

Alfalfa, Wildlife & the Environment



American farmers harvest about 16 million acres of alfalfa annually, making it the fourth most widely grown crop in the country behind only corn, soybeans, and wheat. Its value in 2019 reached nearly \$11 billion, exceeding even wheat to make

it the third most valuable crop nationwide. However, mention the word “alfalfa,” and most people would associate the word with the sprouts used on their salad—a minor use. Very few would recognize the important role alfalfa plays in their lives in the form of milk, cheese, ice cream, honey, leather, or wool. Fewer still would recognize the roles that alfalfa plays in maintaining a diverse farm landscape and a healthy environment.

In recent years, environmental activists and organizations have come to realize working farmland is a vital part of natural ecosystems, with exciting potential to contribute to biodiversity, water quality, and wildlife conservation. Promoting perennial crops and nitrogen-fixing legumes like alfalfa is now an integral aim of the environmental movement and connections are being built between wildlife conservation advocates and farm and crop production organizations.

At the same time that this shift has taken place, however, the proportion of farmers in the U.S. population has continued to decline, and it is safe to say that very few in the general public have an in-depth appreciation of crop production. A public disconnected with agriculture is particularly a problem for alfalfa, which is two steps removed from the dinner plate but important for human nutrition nonetheless. There are many reasons why the public should understand alfalfa’s importance as a crop and its contributions to broader social goals:

Alfalfa is vital to our food system. Alfalfa’s primary end use is as a feedstuff for dairy cattle and other livestock, which makes it a crucial part of the production of beloved dairy foods like ice cream and cheese. New uses are also being developed for alfalfa protein in foods for pets, fish, and even humans.

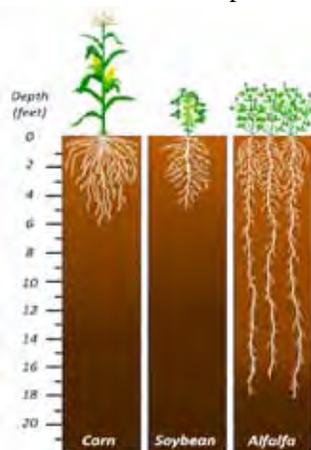
Alfalfa builds and protects soil. Alfalfa offers unique benefits as a perennial crop, including building organic matter for soil structure, stability, and water holding capacity. By providing year-round living cover, it nourishes soil biological activity and offers physical protection from wind and water erosion.

Alfalfa benefits our insect friends. Alfalfa plays an important role as a food source and habitat for pollinators, predators of crop pests, and other beneficial insects. This makes it a valuable resource for the



honey industry, as well as a tool for the conservation of native pollinator diversity.

- Alfalfa feeds and shelters wildlife. Alfalfa is used by game and nongame wildlife, including nesting and migratory birds. The insects and small mammals feeding on alfalfa fit into a greater food web in the ecosystem, supporting birds and larger carnivores. Wildlife organizations help to advise farmers on harvest practices and schedules that can ensure the safety of nesting birds.
- Alfalfa research supports sustainability and productivity. A successful alfalfa crop relies on the skilled attention of farmers. Farmers apply research-based recommendations and personal experience to choose management practices that will maximize the productivity of their stands, optimize winter survival, control pests, and make efficient use of water resources.
- Alfalfa supports the whole farm. Alfalfa can boost the yield of other crops in a farm’s rotation, and can even reduce the need for chemical inputs. It is particularly known for its benefit to corn, which draws on the nitrogen fixed in the alfalfa’s roots. This nitrogen contribution, as well as alfalfa’s weed- and pest-suppressive abilities, make it an especially valuable crop for farmers using integrated pest management or organic practices.
- Alfalfa provides ecosystem services. The benefits provided by alfalfa within the cropping system extend off the farm to provide a wide range of services to society at large. These include food production, water protection, soil conservation, biodiversity, aesthetic value, and economic resiliency.



Alfalfa roots commonly extend up to 16 feet into the soil, much deeper than other crops. The deep root system holds soil in place and creates channels that promote water infiltration, biological activity in the root zone, and improved nutrient cycling.

Despite its many benefits, alfalfa is often overlooked in agricultural research and education. The amount of research funding dedicated to alfalfa is far below what would be proportional to the value of this productive and environmentally friendly crop on the farming landscape and in the food system. If farmers and researchers are supported in their work toward building more diverse and resilient cropping systems that feature year-round living cover and biological fertility sources, the future of this time-honored crop looks bright.

NRCS

Did you know?

Alfalfa produces its own nitrogen fertilizer by partnering with a soil bacterium to “fix” nitrogen from the air. This nitrogen contribution extends to the following crop, saving farmers thousands of dollars on fertilizer for their corn!



One-third of the honey in the U.S. comes from alfalfa fields.



Protein Power:
alfalfa produces more protein per acre than any other crop. This protein is important in the diets of livestock like horses and cattle.



Alfalfa is considered the premier forage for dairy cows, making it an essential component of milk, yogurt, ice cream, and cheese. Yum!

Alfalfa can be used for remediating environmental contamination—most famously, at the “Erin Brockovich” site



in Hinkley, CA, where it is used to contain the spread of carcinogenic Chromium-6 in groundwater: alfalfa irrigated with the contaminated water takes up Chromium-6 and converts it to the plant nutrient Chromium-3.



George Washington and Thomas Jefferson grew alfalfa.



PHOTO FROM IMPERIAL VALLEY, CA, 1903.

As a high-quality horse feed, alfalfa powered transportation and farm operations in the U.S. for nearly a century. Early growers marveled at the vigor of alfalfa.

