

Efficacy of PHY 367WRF in Root-knot Nematode Infested Fields

Mustafa McPherson



Background of PHY367WRF

- Cross made in 1994 & conventional line bulked in 1999
- Based on 50% ST-LA887 parentage, tested in greenhouse for RKN resistance
- Recurrent parent backcross WideStrike and Roundup Flex
- Developed several lines derived from a single plant homozygous for WRF
- Single WRF line with best combination of yield, fiber quality and RKN resistance > PHY367WRF



Objective

- Evaluate the efficacy of RKN tolerance in PHY 367WRF as compared to Telone, Temik and Avicta treatments



Treatments and Entries

- Soil Treatments
 - Telone > 3 gal/acre in-furrow prior to planting
 - Temik > 5 lb/acre at planting
 - Untreated
- Varieties
 - PHY 367WRF
 - PHY 375WRF
- Seed Treatments (no effect)
 - Avicta Complete Pak
 - Cruiser + Dynasty

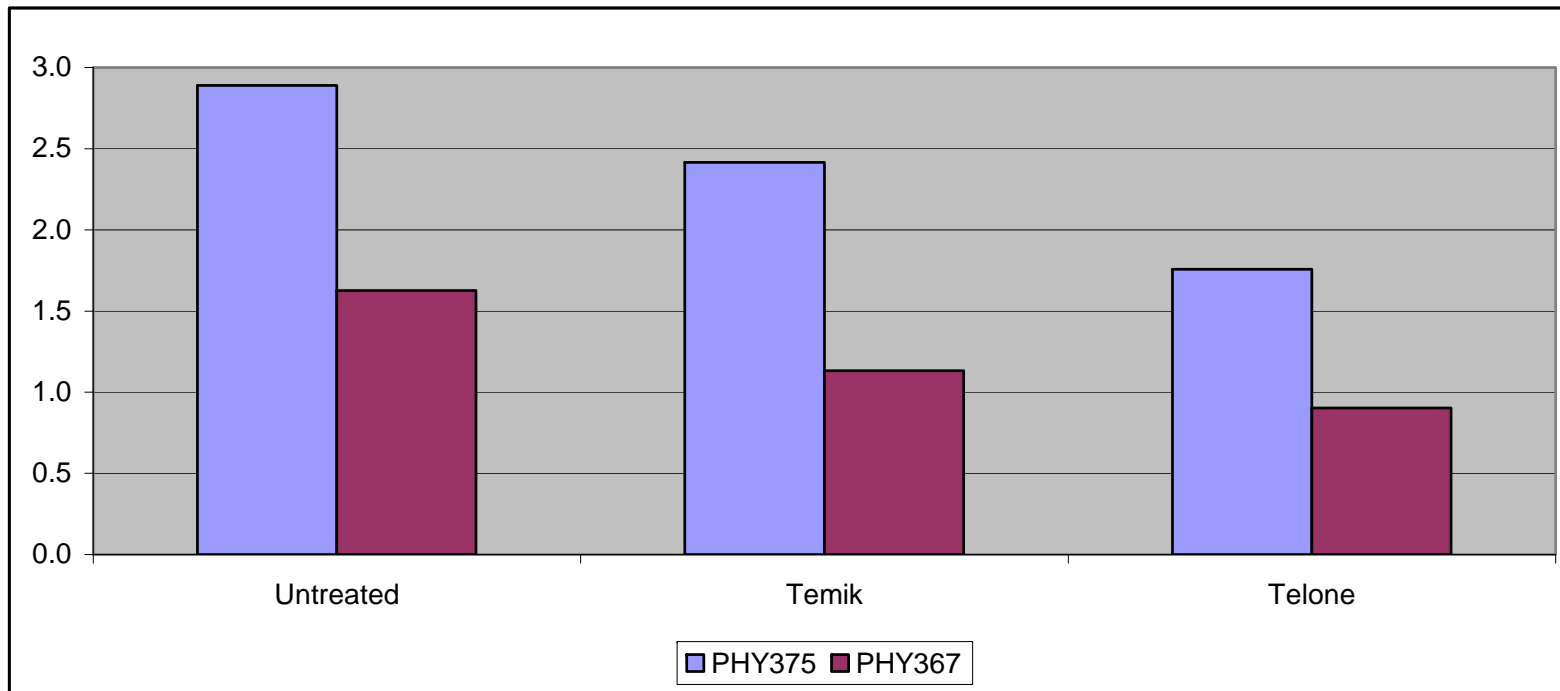


Root Gall Rating

- Dug plants at end of season
- Visual rating
 - 0=no galling observed
 - 1=very few galls
 - 2=galling easily noticeable, but minor effect
 - 3=galling moderately severe
 - 4=severe galling with moderate root deformation



Gall Rating Averaged over 6 Locs & Seed Trt



Root Galling at Clarksdale, MS in 2009 Adjacent Untreated Rows





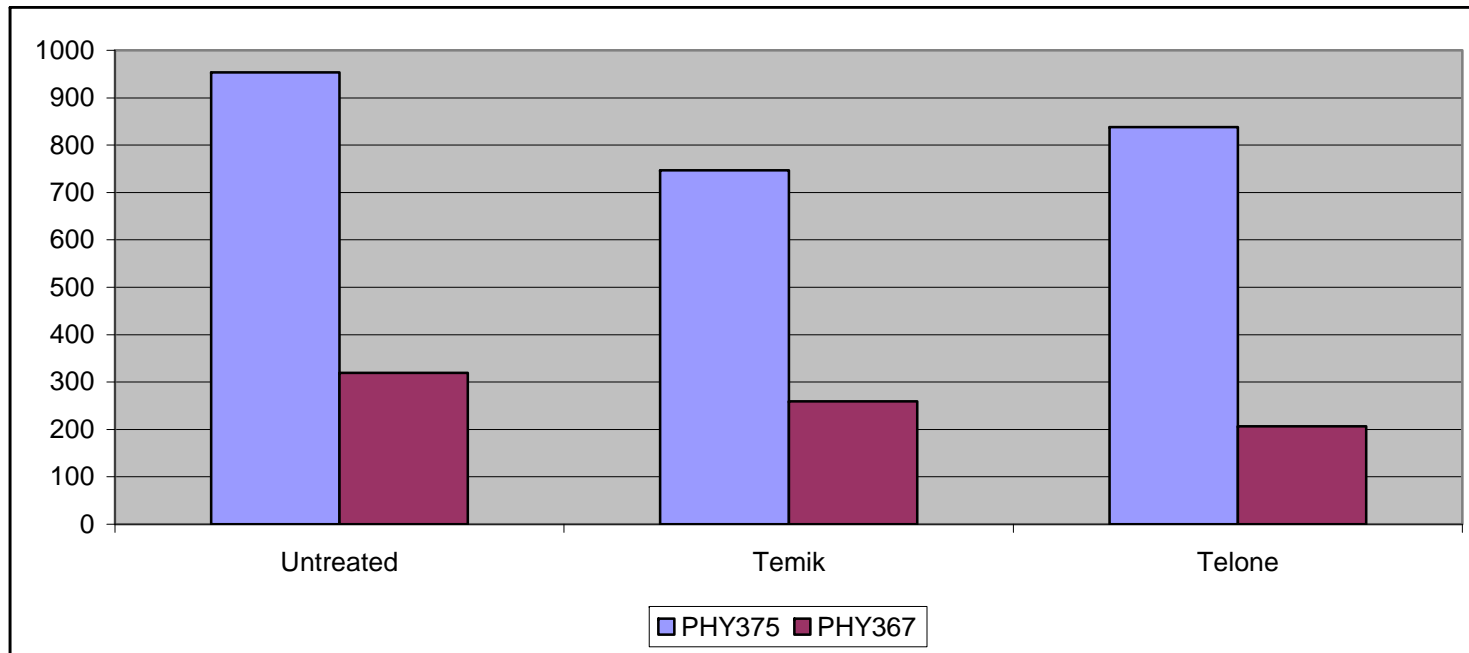
RKN in Soil at End of Season

- Soil probed at 10 spots/plot & soil mixed
- Soil sent to soil testing lab in each respective state



