FIELD DATA ON RATE OF PLANTING SEGMENTED SEED

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Many factors enter into the determination of the amount of segmented seed to plant per acre. Experience is limited to the 2 years that segmented seed has been used. The tendency has been to plant too heavily. At rates over 5 pounds per acre, many of the benefits of using segmented seed are liable to be lost because of too thick pre-thinning stands. On the better prepared seedbeds where moisture is good, and on peat soils, planting rates as low as 2 pounds per acre have given excellent results. This rate, on the basis of present information, is too low on the heavy soils of the intermountain area. A rate of 4 to 6 pounds per acre, depending on soil conditions, date of planting, whether irrigated up or not, and other factors, is probably the practical range to use until experience teaches us differently.

This paper merely reports the results of three rates of planting tests with sheared seed in 1943---two at Grand Junction, Colorado, and one at Torrington, Wyoming, and should be considered as a progress report. The rates used at Torrington (table 1) are more in line with probable future rates than those at Grand Junction. The results shown in tables 1 and 2 are based on tests of five replications each.

Table 1.- Rate of planting sheared seed, Torrington, Wyoming, 1943.

Rate in pounds per acre	Beet Containing Inches Per 100 Inches of Row				After Thinning Stands - Beets per 100 ft. of row
	Singles	Doubles	Multiples	Total	
2.7	12.0	6.2	1.4	19.6	88
3.5	16.6	5.4	.4	22.2	80
4.2	18.0	7.0	2.2	27.2	86
5.0	19.4	9.6	2.2	31.2	96
5.8 (ck)	24.0	12.8	4.8	41.6	96
Diff. req. for sig.	6.7	4.2	2.4	6.0	

Comparing the 2.7 pound rate with the 5.8 pound rate at Torrington, by doubling the planting rate the number of beet containing inches with singles and the total beet containing inches were doubled, but the gain in after thinning stand was only 8 percent (from 88 to 96). Doubling the amount of seed in this field greatly increased the inches containing doubles and almost

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trebled the inches containing multiples (more than two plants). Under conditions of this test, the lower rate could be considered practically as good as the higher in terms of after thinning stands.

Table 2.- Rate of planting sheared seed, Grand Junction, Colorado, 1943.

Rate in pounds per acre	Beet Containing Inches per 100 Inches of Row		After Thinning Stands - Beets per 100 ft. of row
	Singles	Totals	
	Early Plantings - March 31, 1943		
4.9	16.2	25.0	91.0
5.6	27.6	43.6	96.8
6.3	26.2	49.2	99.2
7.2	17.8	64.6	96.0
18.0 (Whole)	17.2	56.6	95.0
Diff. req. for sig.	4.9	6.2	10.4
	Late Plantings - May 6, 1943		
4.9	19.2	28.6	101.8
5.6	23.6	44.0	105.2
6.3	24.2	50.6	108.4
7.2	19.0	66.6	104.2
18.0 (Whole)	15.2	66.0	101.6
Diff. req. for sig.	5.6	5.5	9.0

At Grand Junction, with heavier soils in general, higher rates of planting were used than at Torrington. The plots in the Grand Junction tests were irrigated immediately after planted. In the early planted test there is a decided gain in singles from the 4.9 pound rate up to the 5.6 and 6.3 pound rate, with a slight increase in final after thinning stands. The 7.2 pound rate gave field results parallel to the 18 pounds of whole seed and would not be recommended. The results in the late planted test are quite similar to those of the early planted test (table 2).

These 1943 tests show very small differences in the final after thinning stands for the various rates of planting used with sheared seed. The differences are less for the tests irrigated up than where natural moisture was depended upon for germination. In the later case, the heavier plantings gave better final stands.

For 1944 commercial plantings with segmented seed, 5 pounds is being used as a basic rate, increases or decreases from this standard being recommended according to local and individual conditions.