ALL-TEX NITRO 44 B2RF: A HIGH QUALITY, MID-FULL VARIETY

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Introduction

All-Tex Nitro 44 B2RF is a very high quality, mid-full maturity upland variety that has shown very good yield, fiber traits, and seedling vigor, and in general is best adapted to the Southwest. Nitro 44 is characterized by having an indeterminate growth habit, medium tall plant height, dense canopy, semi-smooth leaf, large bracts and large bolls with good storm tolerance. Nitro 44 has shown high resistance to bacterial blight and good tolerance to Verticillium wilt and Fusarium wilt diseases. Field evaluations indicate a moderate level of tolerance to root-knot and reniform nematodes. Lint percent of Nitro 44 averages 35-40%. Micronaire is characterized by having a generally fine fiber with micronaire ranging from 3.5-4.6. Staple length is excellent and ranging from 37-40 32nds. Fiber strength and uniformity averages range from 30 to 36 g/tex and 82-86%, respectively. Average seed size is 4325-4450 seed/lb. Based on multiple year analyses of the individual fiber parameters, premiums in crop loan value could be expected. Commercial variety checks used for reference measurements include, but not entirely consist of, the following: All-Tex Nitro44B2RF, DPL 1044B2RF, DPL 1219B2RF, PHY 499WRF, FM 2484B2RF, and FM 1944GLB2.

Results and Discussion

The 2012 multiple location (Lubbock, Halfway, Halfway-Verticillium, Tulia, and Pecos, TX) irrigated tests show that Nitro 44 is well adapted to the irrigated Texas High Plains and produces yields that are equal to or better than the three compared varieties (Fig. 1). In 2012-2013 tests conducted in the Northern Texas Blacklands and Texas Coastal Bend, lint yields of Nitro 44 are similar to or greater than the three varieties that were evaluated in all tests (Fig. 2 and 3). In Fig. 4, micronaire of Nitro 44 was significantly lower than the three compared varieties and unlike those varieties, Nitro 44 did not have a discounted micronaire in any of the 11 tests. The other three varieties each had a micronaire above 4.9 in at least three of the tests. Nitro 44 had an average staple length of 38.5 (1.20 inches) and average fiber strength of 33.5 g/tex (Fig. 5 and 6) and had greater length and strength than the three compared varieties.

In-house and university yield data have indicated that Nitro 44 is well adapted to the Lower Rio Grande Valley, the Texas Coastal Bend, the northern area of the Texas Blacklands, and the good irrigation areas of the Texas High Plains (Lubbock-South), and the irrigated areas of San Angelo and El Paso. Nitro 44 produces a very high quality fiber with excellent staple length, strength, micronaire, and uniformity. Nitro 44 has consistently provided a premium micronaire in environments where many varieties are discounted for high micronaire. In addition, Nitro 44 has produced commercially grown cotton with 40 staple length (1.25 inches). Lint yield analysis for the Texas High Plains has shown Nitro 44 is most stable when grown in good irrigated environments (2.5 gal or better). Due to aggressive early growth and an indeterminate growth habit, plant growth regulators should be considered and in general, applications should be made early. At harvest, defoliation should be thorough and multiple applications are recommended. For stripper harvest, it appears that harvest under low humidity, low plant moisture conditions may aid in the reduction of the leaf trash.
Figure 1. All-Tex Nitro 44 B2RF average lint yield across five Texas High Plains location in 2012.

Figure 2. All-Tex Nitro 44 B2RF average lint yield in the Northern Texas Blacklands (Navarro County) across 2012-2013.
Figure 3. All-Tex Nitro 44 B2RF average lint yield across six Texas Coastal Bend tests (2012-2013).

Figure 4. All-Tex Nitro 44 B2RF average micronaire across 11 Lower Rio Grande Valley and Coastal Bend tests (2012-2013).
Figure 5. All-Tex Nitro 44 B2RF average staple length across 11 Lower Rio Grande Valley and Coastal Bend tests (2012-2013).

Figure 6. All-Tex Nitro 44 B2RF average fiber strength across 11 Lower Rio Grande Valley and Coastal Bend tests (2012-2013).