RKN/100cc Soil Averaged over 4 Locs & Seed Trt

PHY367WRF > 69 % Reduction in RKN



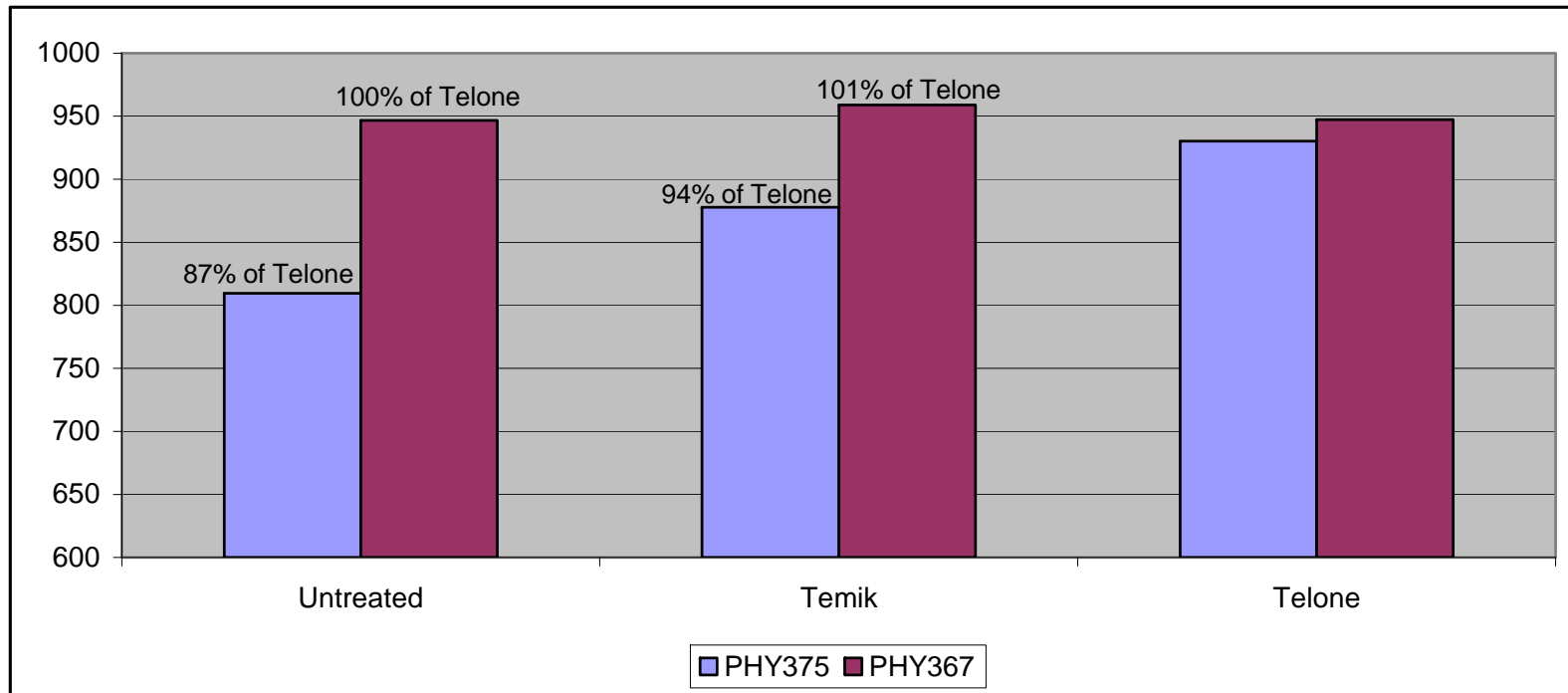


Lint Yield

- 2-row X 40 ft plots
- 25 boll sample > average lint %
- Machine harvested plot weight



