

Direct seeding vs transplanted ‘Vaquero’ Onions, 2002

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Objective: Compare ‘Vaquero’ onion yield and quality from direct seeded and transplanted onions.

Methods: The study was conducted at the NDSU Carrington Research Extension Center on a loam soil with a 7.8 pH and 3.2% organic matter. The seed was planted with a Monosem vacuum planter on May 3, 2002 into 4-inch paired rows on 18-inch centers at 160,000 seeds/A. The transplants were planted by hand on May 4, 2002 into 12-inch rows at 145,000 bulbs per acre. Individual plots were 6 feet by 20 feet, with 4 paired rows per plot for the seed and 6 rows per plot for the transplants. The experimental design was a randomized complete block with four replicates. Best management practices were used for fertility, weed, disease, and insect control. Transplanted onions were pulled August 29 and left in the field to cure prior to topping and harvesting. The direct seeded onions were pulled, topped, and harvested on October 10 and cured in a forced air drier. The onions were graded October 16. Split and diseased bulbs were graded as culls regardless of diameter.

Results: From May 16-19 and May 24, minimum air temperatures were 23-27 F° causing the ground to freeze to a depth of 2 inches at times. This delayed onion emergence and reduced the number of bulbs for the seed (Table). It did not appear to affect the transplants. For the direct seeding, 53% of the bulbs were graded as culls compared to 19% for the transplants (data not shown). Most of the bulbs were graded as culls because of the disease sour skin. Sour skin can enter the plants through wounds and the onions were injured by hail on August 9.

Table. Onion yield and grade, Carrington, ND, 2002

Treatment	Days to 1/2 down	Yield				Total	Culls	# of bulbs	Single Centers
		<2.25"	2.25-3"	3-4"	>4"				
		----- cwt/A -----						1000s/A	%
Transplants	107	15.7	234.8	313.1	0	563.6	115	144	43
Direct Seeding	152	7.3	61.7	19.1	0	88	93.5	63	45
LSD (P=.05)	0	NS	115.92	196.36	NS	108.71	38.19	15.1	NS