Agriculture cleaning up with BMPs

By DICK WRIGHT
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John Gay descends from a line of sugarcane growers going back to 1807, just a dozen years after sugar was first made commercially in Louisiana.

Gay continues the tradition, but he does not farm like his cane-growing ancestors did.

His way of growing sugarcane may prove to be not only more profitable, but environmentally cleaner.

Under pressure to find ways to farm cleaner, farm leaders, agricultural academics and public agencies are writing up ways to farm that they hope will reduce or prevent the runoff of soil, pesticides and fertilizers that end up in streams and lakes.

Sugarcane farmer John Gay, right, talks with Iberville Parish county agent Mark Tassin in a cane field recently.
Gay is one of the people who helped write these guidelines, called "best management practices," or BMPs, based on a manual of the Soil Conservation Service. Gay helped write the BMPs for sugarcane farming.

Boydston noted that Gayählen visitors some of his cane fields in Iberville Parish. A casual visitor sees big fields with strips of grassy-looking young cane growing out the tops of high rows. Gay, the farmer, sees much more.

"Over the winter months, we get a lot of rain. We don't spray anything on the rows. We let the grass grow," Gay said. Leaves sheared off the tops of green cane stalks during the previous fall's harvest are left in the middles, between the rows. "They help hold the soil in place."

The exception to no spraying is in the fields growing "plant cane," the first cane to grow from a fresh planting. Herbicide is used to keep weeds and grass from competing with the young cane until it gets a good start.

Gay said it is "vitally important" to keep grass off young cane to give it a good start because this cane will be cut three years running before the field is replanted in new seed cane. Even so, only the top of the row where the cane is actually growing out of the ground is sprayed with a herbicide, he said. Grass and weeds are left on the sides of the high row to hold soil in place, he said. The grass and weed killer is applied only to the top of the row. It is not spread over the whole field.

"A land application of herbicide is more cost effective than a broadcast application, and it helps with soil erosion," Gay said.

In April or May, a band of nitrogen fertilizer is injected into the soil on each side of the row to give growing cane a boost. "It is put in six to eight inches deep, right on the shoulder," Gay said. "It doesn't take as much as we used to think. Once we were making a lot of vegetation, but we were not making a lot of sugar."

Gay said cane farmers also apply potash and phosphate as needed. "We soil-sample each field once every four or five years and determine what is needed," he said.

In using these practices which gauge the amount of fertilizer cane really needs and using only the amount of pesticide the crop demands, Gay and other growers who follow similar practices are acting in accord with the two stated goals of BMPs:

"First, the BMP, if used by farmers, will reduce the amount of soil particles, nutrients, pesticides, fertilizers, effluent and other material transported from the field to the waterways."

"Secondly, these practices should maintain or improve the productivity of agricultural land."

Cane farmers don't have to deal with the fecal ecoli, a potential disease-causing bacteria from the digestive tract of humans and other animals. That provision applies to livestock farmers.

The goals are stated in the LSU Agricultural Center's study of BMPs.

Bill Branch, Louisiana Cooperative Extension Service environmental education specialist who works with the BMP committee, said the practices are voluntary.

The BMPs for sugarcane and other crops were written, or are being written, by people who raise the crops along with representatives of the Agricultural Center, farm agencies and the Department of Environmental Quality.

"It is our judgment they are the best measures we know to reduce non-point source water pollution," Branch said. "It is our hope that as these practices are adopted by the grower, they will have a positive effect on reducing sediments, nutrients and pesticides washing off the field."

He cited special projects to clear up water in Bayou Queue de Torte, a tributary of the Mermentau River in southwest Louisiana's rice growing region as examples of how adopting different cultivation methods can cut field runoff - the so-called "non-point source" pollution. A number of growers have adopted reduced tillage, which means turning the soil as little as possible or not at all.

"I may be wrong, but I believe estimates indicate 50,000 acres have been reduced tillage," he said. "That's one of the best examples of how we can cut non-point source water pollution."

A rice industry magazine last year chose as its farmer of the year a southwest Louisiana grower who successfully has used no-till or reduced tillage for years.

Jan Boydston, in charge of the Department of Environmental Quality's program to reduce non-point source water pollution, said more streams in the Mermentau Basin were not meeting their "designated uses" - swimming and fishing - than in any other stream system in the state.

DEQ has funded studies of water quality in the streams and a study to document how traditional growing methods involve discharge of muddy water.

"I think we have a long way to go there, but I think we're on the right track," Boydston said.

Agriculture's office is now sponsoring a study of sugarcane farming practices as they may affect water quality in the Bayou Terrebonne and Bayou Barataria systems.

"Quite a few streams are not meeting their designated uses there also," she said.

"If we can clean up waters in the Mermentau Basin, the Pontchartrain Basin and the Bayou Barataria and Bayou Terrebonne Basin, I would say we would have accomplished a lot," Boydston said.

Gay said his family also uses "precision leveling" on their cane land. Today, lasers are used to map the lay of the land. Precision leveling involves filling in dips and leveling off rises in a field.

The traditional way of draining cane fields is to cut small ditches across the rows. These drain into larger ditches, which in turn drain into public canals. The effect is to cut up a field into small strips.

Gay said precision leveling creates a smaller, unditched segments of the fields that can accommodate the big, multi-row tractors farmers use today. The field is not truly level.

The field is engineered intentionally to have a slight slope, so that water is carried to the end of the rows and drained.

From an environmental standpoint, water from precision-levied fields should drain off more slowly and, therefore, carry off less soil and chemicals, Gay said.

Cane farmers today also have the equipment to break up a hard, impermeable layer that forms a foot or more below the surface of a field, Gay said.

This hardpan or traffic pan, as it is called, develops from the heavy equipment passing over the field. It is broken up before planting.

"It lets water percolate down in wet spells and percolate up in dry spells," Gay said.

Gay said he thinks farmers will adopt the practices recommended for reducing non-point source pollution.