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SEEDING DATES FOR ONION TRANSPLANT PRODUCTION IN COMBINATION WITH ROW COVERS

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Background. The majority of onions produced annually in the East Texas area are grown from transplants produced in the warmer growing areas of the Lower Rio Grande Valley and Winter Garden areas of Texas. In some years, supply and quality of plants available may be limited due to weather and cultural problems in the growing areas. Breakdowns in labor supplies and changing weather conditions at both the plant growing and transplanting locations can lead to improperly stored plants that can lead to reduced yield and returns to the grower. South Texas grown transplants are subject to bolting (seedstalk formation) when transplanted too early in the East Texas area. This is due primarily to a combination of oversized transplants (more than 1/4 in. shank diameter) and extended cold weather in the mid 40's following transplanting.

On-farm production of transplants would enable growers to overcome some of the problems associated with obtaining quality transplants at the time when conditions are favorable in the East Texas area. Row covers can be beneficial in modifying the microclimate for transplant production.

A research project was initiated at the Texas Agricultural Experiment Station at Overton to determine the optimum seeding date in combination with spun-bonded polypropylene row covers for producing quality short-day '1015Y' onion transplants in the East Texas area.

Research Findings. From the data obtained, seeding onions in the East Texas area after Sept. would not be recommended since there may be a drastic reduction in plant size, percent stand, and transplant production (Tables 1, 2, 3). Seeding the first of Aug. tended to produce transplants that were too large. The ideal times indicated by the experiment tend to fall between the last of Aug. to the middle of Sept.

Row covers increased plant size slightly but not significantly. The 0.6 oz/yd² row covers increased percent stand and number of transplants that could be produced per acre. Both the 0.6 and 1.5 oz/yd² material had a positive effect on the parameters examined.

The results of the treatments on dry bulb production will not be known until after transplants from each treatment are grown in the spring.

Application. The average transplant production within the suggested time period from 1 acre bedded on 40 in. centers and planted with 4 rows per bed would be enough to plant 3.4 acres of double-rowed onions spaced 4 in. apart in the row. Seeding more rows per bed and

increasing the seeding rate by the use of scatter shoes could possibly increase production 10-fold. This production scheme could be used to not only produce transplants for commercial production but to supply the home garden market.

Table 1. Effect of planting date and row cover on shank size of onion transplant in inches.

Seeding date	Control	Row Cover		AVG.
		0.6 oz/yd ²	1.5 oz/yd ²	
8 Aug	0.18	0.28	0.20	0.22
22 Aug	0.15	0.16	0.17	0.16
5 Sept	0.08	0.09	0.08	0.08
19 Sept	0.11	0.12	0.09	0.11
3 Oct	0.06	0.07	0.07	0.07
17 Oct	0.02	0.03	0.04	0.03
AVG.	0.10	0.13	0.11	

Table 2. Effect of planting date and row cover on percent stand of onion transplants.

Seeding date	Control	Row Cover		AVG.
		0.6 oz/yd ²	1.5 oz/yd ²	
8 Aug	81	85	60	75
22 Aug	63	86	73	74
5 Sept	56	66	39	54
19 Sept	44	66	43	51
3 Oct	6	25	24	18
17 Oct	5	15	22	14
AVG.	43	57	44	

Table 3. Effect of planting date and row cover on transplant production per acre.

Seeding date	Control	Row Cover		AVG.
		0.6 oz/yd ²	1.5 oz/yd ²	
8 Aug	177,507	147,015	71,874	132,132
22 Aug	202,554	271,161	259,182	244,299
5 Sept	177,507	92,921	196,020	156,816
19 Sept	329,967	502,029	374,616	402,204
3 Oct	46,827	212,355	201,465	156,882
17 Oct	28,314	91,565	89,298	70,059
AVG.	160,446	220,341	198,743	