

FARMERS NEED BETTER FORAGE CROPS. LAND-GRANT UNIVERSITIES ARE HERE TO HELP.

Forage crops like alfalfa, grasses, and clover provide livestock feed, biofuels, and vital environmental functions, but farmers need improved forage varieties for sustainable, profitable production. Plant breeding can improve forage crops without increasing costs for farmers, but many states do not have public forage breeding programs, and few private companies breed forages.

That's why researchers at land-grant universities across America have teamed up with the USDA-ARS, the Noble Foundation, and other institutions. Working together, they have made significant advances with diminishing resources and leveraged funds to create more opportunities for forage research and breeding. Over the past five years, the group has developed new selection techniques that accelerate breeding, performed widespread evaluations of forage species characteristics, and bred new forage varieties that are desirable for a wide range of farm environments and production systems. This information helps breeders, seed companies, farmers, and crop consultants make smart decisions about forage use and management. Ultimately, improving forage varieties ensures sustainable, profitable farms, rural vitality, and a stable supply of high quality, low-cost meat and dairy products.



RESEARCHERS BRED NEW FORAGE VARIETIES. WHY ARE THESE VARIETIES IMPORTANT?

THEY PROVIDE BETTER NUTRITION

Improved forage varieties provide a more reliable source of nutritious feed for livestock, keep animals healthier, and allow farmers to raise more animals.

For example, a new alfalfa variety with more pectin is easier to digest and provides more efficient nutrition to dairy cows.

Another new alfalfa variety could increase milk production up to 3.3 pounds per day, an increase worth about \$181 per cow.

A team led by Agriculture and Agri-Food Canada found a new sainfoin variety that does well when grown with alfalfa. Because it needs no fertilizer, does not cause bloating in grazing animals, and is a dewormer, farmers can incorporate sainfoin to improve forage quality, protect animal health, and minimize costs.

A new variety of orchardgrass does not produce seed heads, leading to improved forage quality.

THEY RESIST PESTS

Researchers developed an alfalfa variety with more resistance to alfalfa snout beetle, improving yield and quality in areas with this devastating insect pest.

THEY PRODUCE HIGHER YIELDS

Researchers are working on a switchgrass variety with higher seed germination to help the crop get off to a strong start and have higher yields.

Forage varieties with higher seed production provide a better product for seed sellers and ensure a low price for growers buying seed.

THEY PROTECT THE ENVIRONMENT

New forage varieties that improve nutrient cycling and reduce erosion and runoff help minimize water pollution.

Many varieties also require less chemical fertilizer, pesticide, and herbicide, further protecting the environment from runoff.

Some new forage varieties can store more carbon, reducing the amount released into the atmosphere.

THEY CAN BE USED FOR BIOFUELS

Researchers are evaluating which mixtures of grasses and legumes have the most potential for use in biofuels. Improving biofuel production helps promote more sustainable and secure energy sources.

THEY TOLERATE HARSH ENVIRONMENTS

New types of forage crops are an important part of raising animals on marginal land.

Alfalfa varieties with high tolerance to salt, acid, and aluminum make it possible to profitably grow alfalfa on dry marginal lands that used to be unsuitable for agriculture.

Red clover with more persistence can grow well in acid soils and even improve soil.

New long-lasting, high-yielding varieties of birdsfoot trefoil grow well in poor soils.



Multistate Research Fund
IMPACTS

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