

Shorter-rotation alfalfa

Beating the high cost of nitrogen.

Research shows plenty of good reasons to adopt a shorter-rotation alfalfa strategy. If you've been resisting such a move, you may want to reconsider in light of abnormally high nitrogen fertilizer prices.

"When turning over alfalfa stubble on a medium to fine-textured soil, the grower can take a legume credit of 150 pounds of nitrogen per acre," says Dan Undersander, Extension and research forage agronomist at the University of Wisconsin. "That's more than enough to meet the needs of a corn crop. With this spring's higher cost for nitrogen, that credit is more valuable than ever."

Legume credits — up to 50 pounds — carry over to the second year, as well. "In addition to the economic benefit of the legume credit, growers need to factor in the yield benefit of rotation," Undersander says. "With corn following alfalfa, they can expect a 10 percent to 15 percent yield increase for either grain or silage. That's a big deal."

Shorter is better

The upshot: Wisconsin research shows a three-year alfalfa stand — seeding year plus two — is more profitable than a five-year stand.

Researchers analyzed the economic value of short-term alfalfa rotations compared to long-term rotations on an average dairy farm with 300 acres of cropland (200 acres of alfalfa) and either three- or five-year alfalfa stands (including the establishment year).

Base income for the shorter rotation was actually slightly less than for the five-year rotation due to higher costs and

slightly less yield (because more land is in new seeding). The value of the legume credits plus the increased corn yield, however, more than offset the difference.

"One of the biggest challenges to alfalfa profitability is declining yield as the stand ages," Undersander says. "The average yield decline is 10 percent in the third production year and 24 percent in the fourth year. The older the stand, the more expensive the hay."

Stand count support

Stand counts appear to support a three-year rotation.

"If you have 55 stems per square foot, you're still in a high-yield range," Undersander says. "But often we find after the third year, stem counts are below that threshold. A three-year rotation is becoming an average stand life for many farmers in Wisconsin, and that includes the seeding year."

That means it's important to maximize seeding-year yield. "Growers need to seed as early as possible or seed a crop like Italian ryegrass with the alfalfa," Undersander says. "We see differences in alfalfa variety yields of up to half a ton per acre in the seeding year. That's more than enough to pay for the total cost of the seed."

Undersander says seeding Italian ryegrass with the alfalfa works best when using varieties without the Roundup Ready® trait. "The ryegrass comes up fast, provides early erosion control and early weed control. It's of similar quality and palatability to a first alfalfa cutting," he notes. "We've been able to go from a 4-ton yield in the seeding year to a 5- or 6-ton yield." ■