

WINTER BEANS

SEEDRATE AND PHOSPHATE AND POTASH MANURING 1971

(NAS 191 ML)

SUMMARY: At least 2 cwts of seed per acre was needed for maximum yields. Response to P and K was only small, although 60 units of each gave a significant increase in yield.

OBJECT: To determine the effect of seedrate and phosphate and potash manuring on the growth and yield of winter beans.

LAYOUT: 4 randomised blocks

TREATMENTS: 1. Seedrate 160, 222 and 275 lbs/ac.
2. P.K. 0, 30 units and 60 units of each

FIELD: Davis

PREVIOUS CROPS: 1970 - Sp. Barley and Sp. Wheat
1969 - S. Beet
1968 - W. Wheat and Sp. Barley

VARIETY: Throws M.S.

Winter Beans: Seedrate and Phosphate and Potash 1971

METHOD: Appropriate rates of phosphate and potash were spread by hand on to the ploughed surface prior to working down with a spring-tine cultivator. Drilling with Throws M.S. took place on 2 October. The trial was combined on 1 September.

RESULTS:

Seedrate (lbs/acre)	Units of P and K per acre			Means
	0	30.30	60.60	
	<u>Yield of grain (cwts/ao) at 85% d.m.</u> (± 0.56)			(± 0.32)
160	16.4	15.7	17.8	16.7
222	17.7	18.5	19.4	18.6
275	18.5	18.7	19.4	18.9
Means (± 0.32)	17.6	17.7	18.9	
	S.E. per plot = ± 1.12 or 6.19%			
	<u>Plant Pops spring (000/acre)</u> (± 19.61)			(± 11.32)
160	206.9	196.0	224.3	209.1
222	248.3	261.4	274.4	261.4
275	261.4	267.9	274.4	267.9
Means (± 11.32)	238.9	241.8	257.7	
	<u>Tiller Pops (000/acre)</u> (± 49.92)			(± 28.82)
160	416.0	363.7	457.4	412.4
222	477.0	492.2	559.7	509.7
275	520.5	544.5	496.6	520.5
Means (± 28.82)	471.2	466.8	504.6	
	<u>Tillers per plant</u> (± 0.128)			(± 0.074)
160	2.01	1.84	2.04	1.96
222	1.92	1.88	2.04	1.95
275	1.98	2.06	1.80	1.94
Means (± 0.074)	1.97	1.93	1.96	
	<u>Pods per tiller</u> (± 0.336)			(± 0.194)
160	5.63	5.67	6.04	5.78
222	5.13	5.11	5.52	5.25
275	4.99	4.97	5.27	5.08
Means (± 0.194)	5.25	5.25	5.61	

1. A seedrate of at least 2 cwt was necessary for maximum yields.
2. Responses to phosphate and potash were small, although at the 60 unit level there was a significant yield increase of 1.3 cwts.
3. Tillering was not noticeably affected by either seedrate or manuring, but the number of pods per tiller tended to be reduced as seedrate increased.
4. Chocolate spot infection built up to quite high levels during flowering and this together with colder weather during early flowering resulted in a poor pod set low down on the stem. This is clearly reflected in the disappointing crop yield. However, an improved pod set from later formed flowers resulted in a crop yield better than seemed possible in early July.