Seed Selection

Don't let your pasture or hay field become a lost opportunity; take the time to consider seed options.

*by **Corinne Patterson***

Reclaimed farmland or a pasture in desperate need of grass restoration can be a great opportunity for a farmer or rancher to improve his or her operation, says Andrew Hopkins, a scientist for The Samuel Roberts Noble Foundation Forage Improvement Division.

"Probably the biggest lost opportunity for a farmer or a rancher is to say, 'Well, I need to plant a pasture so I am going to go down to the co-op and purchase whatever they have on the shelf,'" Hopkins says, "because it may or may not be the best cultivar or species for what they are trying to accomplish."

Producers may need to back up two or three steps in the planning process, Hopkins says, and put a little thought into a grass-planting endeavor.

"What do you want to accomplish?" he asks. "Do you want super high-quality pasture, or do you want something that's going to be used for cow-calf? The quality is always good to have, but maybe you are more interested in yield. Or, maybe you are planting a particularly wet area, or you have very sandy soil, so it's dry. You need to think about what you are trying to accomplish before you go out and purchase the seed. That's really the best place to start."

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A producer should first evaluate what species of plants they desire. Then, Hopkins recommends, it's best to research the different cultivars of the plants to determine what seed would thrive best in the environment and survive based on the conditions in which the grassland is to be used.

Part of selecting seed is to consider the field preparation that will be required. Hopkins says preparing the field — the actual plowing, herbicide control for potential weeds and fertilization — is commonly the most expensive step in grassland planting. He recommends producers take soil tests to know where to begin.

"It's probably the best 30 minutes to an hour that farmers can spend — getting soil samples and getting soil test results for their fields. For instance, if they have a field they would like to plant alfalfa or clover in, if they plant and don't have a soil test they are taking a chance that the soil pH is going to be OK," Hopkins says. "Some legume species, particularly alfalfa, are very sensitive to acidic soils. Unfortunately, [producers] may not know they have a problem until it's too late, and then it's much more difficult to fix the problem. It's always best to know and get as much information as you can. Soil test results are quick and easy and inexpensive for the information that you get."

Another key to success can be the variety, or cultivar, selected.

"There are some species of grasses and legumes that are very difficult to establish," he says. "A lot of the native grasses are notorious for being difficult to establish, and some of the legumes are difficult to establish."

Forage scientists develop cultivars for such traits as improved forage quality, improved persistence, grazing tolerance, disease resistance, insect resistance and improved establishment. But most forage people consider increased forage quality resulting in increased milk production, improved average daily gains (ADG) or more meat produced per acre the ultimate test of a forage cultivar, Hopkins says. "Improved forage quality is always a big target for plant breeders. It's always been an important trait we are trying to develop, and it continues to be so."

Seed classifications

Once a species with desired traits is determined, it's important to know what you are shopping for. Seed can be produced and marketed in different classifications, including foundation, registered, certified or noncertified. Hopkins says there are certain legal standards that must be met for each classification.

"The system is set in place so that the person planting the seed knows about the purity of that seed," he says. "A plant breeder will develop a cultivar and produce seed with it. That seed

Mixtures are popular

In the world of forages, mixtures are often used, says Andrew Hopkins, a scientist for The Samuel Roberts Noble Foundation Forage Improvement Division. "Grasses plus legumes is a great example. There's a lot of scientific information that indicates that it's a very beneficial thing to do. You get the nitrogen fixation from the legumes, and lots of times you get better forage quality from those legumes, and the grasses are very stable from year to year."

