

New Fertilizers

Will Secure Efficiency

Better Product Will Channel Nutrient To Plant, Curb Runoff

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A new type of fertilizer is coming to the market that will increase nitrogen use efficiency, according to Dr. Jorge Hernandez, assistant professor in soil fertility management at Southern Illinois University.

“We know that the efficiency of nitrogen fertilizer is extremely low,” he said. “It is about 30 percent to 40 percent in annual crop systems, so the idea is to look for new ways to increase that because we know that if we are not using 70 percent of that nitrogen, it will end up either in the water or in the crust of the soil.”

Hernandez said no one knows what has happened in the 20-30 years that accumulation has occurred. However, in the past no one was concerned about it.

“We knew energy was inexpensive then, but now the energy price is going up and everybody is concerned,” he said. “It is in our best interest to increase nitrogen usage efficiency.”

He said the one most important part of this concern is a very new topic that deserves attention.

“I am a true believer that nitrogen use efficiency will not be solved with only fertilizer,” he said. “Several fertilizer types such as polymer coated urea, urea-polymerized, super granule urea and urea with an inhibitor of urease, and so on – are some examples of how changing a traditional fertilizer composition like urea could increase its nitrogen use efficiency on the field.”

“It will be solved with government policy, at local, state, federal levels – that will be directed to nitrogen use efficiency in plants,” he continued. “It also will be solved with new types of technology in nitrogen fertilizers. It is important to know that the current nitrogen fertilizer technology is a very ancient technology. It was developed after WWII, and 25 years after that we put the man on the moon but we are still using the same nitrogen fertilizer. I mean this is the truth. We have a very inefficient system in the United States.”

“You can check it out on your own, and you will be impressed to find how archaic the fertilizer production system is. It is very archaic and the technology has not been updated because of the low prices attached to N fertilizers.”

Hernandez said people have not given



Dr. Jorge Hernandez, Assistant Professor in Soil Fertility Management at Southern Illinois University.

Photo by John LaRose, Jr.

the true value to N fertilizer that it represents for food production, even though N fertilizer is the reason for the high yields right now.

“We have an environment problem and an energy consumption problem,” he summed. Δ