PERFORMANCE OF PHYTOGEN® VARIETIES PHY 370 WR AND PHY 485 WRF IN VARIOUS ENVIRONMENTS

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PhytoGen® cotton varieties PHY 370 WR and PHY 485 WRF have performed consistently well from Texas through Virginia since their introductions in 2005 and 2006, respectively. High yield potential and very good fiber quality have been validated across a broad range of geographies and conditions based on results of university official variety trials, county trials, PhytoGen strip trials, and PhytoGen small plot replicated trials. Available data from these trials as of December 6, 2007 were the basis for the performance comparisons presented from various environments as compared to competitive varieties.

In order to better understand the performance of these varieties in various soil types, yield potential environments, and regions, they were compared to widely planted competitive varieties with similar maturities and trait technologies. Available data from university variety trials, on-farm trials and PhytoGen trials across the cotton belt from 2005 through early December, 2007 were compiled for analyses. PHY 370 WR was compared to DP 444 BR while PHY 485 WRF was compared to ST 4554 B2RF. To develop balanced datasets, only trials which contained the paired comparisons were included in the data summaries.

When soil type information was available, the soils were divided into 3 types based on soil characteristics: 1) Sand – sand, loamy sand and sandy loam; 2) Loam – medium loam, sandy clay loam, and silt loam; and 3) Clay – clay, sandy clay, clay loam, silty clay loam, silty clay and silt.

Yield potential zones were divided into 4 categories: 1) Low - < 750 lbs lint/A; 2) Medium – 750 to 1,150 lbs lint/A; 3) Medium/high – 1,150 to 1,400 lbs/A; and 4) High >1,400 lbs lint/A.

Only the mid-south and southeast areas were included for the regional comparisons for this poster. These areas were divided into southern and northern regions. Highway 82 was used as the dividing line in the mid-south from Louisiana through Alabama. The south Alabama locations were included in the southern southeast region which also included Georgia and Florida. South Carolina, North Carolina and Virginia comprised the northern region of the southeast.

Balanced datasets collected from 2005 through 2007 across multiple locations indicate that both PHY 370 WR and PHY 485 WRF are broadly adapted varieties which offer high yield potential across diverse geographies in most soil types.

PHY 370 WR performed exceptionally well compared to DP 444 BR. The 2 varieties yielded similarly in sand, loam and clay type soils (Figure 1). PHY 370 WR tended to perform better than DP 444 BR in medium to high yield potential zones (> 750 lbs lint/A) and in the south Delta and south southeast (Figures 3 and 5).

Both PHY 485 WRF and ST 4554 B2RF consistently demonstrated high yield potentials in sand, loam and clay type soils and performed well in the mid-south and southeast (Figures 2, 4 and 6). PHY 485 WRF may have had a slight yield advantage in the south delta while ST 4554 B2RF tended to yield a little higher in the north delta.

Both PHY 370 WR and PHY 485 WRF appeared to be very stable across soil types and regions.

