

SPRING WHEAT

TIME OF DRILLING, SEEDRATE AND NITROGEN 1971

(NLS 149 ML)

SUMMARY: The March-sown crop outyielded the April-sown by 4.7 cwts per acre. Provided optimum nitrogen was applied, 145 lbs of seed were adequate for early drilling but 189 lbs were required for later drilling. At the lowest seedrate 90 units of N was optimum; at higher seedrates 60 were sufficient.

OBJECT: To assess the performance of spring wheat drilled either early or late, and at 4 different seedrates. Also to investigate the effect of 4 different levels of nitrogen manuring.

LAYOUT: 2 Randomised blocks with split plots.

TREATMENTS: 1. Main plots: Time of drilling  
a) March  
b) April  
2. Sub plots a) Seedrate - 145, 189, 211, 270 lbs/ac  
b) Nitrogen - 60, 90, 120, 150 units/ac

FIELD: Poid Close

PREVIOUS CROPS: 1970: Sugar Beet  
1969: Spring Barley  
1968: Winter Wheat

VARIETY: Kolibri

Spring Wheat: Time of drilling, seedrate and nitrogen, 1971

METHOD: The dates of drilling were 23 March and 14 April. Kolibri was the variety used. 2 cwt of 0.20.20. were worked into the seedbed prior to drilling and nitrogen top dressing was applied on 6 May. Population studies were made on 16 July and combining took place on 1 September.

RESULTS:

Yield grain at 15% m.c. (cwt/ac)

	<u>Seedrate (lb/ac)</u>				<u>Date of Sowing</u>		Means
	145	189	211	270	Early	Late	
<u>Nitrogen (units/ac)</u>	( $\pm$ 0.41)				( $\pm$ 0.29 VI)		( $\pm$ 0.20)
60	25.3	27.3	27.7	28.5	29.3	25.0	27.2
90	26.8	26.8	28.0	27.7	29.8	24.8	27.3
120	26.4	27.6	27.5	28.4	29.8	25.1	27.5
150	27.2	27.3	27.2	28.0	29.9	25.0	27.4
<u>Date of sowing</u>	( $\pm$ 0.29 HI)						
Early	29.3	29.4	29.8	30.4			
Late	23.6	25.1	25.3	25.9			
Means	26.4	27.2	27.6	28.1	29.7	25.0	

S.E. per sub plot =  $\pm$  0.82 or 3.00%

1. Early drilling gave an overall yield advantage of 4.7 cwt. This is in agreement with the results from 1969, the first year of the trial. In 1970, failure of the early drilling to outyield the later was probably due to the rather wet and cold soil conditions encountered at the time of early sowing.
2. Responses to nitrogen were much less than in previous years. Where the low seedrate had been used 90 units was optimum, but at all other seedrates 60 proved sufficient.
3. For early drilling 145 lb of seed per acre was adequate provided optimum nitrogen was applied. Increasing the seedrate resulted in a small increase in yield but this was insufficient to cover the cost of the seed. For later drilling response to seedrate was a little greater and 189 lb. was optimum.

APPENDIX

Grain Nitrogen %

Seedrate	Nitrogen	Date of drilling		Means	
		March	April		
145	60	2.47	2.63	2.55	2.58
	90	2.62	2.56	2.59	
	120	2.60	2.57	2.59	
	150	2.60	2.56	2.58	
189	60	2.48	2.55	2.52	2.55
	90	2.50	2.62	2.56	
	120	2.62	2.43	2.53	
	150	2.62	2.56	2.59	
211	60	2.46	2.60	2.53	2.59
	90	2.62	2.58	2.60	
	120	2.54	2.63	2.59	
	150	2.68	2.60	2.64	
270	60	2.59	2.48	2.54	2.56
	90	2.58	2.51	2.55	
	120	2.54	2.54	2.54	
	150	2.62	2.62	2.62	
Mean		2.57	2.57		