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Flax Variety Trials in South Dakota 1957-1961

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FLAX VARIETY TRIALS IN SOUTH DAKOTA[1/]

1957 - 1961

A Progress Report

by

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The favorable conditions of temperature and moisture in the major flax growing region of South Dakota resulted in the excellent 1961 yields. The high yields, 30% above normal averages, are closely correlated with the below normal temperatures which prevailed in the area during the months of May. (A detail climatic summary is presented in Agronomy Pamphlet 64, November 1961).

Data presented in the tables 1-4 were obtained from plots of "Drill Strip" size at Brookings and Eureka and from "Rod Row" plots at Watertown and Highmore. In each case the yield figures reported are an average of two or more measurements of yield made on each variety grown at a particular location.

The experiments were planted during the first week of May at Brookings, Watertown and Eureka and the third week of May at Highmore.

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Diseases were not a major problem in flax production except in local areas where the seedlings were killed during the first 2 or 3 weeks of growth by a "root rotting" organism. Watertown was the only site where serious stand reductions that were probably due to this organism occurred.

Data from two new potential varieties are included with these summaries. These have given excellent yields at most locations in 1961 and merit consideration in future production. Standard recommended varieties have continued to yield well under the test conditions. As in previous seasons the varieties, B5128 and Redwood, have given the best yields on the northeastern high lands of South Dakota while Marine has been most satisfactory at lower elevations south and west of the main flax area. When late planting is necessary in any area the variety Marine should be considered over later maturing varieties such as Redwood, B5128 or Arny.

Table 1. Flax variety yields at the Main Experiment Station, Brookings, 1957-1961.

Variety	Average Yield, Bu/Acre						Test wt.	% of 1961 Location
	1957	1958	1959	1960	1961	1957-1961	1961	Average
C.I. 1823			13.9	23.4	29.6		51.0	112.5
Redwood	13.6	19.6	12.4	21.5	29.2	19.4	54.0	111.0
B5128	12.0	19.2	11.4	17.0	28.0	17.5	53.0	106.5
C.I. 1914			15.3	21.3	27.5		53.0	104.6
Norland	12.0	20.7	12.0	14.8	27.3	17.4	53.5	103.8
Marine	11.7	17.0	13.9	20.7	26.9	18.0	53.0	102.3
Arny	12.5	18.6	13.0	20.0	25.3	17.9	54.0	96.2
Sheyenne	11.7	15.6	11.9	18.8	25.1	16.6	55.0	95.4
Raja	10.1	13.8	12.0	18.2	24.3	15.7	53.5	92.4
Redwing	14.8	17.4	13.3	20.9	23.9	18.1	55.0	90.9
Bolley	12.8	19.6	13.6	22.7	23.1	18.4	53.5	87.8
Royal	10.9	19.4	12.0	14.9	22.4	15.9	55.0	85.2
L.S.D.	1.0	1.0	1.6	4.6	1.9			

Table 2. Flax variety yields at the Northeast Research Farm, Watertown, 1957-1961.

Variety	Average Yield Bu/Acre						Test wt.	% of 1961 Location
	1957	1958	1959	1960	1961	1957-1961	1961	Average
C.I. 1914			11.6	18.2	21.3		53.5	121.0
C.I. 1823			10.0	21.7	19.2		55.0	109.1
Norland	15.2	19.7	12.1	13.0	18.7	15.7	54.5	106.2
B5128	13.4	19.5	9.7	15.9	18.5	15.4	55.0	105.1
Redwood	14.3	19.9	11.2	13.1	18.3	15.5	54.5	104.0
Arny	14.8	19.1	9.7	15.5	16.5	15.1	54.5	93.8
Redwing	14.6	19.7	9.5	15.9	15.8	15.1	54.5	89.8
Linda	14.6	18.3	11.0	15.7	15.8	15.1	52.0	89.8
Marine	14.2	17.7	11.6	14.5	15.7	14.7	54.5	89.2
Bolley	13.3	19.0	9.0	19.0	13.5	14.8	53.0	76.7
Sheyenne	14.1	16.5	10.2	14.8				
Royal	14.6	19.5	11.6	13.7				
Raja	15.0	14.9	6.6	18.0				
L.S.D.	N.S.	N.S.	N.S.	1.8	2.7			

Table 3. Flax variety yields at the North Central Substation, Eureka, 1957-1961.

Variety	Average Yield, Bu/Acre						Test wt. 1961	% of 1961 Location Average
	1957	1958	1959	1960	1961	1957-1961		
B5128	8.3	9.8	*	*	16.9	11.7	53.0	107.6
Redwood	10.5	9.0			16.6	12.0	53.5	105.7
Bolley	9.6	10.5			16.0	12.0	55.0	101.9
Marine	6.6	12.4			15.8	11.6	54.5	100.6
Redwing	11.5				15.7		51.5	100.0
Norland	9.6	6.6			15.3		52.5	97.4
Arny					15.2	10.5	53.0	96.8
Bison					14.8		54.5	94.3
C.I. 1914					14.8		53.0	94.3
L.S.D.	2.8	3.8			N.S.			

* No yields available

Table 4. Flax variety yields at the Central Substation, Highmore, 1957-1961.

Variety	Average Yield, Bu/Acre						Test wt.	% of 1961 Location
	1957	1958	1959	1960	1961	1957-1961	1961	Average
C.I. 1823	*		*	17.2	13.0		46.0	127.4
C.I. 1914				23.2	10.8		43.0	105.9
Marine		21.5		19.2	10.7	17.1	52.0	104.9
Linda		28.2		19.6	10.7	19.5	45.0	104.9
B5128		25.9		16.7	10.5	17.7	51.5	102.9
Redwing		23.4		26.0	10.4	19.9	53.0	102.0
Bolley		24.2		22.3	10.0	18.8	52.5	98.0
Arny		22.2		17.1	9.5	16.3	52.5	93.1
Redwood		23.8		16.9	8.9	16.5	50.5	87.2
Norland		27.1		12.1	7.2	15.5	52.0	70.6
L.S.D.		0.8		3.5	2.2			

* No yields available

Table 5. Flax Performance Notes, 1961.

Variety	Brookings, 1961			
	Flowering Date		Height	Pasmo
	First	Full	Inches	0-9 *
Marine	6-19	6-23	23	4
Redwood	6-22	6-25	24	5
B5128	6-23	6-29	26	2
Bolley	6-20	6-23	24	3
Arny	6-21	6-26	26	5
Norland	6-22	6-30	24	7
Sheyenne	6-20	6-23	25	4
Redwing	6-19	6-23	24	6
Raja	6-16	6-19	22	9
C.I. 1914	6-20	6-26	25	2
C.I. 1823	6-21	6-26	25	6

* Scale based on 0-9 rating where 9 = the most severe reaction.