Lint Yield Averaged over 2 Stressed Locations

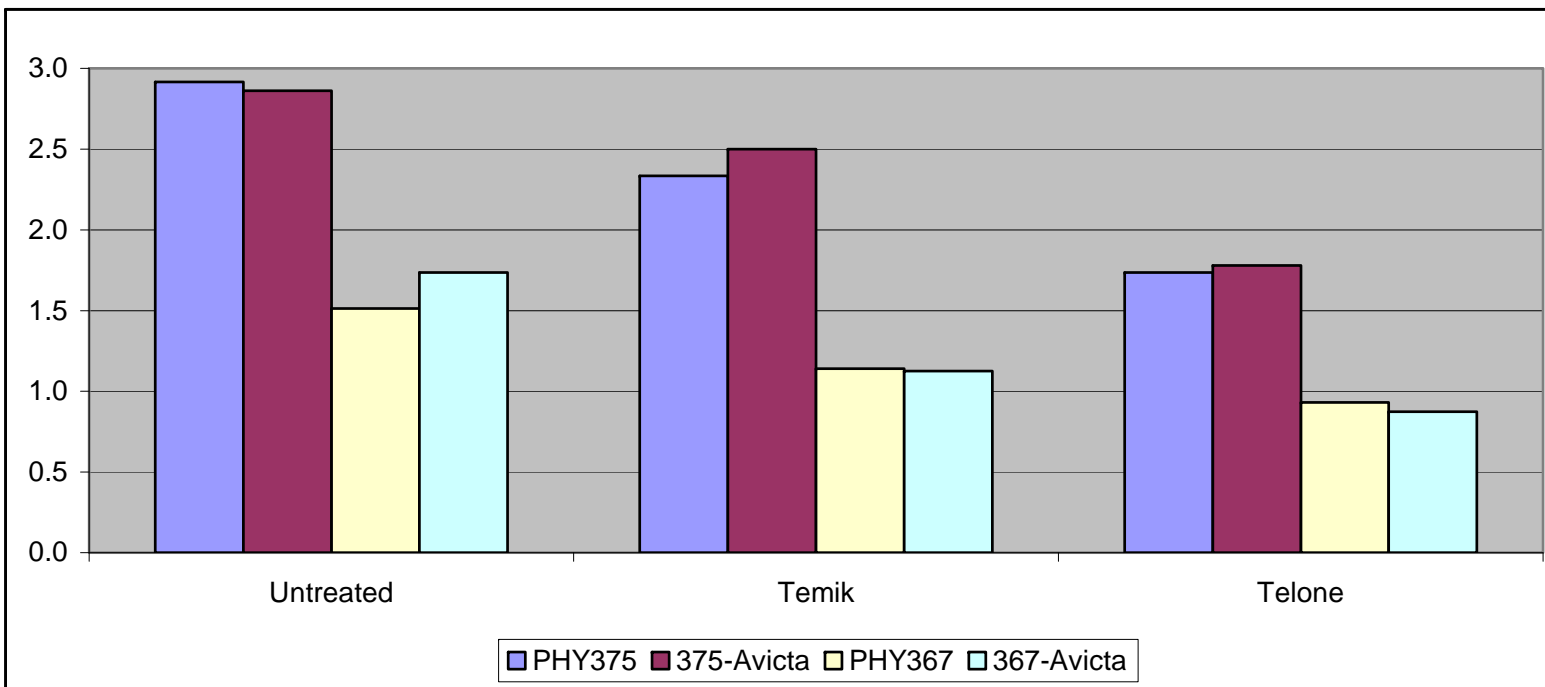




Summary

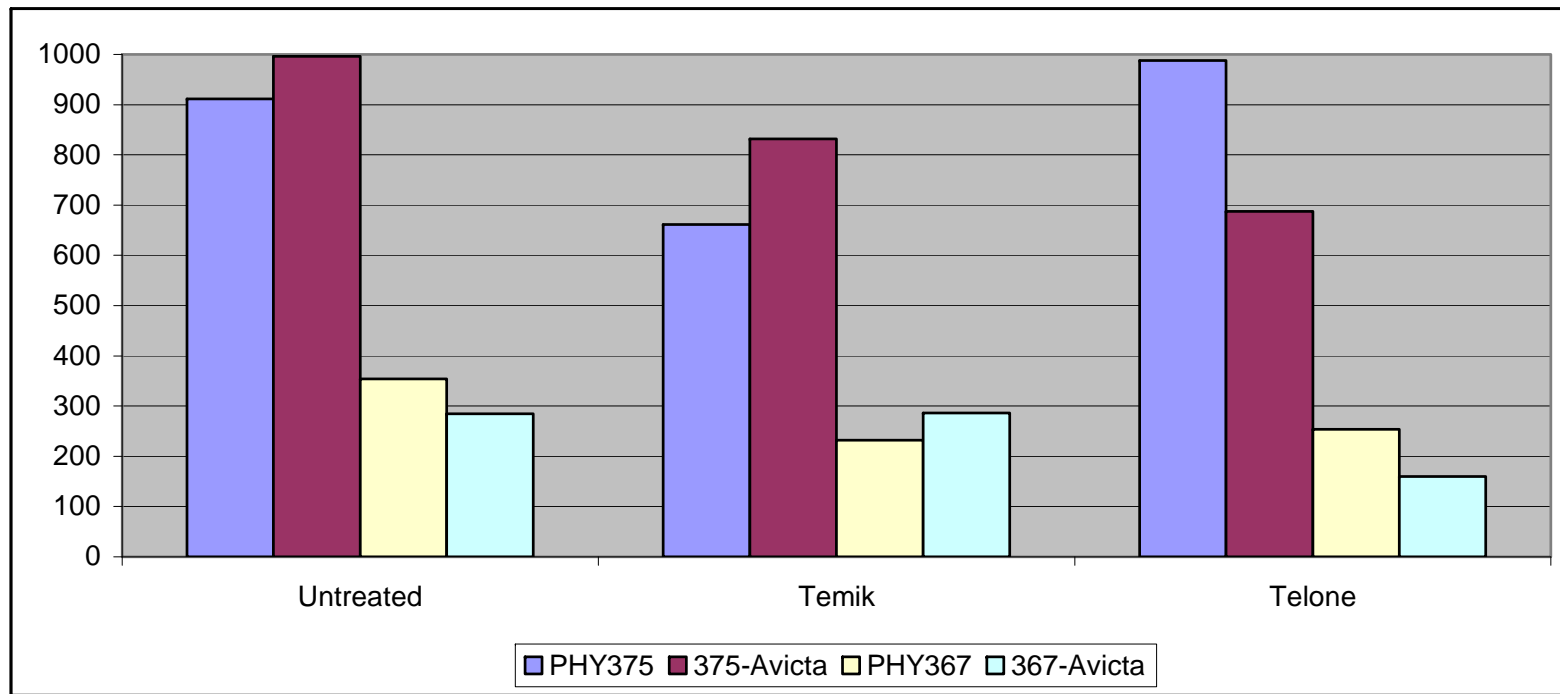
- Root Galling of untreated PHY367WRF = PHY375WRF with Telone
- PHY367WRF had 69% fewer RKN than PHY375WRF
- Telone did not increase yield of PHY367WF, but 13% increase with PHY375WRF
- Excellent field tolerance of PHY367WRF to RKN

Gall Rating Averaged over 6 Locs





RKN/100cc Soil Averaged over 4 Locs





Lint Yield Averaged over 2 Stressed Locations

