

## Camelina seed yield increases after fertilizer inputs

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BOZEMAN - With U.S. consumption of biodiesel expected to increase substantially in coming years, some Montana producers may be considering growing the oilseed crop camelina to get a share of the market. New research from Montana State University indicates that camelina seed yield increased after nitrogen and phosphorus fertilizer inputs.

Camelina is viewed as a low input crop because seeding rates are low - generally only a few pounds per acre - and no pesticides are currently registered for use on this crop.

"The issue with biodiesel has been cost. Since a high fraction of the cost is in the production of the oilseed, a low input crop like camelina is desirable. Unfortunately, camelina's fertilizer needs are largely unknown," said Grant Jackson, MSU agronomy professor at the Western Triangle Agricultural Research Center in Conrad.

In a recent study on "Selena" camelina in the Golden Triangle and in Kalispell, "Camelina required between 70 to 90 pounds of nitrogen per acre for optimum seed yield and oil content." Yields in these studies averaged approximately 1,200 pounds per acre.

"As with any crop, soil nitrate levels should be measured to a two- to three-foot depth before seeding," said Clain Jones, Extension soil fertility specialist in MSU's Department of Land Resources and Environmental Sciences. "Nitrogen fertilizer should then be applied to provide a total amount of about 70 to 90 pounds of nitrogen per acre." This includes both soil nitrogen and fertilizer nitrogen.

When soil phosphorus test levels were 12 parts per million or less, camelina responded to phosphorus fertilizer applications.

"Although the responses to phosphorus were small, growers should apply approximately 15 pounds of phosphorus per acre and expect a yield increase of about 100 pounds per acre," Jackson said.

Currently, there are no specific sulfur fertilizer recommendations because no grain or oil yield responses were observed, though sulfur responses are generally rare in the Golden Triangle.

"More soil fertility experiments are needed over a wider area before statewide fertilizer guidelines can be published on this fairly new crop," said Jones. In addition, camelina has a natural, pale green color, which should not be confused with a nutrient deficiency.

"Regardless of what crop is being grown, soil testing prior to planting will help identify potential nutrient deficiencies," Jones said.

For copies of the Fertilizer Fact Sheet, please refer to the Web at <http://landresources.montana.edu/soilfertility/FertilizerFacts/Default.htm> (#49). For more

information on camelina, please see "Camelina Production in Montana" (MT200701AG) at <http://www.montana.edu/wwwpb/pubs/mt200701AG.pdf> or order it from MSU Extension Publications. To order printed copies, please refer to the Web at [http://www.montana.edu/wwwpb/com\\_serv/\\$order.html](http://www.montana.edu/wwwpb/com_serv/$order.html) or call Extension Publications at (406) 994-3273. Contact your local MSU Extension agent (<http://extn.msu.montana.edu/localoffices.asp>) or crop adviser for help with specific fertilizer decisions.