

New alfalfa variety could be big boost to dairy industry

28 March 2012, By Krisy Gashler



Alfalfa hay varieties.

(PhysOrg.com) -- Dairy farmers could see a boost in milk production, thanks to a new alfalfa variety to be released by Cornell's world-class plant breeders.

The new variety, N-R-Gee, is highly digestible, is well adapted to the Northeast and is predicted to increase milk production up to 3.3 pounds of milk per day compared with an industry standard, said Julie Hansen, a senior research associate in [plant breeding](#) and genetics.

That bump translates to \$181 more per cow, for a cow lactating 305 days per year and a farmer earning \$18 per 100 pounds of milk. On a 113-cow dairy herd, the average size in New York, that would add up to an extra \$20,000 per year.

The secret to N-R-Gee is a lower percentage of indigestible fiber -- which fills a cow's belly but passes through as waste -- and a higher percentage of carbohydrates and pectin, which [cows](#) can convert to milk. With less fiber taking up space in all those stomachs, cows can eat more of the high-quality alfalfa and produce more milk.

"More intake and more digestibility: those two

things combined, we think, are going to make a pretty significant impact for the [dairy industry](#)," Hansen said.

N-R-Gee has already soared through one test, on 3-month-old lambs at the Cornell Sheep Farm. Unlike cows, lambs can be fed straight alfalfa, so the lamb test avoided the confounding effects of mixed feeds.

With help from Deb Cherney, associate professor of animal science, a group of plant breeders measured the lambs' [food intake](#), average weight gain and feed efficiency over six weeks. The plant breeding group included Hansen, technicians Robert Deubler, Jason Schiller and Ryan Crawford, and research support specialist Jamie Crawford.

After the successful lamb feeding trial, the researchers used a prediction equation to extrapolate to [dairy cows](#), assuming alfalfa would comprise half of a cow's dry diet.

Beyond its excellent yield potential, N-R-Gee was selected for resistance to multiple diseases that are problematic in the Northeast, including bacterial wilt, verticillium wilt, fusarium wilt, anthracnose and phytophthora root rot. Disease resistance is especially important in alfalfa, as it stays in the field year-round, for multiple years.

Since 1963, Cornell has released 21 alfalfa varieties for use in the Northeast.

The N-R-Gee alfalfa variety was licensed by the Cornell Center for Technology Enterprise and Commercialization and is being marketed by Seedway, LLC.

Provided by Cornell University

APA citation: New alfalfa variety could be big boost to dairy industry (2012, March 28) retrieved 29 November 2021 from <https://phys.org/news/2012-03-alfalfa-variety-big-boost-dairy.html>

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