

# Pushing Soybean Yields

*Trials Show Strict Management Boosts Soybean Yields Skyward*

**BETTY VALLE GEGG-NAEGER**

MidAmerica Farmer Grower

**MINER, MO.**

**E**fforts at the University of Arkansas to produce high soybean yields were explained recently by Ryan Van Roekel, Ph.D graduate student at the University of Arkansas. He is studying under Dr. Larry Purcell on the maximum yield of soybeans.

“Dr. Purcell has visited Kip Cullers’ farm taking measurements since 2008, and in 2011 I came on board with funding from the Arkansas Soybean Promotion Board,” Van Roekel said. “We intensified our measurements on Mr. Cullers’ farm and we started our own maximum yield research in Fayetteville. What we’ve found over the last couple of years is by keeping several physiological characteristics extremely high, including radiation use efficiency, crop growth rates, nitrogen accumulation rates, yields can be increased.

“That all relates back to the maximum yield environment that we are creating. This includes high fertility, optimum irrigation and excellent pest control, which work together to increase yields.

“So in Fayetteville we started our own maximum yield research very similar to Mr. Cullers’. We’re planting in early April, we’re using several varieties, narrow rows, overhead irrigation, we’re using poultry litter and fertigation for fertilizer, deep tillage, multiple insecticides and fungicides,” he explained. “As you can imagine, it keeps me very busy but this year we had some great results. Even with the drought and heat we were able to hit 115 bushels per acre in Fayetteville. So now we’ve got the framework for extremely high yields as long as we don’t have to consider profitability.”

In order to relate that to an average farmer who is working to make money, they started some strip trials in eastern Arkansas. Pioneer Hybrid came forward with funding for these large 40-acre fields.

“We’re doing one-acre strips across the fields and using some of the same concepts Mr. Cullers uses to reach maximum yields,” Van Roekel said. “One field we actually planted on March 29 in Newport, Ark. The other two were planted in early April. We’ve narrowed our rows,

and we’re doing furrow irrigation every week or every three days with a center pivot. We’re stepping up our fertility in that we’re taking soil samples, keeping track of things like potassium, and making sure nothing is limiting our yields. Then through excellent pest control, good scout-



**Ryan Van Roekel, Ph.D graduate student at the University of Arkansas, studying under Dr. Larry Purcell on the maximum yield of soybeans, explains efforts by the University to produce high soybean yields.**

Photo by John LaRose Jr.

ing, just good sound practices in general, we’re able to average over 80 bushels per acre and I believe that is a realistic yield goal that everybody needs to be shooting for.”  $\Delta$

*BETTY VALLE GEGG-NAEGER: Senior Staff Writer, MidAmerica Farmer Grower*



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