TILLFARMING. Nearly 35 percent of acreage in Kansas is dedicated to no-till farming. According to Professor Chuck Rice, University Distinguished Professor of soil microbiology at Kansas State University, some 10 to 15 percent of agricultural acreage in Kansas continuously uses no-till farming. Nearly 35 percent of acreage in Kansas is dedicated to conservation tillage. Rice says that in some counties in Kansas, adoption of conservation tillage is as high as 70 percent. His research suggests that the amount of carbon sequestered in Kansas because of no-till farming is as much as 0.8 metric tons per hectare per year in some parts of the state. Nationwide, he says, no-till farming may have the potential to reduce annual CO₂ emissions by 15 to 20 percent.

At current market prices — between $1 and $4 per acre in Kansas — the carbon credits paid to farmers are a supplement to their income, rather than an overriding motivation to switch to no-till. However, under a federal cap-and-trade system, the value of the carbon credits could be a lot higher — up to $15 an acre, according to Rice.

Rice believes that more Kansas farmers would move to no-till and conservation tillage practices if a federal cap-and-trade system were introduced, because the farm would be more profitable. “We’ve produced several case studies on research farms in Kansas, and in many cases, the no-till farms are already more profitable,” he says. “If you add on the anticipated extra value of the carbon credit under a cap-and-trade system, you would hope that there would be even higher adoption.”

Even without the income from carbon credits, there are sound economic reasons for farmers to move from conventional tillage to no-till farming. It brings down fuel, labor and equipment costs. Long term, it can enhance crop yields by increasing the soil’s water retention and reducing soil erosion. The main drawbacks are that it takes several years for the soil to be revitalized after moving to no-till from conventional tillage and a significant amount of trial and error to get the process right. This can cause yields to fall during the first few years, which discourages some farmers from initiating the practice.

This is one reason that Steve Baccus, president of the Kansas Farm Bureau, a nonprofit advocacy group for the state’s farmers, helps to share information about no-till farming with other farmers in the state. While the organization does not advocate any particular farming method, it holds an annual conference where members considering no-till can get advice from farmers already employing the practice. “Members can visit a no-till farm for the day and ask a lot of questions,” he says.

Baccus has first-hand experience with the economic benefits. When he introduced no-till farming on his family farm in 1990, one reason was to lower his machinery costs. However, by combining crop rotation with no-till farming, he could also diversify what he was able to produce. Crop rotation is often combined with no-till practices to reduce disease and weed pressure, allowing the soil to retain more moisture and increasing its content of organic matter.

“Kansas is a wheat state. It is the only crop that you can grow consistently, but through no-till farming and crop rotation, we can grow wheat, corn, sunflowers and soybeans,” he says.

If farmers have the chance to diversify their businesses and increase their earnings — while, as predicted, carbon credits increase in value — no-till farming could become even more popular in the future.

FOR MORE INFORMATION CONTACT: STEVE BACCUS, KANSAS FARM BUREAU, PHONE: 785-587-6600

PROFESSOR CHUCK RICE, KANSAS STATE UNIVERSITY, PHONE: 785-532-7217