to phosphorus
- K - No response to potash
- M. E. - No response to minor elements

#### Recommendations:

- N - Nitrogen on peas will probably not pay on land which has been cropped previously under irrigation except where nitrogen deficiency is known to exist. On new land apply 20-40 pounds nitrogen per acre.
- P - Phosphorus may not pay where it has recently been applied. You will probably need phosphorus on new land, leveled land, or land that has not recently received phosphorus.
- K - Potash will probably not pay except on land that has been severely leveled.
- M. E. - Minor elements are not recommended.

Have your soil tested - particularly for learning your phosphorus and potash needs. Be sure all fertilizers are plowed under or placed several inches beneath the soil surface.

### OUTLYING TESTING IN WASHINGTON

Outlying Testing is a joint project of the Experiment Stations and Extension Service of the State College of Washington. The program is conducted in cooperation with local farmers. In eastern Washington work is being done in Franklin, Adams, and Grant counties of the Columbia Basin. Trials have been conducted on dry beans, wheat, barley, oats, field corn, grain sorghum and peas. In 1956 sixteen trials were conducted on small grain varieties, pea fertility, bean fertility, corn fertility and corn varieties. The locations represent a wide range of climatic and soil conditions throughout the Basin area. The locations of all the trials are listed in Table 3. In addition to the 15 listed, trials were started but were unavoidably eliminated before being carried to completion.

### 1956 PEA FERTILITY TRIALS

Fertility trials on canning peas to be

used for seed were conducted at three locations - in Block 73 northwest of Quincy, in Block 70 near Stratford, and in Block 42 southeast of Moses Lake. The cooperators, location, and soil type are listed in Table 3. Information on the soil tests and cropping fertilizer history are given in Table 1. At Stratford no leveling had been done. The area was sprinkler irrigated. At Quincy and Moses Lake, where the rill method was used, some leveling had been done prior to 1956. The fertilizers were broadcast and plowed under before seeding. Perfection peas were seeded April 11 at Quincy, April 18 at Stratford, and April 19 at Moses Lake. The plots were harvested July 25 and 26.

The yields of peas as they were influenced by the various fertilizer treatments are presented in Table 2. Each value is the average of four plot yields receiving the same treatment. The yields were subjected to a statistical analysis. Although the values in the table vary, there is little likelihood that there was actually a yield response to any fertilizer treatment. On the other hand, the yields tend to decrease at higher rates of nitrogen. There is no apparent explanation for this trend. The weight per 100 peas for each fertilizer treatment was measured as an index of maturity. There appeared to be no relationship between these measurements and the yield of peas.

Table 1. Information on the Soils of the Pea Trials

Location	Soil Type	Crop History
Quincy	Bessler silt loam	1953 Red M. beans 1954 Purple beans
Stratford	Spoorey gravelly silt loam	1953 White 1954 Peas 1955 Sugar Peas
Moses Lake	Sagehen silt loam	1953 Red M. beans 1954 dry (no crop)

Table 1. Information on the Soils of the Pea Trial Locations

Location	Soil Type	Crop and Fertility History	Pounds/acre	
			N	P <sub>2</sub> O <sub>5</sub>
Quincy	Renslow silt loam	1955 Red M. beans	N - 50	
			P <sub>2</sub> O <sub>5</sub> - 40	
		1954 Pinto beans	N - 80	
			P <sub>2</sub> O <sub>5</sub> - 40	
Stratford	Scootenev gravelly silt loam	1955 Wheat	N - 66	
			N - 20	
		1953 Sugar Beets	P <sub>2</sub> O <sub>5</sub> - 80	
			N - 200	
Moses Lake	Sagemoor silt loam	1955 Red M. beans	N - 60	
			P <sub>2</sub> O <sub>5</sub> - 40	
		1954 dry land wheat	Zinc - 10	

