

**SEEDING RATE EFFECTS ON PRODUCTION,  
QUALITY, AND AGRONOMIC  
CHARACTERISTICS OF ROUNDUP READY  
COTTON CULTIVARS IN THE TEXAS HIGH  
PLAINS**

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**Abstract**

With the advent of transgenic cultivars, seeding costs have increased. Studies were conducted in Swisher and Lubbock counties to determine the effects of seeding rates on final stand, production, and quality of cotton in the Texas High Plains. Seeding rate trials were established in a producer-cooperator's field in Swisher County in 1998 and at the Texas Agricultural Experiment Station at Lubbock in 1998 and 1999. The Swisher County site was planted on May 19 with a John Deere 7100 MaxEmerge planter. Paymaster 2200RR cultivar was seeded at 10, 15, 20, 25 lb seed/acre with targeted seeds/acre of 44,000, 66,000, 88,000, and 110,000. Three replications of each treatment were used. Plot size was 1.62 acres/plot. The site was planted in 40-inch rows, furrow irrigated and commercially harvested, ginned, and classed. The Lubbock furrow-irrigated site was planted to Paymaster 2326RR on May 15, and May 21, respectively, in 1998 and 1999, with a John Deere MaxEmerge II vacuum planter. In 1998, seeding rates included 10, 15, 20, and 25 lb seed/acre with targeted seeds/acre of 44,000, 66,000, 88,000, and 110,000. In 1999, seeding rates included 12, 18, and 24 lb seed/acre, with targeted seeds/acre of 52,000, 78,000, and 104,000. In both years, four replications of treatments were used, and plot size was four 40-inch rows by 50 ft long. The Lubbock site was stripper harvested with a plot-modified John Deere 482 with integral scales in both years. "Apparent" percentages of seed making a final plant ranged from 52 to 88% within sites. Barren plants per acre was significantly increased by the highest seeding rates at two locations, while the other location tended to have higher barren plants with the highest seeding rate. First and second position, and total bolls per plant significantly decreased with increasing seeding rates at the 1998 Lubbock irrigated site,

while vegetative and third position bolls were not significantly affected and constituted less than 3% of total bolls. The HVI fiber properties were not significantly affected by seeding rates at any site. Lint yields were only affected by seeding rate at the Lubbock irrigated site in 1999, with the 18 lb/acre rate increasing yield 14% compared to 12 or 24 lb/acre. Seeding rates for furrow-irrigated cotton as low as 10 lb/acre resulted in yields that were not significantly lower than the maximum lint yields at 2 of 3 sites.