

Applied Risk Analytics

Comparing Conventional and Strip-till Tillage Systems

How Much Risk is Right for You and Your Operation?

Brothers

KEN AND RICH RIFF own and operate a row crop operation situated in Big Horn County, Wyoming. Currently the Riffs are considering converting the tillage portion in their operation from conventional tillage (using a disk harrow and moldboard plow) to a strip-till system (a more minimum-tillage approach). The Riff Brothers need to compare the operating costs of the two tillage systems . . .

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Tillage Systems Overview
Currently the Riffs prepare a seedbed for corn the same way they have for many years. First, they disk and then moldboard plow the field with the previous year's crop residue to a manageable size. They then use a disk harrow twice to further break down and incorporate the residue. This is followed by moldboard plow to further bury residues and create a seedbed. The field is finished with a disk harrow. Corn is then ready to be planted.

The major advantages of the conventional tillage approach are that equipment is common and readily available, it often makes for clean seedbeds to plant with and requires fewer chemical inputs, especially insecticides in regions having systems. The disadvantages lie in the number of passes required, resulting in high fuel and input consumption, and the potential for erosion and reduction of soil organic matter. Soil moisture or lack of it becomes a problem, especially in drought years. The more a field is tilled.

The strip-till system that the Riffs are considering involves a system referred to as a strip-till system. The basic concept is to till only the soil profile direct as possible, while leaving a narrow strip (8-16 inches) that

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Cost for Strip-till Field Operation

Item	Conventional	Strip-till
Planting	\$100	\$100
Harvesting	\$100	\$100
Tillage	\$100	\$100
Chemicals	\$100	\$100
Water	\$100	\$100
Fuel	\$100	\$100
Other	\$100	\$100
Total	\$600	\$400

As a single application can be made multiple times, the results provided are based on the most likely outcome, one

Page - 3

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