References

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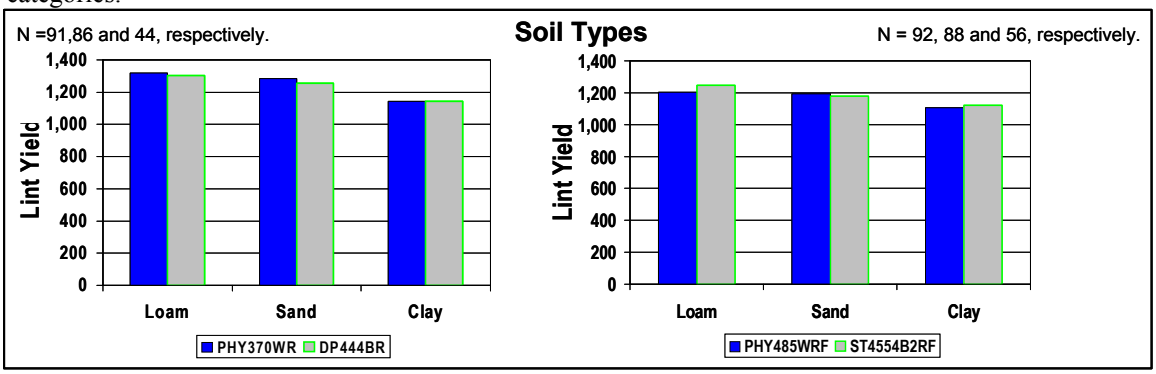
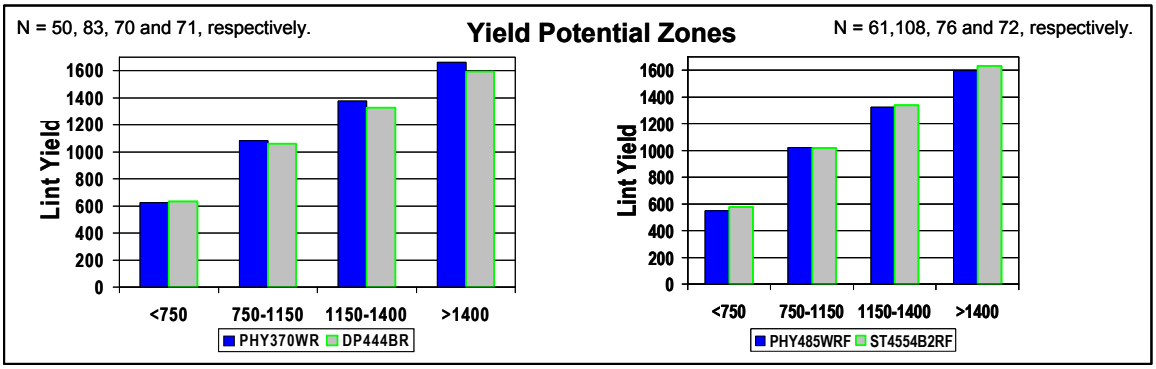
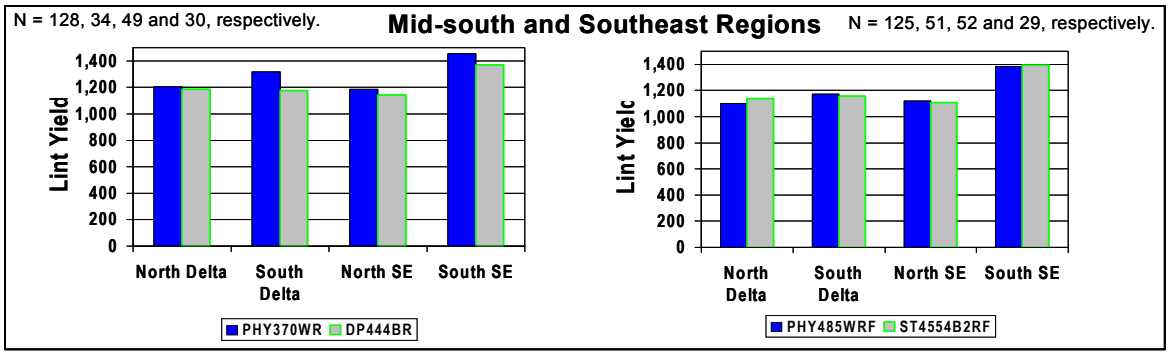
Figures 1 and 2. Lint yields (lbs/acre) of PHY 370 WR, PHY 485 WRF, DP 445 BR and ST 4554 B2RF in 3 soil type categories.



Figures 3 and 4. Lint yields (lbs/acre) of PHY 370 WR, PHY 485 WRF, DP 445 BR and ST 4554 B2RF in 3yield potential zones.



Figures 5 and 6. Lint yields (lbs/acre) of PHY 370 WR, PHY 485 WRF, DP 445 BR and ST 4554 B2RF in the mid-south and southeast.



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