Less may be more for cotton growers

Louisiana cotton farmers could apply 25 to 40 percent less nitrogen fertilizer than they ordinarily use and get better cotton, according to studies conducted at LSU's Northeast Research Station at St. Joseph in Tensas Parish.

Nitrogen is an essential element, but too much of it produces rank growth and lower quality cotton, according to researcher Donald Boquet.

The excess also accumulates in the soil, he said.

Farmers normally have used about 100 pounds of nitrogen an acre on cotton fields, when 60 to 75 pounds is enough, Boquet found.

"Any nitrogen that is not used by the plant is going to stay in the soil over winter, and it is eventually going to be leached down into the lower depths of the soil into our water table," he said in a news release.

Farmers in the northeast Delta may already be using Boquet's findings. He said last week research findings are passed on to farmers at meetings and field days.

Without enough nitrogen, plants grow poorly and in the case of cotton, produce inferior, low-protein seed, Boquet said.

Cotton is grown for the fiber primarily, but the seed separated from the lint are a source of protein-rich food and feed.

But too much nitrogen causes the plant to grow bigger but not necessarily to set more bolls, Boquet said. Cotton bolls are the hard, green balls that dry and open at maturity, exposing the lint and seed.

The extra growth means delayed harvest, another minus for too much nitrogen, Boquet said.

Early bolls will be heavily shaded by the rich plant growth and may rot before they mature, he said. Bolls set later means the cotton harvest must be delayed, leaving the cotton exposed to weather and insects in the field longer, Boquet said. Bolls set higher on the plant are inferior to the first bolls and the taller plant may cause problems with the mechanical cotton picker, he said.

Early studies showed the best rate of nitrogen to be about 60 pounds per acre, and any rate above 75 pounds will leave nitrogen in the soil, according to Boquet.

Boquet said his studies have been conducted on northeast Delta soils.

He has not experimented in areas where cotton farming has expanded in recent years. He has worked on sandy loam and silt loam soils. He said clay soils may require more nitrogen. On clay soils, there may be a loss of nitrogen and the cotton root system may not perform as efficiently as it does in loam.