Controlled Release Fertilizer

Do they have a place in Missouri Cotton Production?

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Supplemental nitrogen fertilization is often required to maximize cotton production in Missouri. A common cotton production system is to apply 60 lbs N/a pre-plant followed by 60 lbs N/a at pinhead square. With increasing labor and fuel costs cotton producers are looking for ways to save money. It would be desirable to apply the entire N needed pre-plant and save subsequent fuel and labor costs associated with mid-season N applications. Our previous research at the Delta Center has clearly shown that there is a yield penalty with all pre-plant N programs and that this is great enough to overcome the increased costs of split applications.

Controlled release N fertilizers have the possibility to overcome the yield penalty of all pre-plant systems while saving cotton producers the time and expense of midseason applications. True controlled release fertilizers make use of wither chemicals or physical barriers, which delay the availability of nitrogen in the soil system. In these ways the applied nitrogen is protected from potential losses until the plant needs it. A drawback of controlled release fertilizers is that this availability must be synchronized to plant needs.

Two controlled release N fertilizers, one liquid (Nfusion, Georgia Pacific Inc.) and one solid (ESN, Agrium, Inc.) are currently being marketed for agricultural production. Both of these products have been formulated and optimized for corn production. These products are more expensive than traditional N fertilizers, costing about $0.10 more per lb of N. Δ

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