

THE VIABILITY OF ALFALFA DURING HISTORIC DROUGHTS

Bill Talley, CEO, Summit Seed Coatings

The reality of increasingly common drought conditions is here to stay as the climate crisis continues. With agriculture's ability to adapt as it is now quickly diminishing, growers are left with fewer options to support a livelihood and make do - and this can mean taking less drought adaptable crops completely off the table in certain regions.



One crop that is enduringly drought resistant across many areas, and not liable to go away anytime soon, is alfalfa. Both an impressive multi-year cover crop and highly nutritious animal feed source, farmers in drought-stricken regions have been able to test the limits of this luscious legume, finding out that it will bend rather than break in the face of scant water and rainfall - even without the farmer's typical arsenal of summer irrigation supplies.

When all other options have failed, alfalfa could be the priority seed, feed, and cover option of the future. The empirical evidence for such continues to grow, which is a boon not just for the alfalfa industry, but for other industries - like beef, soybean, corn, and beyond that also benefit or depend on this semi-perennial crop's soil-boosting, nitrifying properties.

Alfalfa as a Drought-Resistant Feed Source

In charitable mild winter climates, alfalfa is already a top choice for growing in places that are arid and water-restricted to begin with, such as the Gardena Farms Irrigation District in Washington State, for example. Here, high cash crops (like orchard fruits) are not feasible or even marketable for farmers to grow at all. Instead, producing cut alfalfa for livestock feed, or alfalfa seed for the rest of the country, are the most lucrative ways to go, which may sound hard to believe for farmers in other areas.

What makes alfalfa so drought tolerant? It's mostly thanks to the legume's incredibly successful (and deep) taproot, which works not unlike the incredible root systems of native grasses or prairie plants. Alfalfa roots drill through several layers of soil as the plant develops, tapping into soil moisture that would be scarce to most other crop plants, and which allows the plants to survive several weeks (if not months) of little to no rainfall whatsoever.

It's this trait that also allows alfalfa to go dormant (instead of die) when faced with extreme heat and dryness, but return to life once moisture comes back, making it so farmers do not need to re-sow crops while dealing with drought according to University of Minnesota Extension (though young alfalfa plants will not be this tolerant with under-developed root systems). In fact, when adequately tended, alfalfa can be a successful perennial crop year to year even through multiple droughts.

Despite drought, even in the typically parched, irrigation-restricted Gardena Farms Irrigation District, growers can still get around 3 cuts of their alfalfa crop per season without any irrigation, sometimes for lengths of around 5 months during the hottest parts of the summer season.

Alfalfa Successfully Improves Soil Health and Nitrogen Absorption Amid Drought

What about alfalfa as a cover crop? These same capabilities in alfalfa for surviving drought, while still providing plentiful animal fodder, will also serve the next crop to follow quite well in a healthy rotation. Alfalfa's deep roots are not only adept at bringing up water but also nutrients that have been buried far down under the topsoil in layers of earth that more shallow rooted plants cannot access according to the University of Wisconsin - including scarce trace minerals like boron, manganese, or chromium. Obviously, alfalfa can make for an excellent green manure nitrogen crop when terminated at the right time, too.

Long taproots also help condition and aerate soils in coming years, especially if farmers plan to till the alfalfa under for a different crop to follow the next season. For soil expanses that are especially clay, thick, or hardpan, even in a considerable drought, alfalfa can successfully "sweeten" and loosen these soils in the years to follow.

In fact, the work alfalfa accomplishes as a cover crop can help ramp up the drought resistance and tolerance of other additional crops in subsequent years, owing to the legume's impacts on soil health as it grows. Studies show that drought can greatly inhibit soil health and the ability for plants to absorb nitrogen, though these are all things that alfalfa can offset as a "placeholder" crop and help make these same conditions easier for crops during a drought in years to follow.

That said, drought can and does have a direct impact on the success of alfalfa itself - including its own nitrogen absorption and access to prime soil health conditions. While alfalfa indeed can tolerate drought far better than many other crops, the best measure for optimal success with alfalfa as either a cover crop OR animal fodder is to work on these factors with the tools at hand while enduring drought conditions for the best outcomes.

How to Combat Drought Issues for Maximizing Alfalfa Viability and Health

Alfalfa is an incredible feed source crop for drought and arid areas, paving the way for many other crops in coming years and even during the driest of spells. However, farmers need not leave alfalfa itself high and dry, so to speak.

By upping available nitrogen and supporting soil health, even in subtle and sustainable ways, alfalfa production can be bolstered when water is scarce, amplifying cover crop function as well as feed crop yields. Nitrogen will be the most important nutrient to provide: it enhances drought tolerance, enriches plants in their vegetative growth stages, and makes them more resilient and robust during periods of less water.

When sowing alfalfa and expecting droughty periods, seed coating technology can also help optimize the levels of nutrients, moisture, and disease protection seeds receive, giving them a head start even when conditions are parched. Summit Seed Coatings like [Hydroloc](#), [Plus](#), and [QuickStart](#) on alfalfa seeds are top choices for these ends.

Alfalfa is a tough and lucrative crop for drought in arid areas. It's a smart, strategic choice for the right grower - helped along by the latest agricultural technology and tools to enhance drought tolerance and reliability.