Table 2. Yield of Peas as Influenced by Various Fertilizer Treatments

Treatment pounds per acre			Yield pounds per acre		
Nitrogen (N)	Phosphorus (P <sub>2</sub> O <sub>5</sub> )	Potassium / M. E. <sup>1</sup> (K <sub>2</sub> O)	Quincy	Stratford	Moses Lake
0	60	0	5042	3117	4100
20	60	0	4886	3294	4137
40	60	0	4719	3213	3977
80	60	0	4717	3469	3840
160	60	0	4489	2883	3763
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40	60	0	4719	3213	3977
40	0	0	4563	3120	4192
40	60	100	4980	3335	3882

NOTE: The table is divided into 2 sections. Comparisons of nitrogen rates may be made in the upper section. Phosphorus and potash treatments can be compared in the lower section. The 40-60-0 treatment appears in both sections.

<sup>1</sup>Minor elements - calcium, magnesium, sulfur, iron, manganese, boron, copper, and molybdenum were all included in the treatment with potassium.

Table 5. Locations of 1965 Columbia Basin Oatling Testing Trials

Farm	County	Location	Block
Old Flamingo	Quincy	Quincy	53
Balpe Park	Osage	Osage	49
Dale Winters	Osage	Osage	76
Ernest Minahan	Osage	Osage	78
Ken Goodrich	Moses Lake	Moses Lake	42
Willie Suber	Stratford	Stratford	70
Ray Galloway	Quincy	Quincy	75
Scorpio Black	Quincy	Quincy	72
O. E. Neuman	Franklin	Franklin	48
Howard B. Kennedy	Osage	Osage	43
Clarence Smith	Osage	Osage	41
Jim Johnson	Moses	Moses	12
Ed Winkler	Moses Lake	Moses Lake	41
Ken Schenck	Washington	Washington	73
Max Pyle	Osage	Osage	44

Table 5. Locations of 1965 Columbia Basin Oatling Testing Trials  
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 State College of Washington  
 Earlier names used prior to 1958

Table 3. Locations of 1956 Columbia Basin Outlying Testing Trials

Farm Cooperator	Location	Block No.	County	Soil Type <sup>1</sup>	Type of Trial
Sid Flanagan	Quincy	73	Grant	Haywood silt loam (Warden-Wheeler) <sup>2</sup>	Grain varieties
Ralph Parks	Othello	49	Adams	Ephrata sandy loam (Ephrata)	Grain varieties
Dale Worshem	Eltopia	16	Franklin	Taunton fine sandy loam (Burke)	Grain varieties
Everett Mietzner	Quincy	73	Grant	Renslow silt loam (Warden-Wheeler)	Pea fertility
Ken Goodrich	Moses Lake	42	Grant	Sagemoor silt loam (Sagemoor)	Pea fertility
Willis Suhrbier	Stratford	70	Grant	Scooteney gravelly silt loam (Ephrata)	Pea fertility
Bob Holloway	Quincy	75	Grant	Timmerman very fine sandy loam (Ephrata)	Bean fertility
Murphy Black	Quincy	72	Grant	Haywood silt loam (Warden-Wheeler)	Bean fertility
D. E. Nelson	Warden	44	Grant	Warden silt loam (Warden-Wheeler)	Bean fertility
Howard Risenmay	Othello	49	Adams	Scootenay-Ringold complex, v. fi. sandy loam, (Ephrata)	Bean fertility
Clarence Snekvik	Othello	49	Adams	Ephrata v. fi. sandy loam (Ephrata)	Bean fertility
Jim Persons	Mesa	12	Franklin	Glade v. fi. sandy loam (Ephrata)	Bean fertility
Al Woolman	Moses Lake	42	Grant	Timmerman sandy loam (Ephrata)	Corn fertility
Ken Schroeder	Winchester	73	Grant	Babcock silt loam (Ephrata)	Corn fertility
Max Pyles	Eltopia	15	Franklin	Taunton v. fi. sandy loam (Burke)	Corn fertility

<sup>1</sup>Information provided by R. A. Gilkeson, Office of Conservation and Survey, Dept. of Agronomy, State College of Washington.

<sup>2</sup>Series names used prior to 1955.

