

Yield Monitoring and Precision Farming Activities in Sugarcane

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A yield monitoring system was developed to determine the yield difference found in Louisiana sugarcane fields. This system consisted of a high speed laser system fixed to the top of harvester with an electronic box to analyze and record data. Date readings were recorded every three seconds with the unit and store on an SD card with GPS location. Totaled values were also available with on screen for weight prediction. Testing of the system on more than 90 weigh wagon weights indicated a strong correlation to the amount of sugarcane flowing through the machine with the raw monitor readings having a linear line correlation of 0.97 to the actual weigh wagon weights. Weight prediction of the system was less than 71 lbs. off the correct value at the 2 standard deviation level (95% of the time). Future testing will concentrate on variances caused by different field conditions, such as muddy, not muddy, but current testing was very good on a “per field” basis. This monitor may someday help lead to a commercialized unit that will assist farmers in evaluating sugarcane yield variances within their farm fields and help improve management decisions on the farm level.

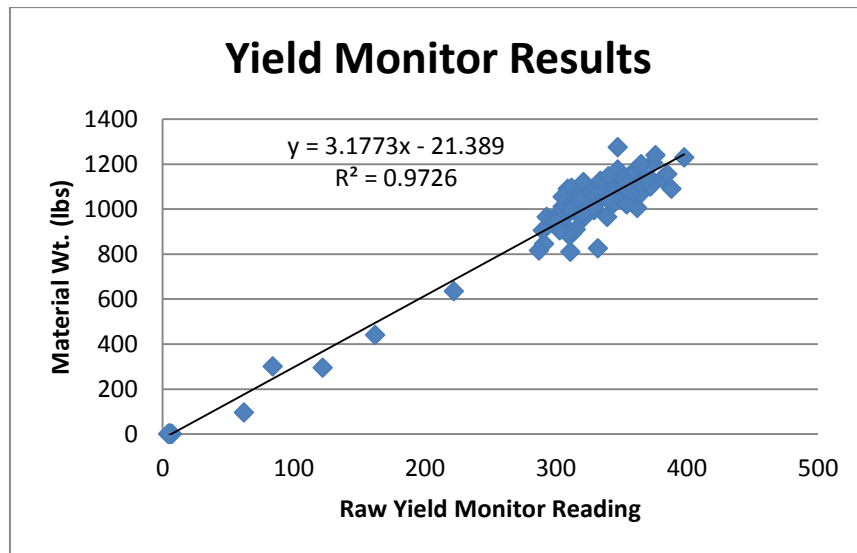


Figure 1: Yield monitor results.