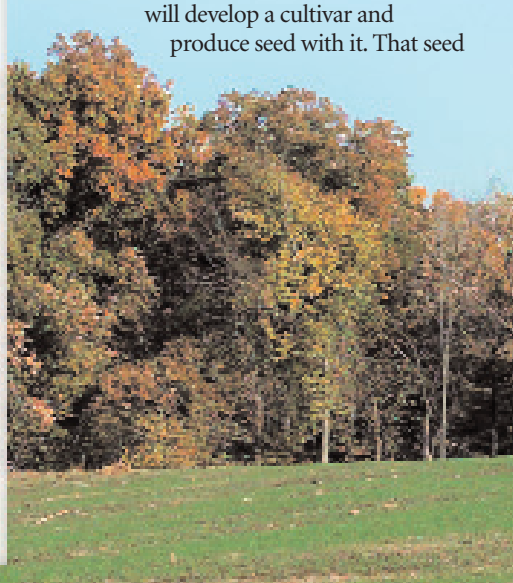
Mixtures do require management to maintain a balance of species, Hopkins warns. Extension personnel, university researchers or U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) people are excellent resources on what mixtures might work best in your area.

"Different forages mature at different times; some forages are very drought tolerant and others can handle a little bit of flooding," he says. "Some of them have really good forage quality, and others are not so good in forage quality but are higher yielding."

Producers planting mixtures, he says, are trying to utilize a mixture of different species to increase the reliability of one pasture from year to year to improve forage quality and/or extend the grazing season.

Over time a mixture can change and shift species, Hopkins says. It can be caused by the weather, by animals selecting their favorite species, grazing pressure or other elements.

"It does take more attention from a producer managing a mixture to have the species that they want out there," he says. "But it's definitely an option for people. If they are willing to work with the mixtures and put a little more time into it, there can be great benefits from it. It's just a little more sophisticated than just a single species in the pasture."



will go to an organization or a person who produces foundation seed.

"Foundation seed, as the name implies, is a foundation of the cultivar," Hopkins continues. "There are very strict guidelines in place to protect the purity of that cultivar. Then the foundation seed is typically sold to people who produce seed for planting — that is classified as certified seed. And certified seed has certain purity requirements that it must meet also. Then that certified seed is sold to farmers and ranchers who are going to use it for planting pastures and hay fields."

Why is it important to understand seed classifications? Regulations are set so that seed purchasers are not getting contamination from other varieties or weed seeds. Hopkins says it's more like buyer's insurance, requiring that the germination, variety and other important information be disclosed about the seed.

A lot of seed is sold as noncertified seed. Hopkins explains that noncertified seed generally comes from a seed field that didn't quite make the standards for certified seed, maybe because another cultivar contaminated the seed field, or from a farmer who harvested seed from a pasture and never attempted to get it certified.

Hopkins urges producers to use caution if the seed company says it has the variety of seed requested but it is not certified.

"The problem is that there's absolutely no guarantee what you are getting is really that variety. Somebody may be calling it variety A," he explains. "But because it is not certified, it may be variety A, B, C, D, E and F all mixed together in a bag. There's a certain 'buyer beware' there."

Noncertified seed is generally less expensive, but Hopkins warns that farmers need to decide if it is really worth saving a few pennies per pound on seed cost if it costs them more in the long run.

"There's also something called VNS seed. That stands for variety not stated," he says. "It's very much like noncertified seed. Somebody has produced the seed, and for whatever reason they are not going to sell it by a variety name. Again, it's buyer beware. They may be getting something good, but there's also a real possibility that they are not getting the best cultivar that's out there."

Purchasing fundamentals

Once producers have selected a species and considered what cultivar they would like to plant, Kevin Sedivec, an Extension rangeland management specialist with North Dakota State University, Fargo, says they should shop for price based on the pure live seed (PLS) content.

According to the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), PLS is the basis or percent germination. To calculate PLS, you must first find the percent germination and the purity reported in percentages, which should be located on the seed tag. Multiply these two figures and divide by 100 to obtain the PLS. For example, if the germination is 96% and the purity is 82%, multiply 96 by 82, then divide by 100 to find the PLS — 78.72%.

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"It is important that when a producer buys seed, he/she looks at the pure live seed content to determine proper seed rate. For instance, if seeding [at a rate of] 10 pounds of green needlegrass per acre and the PLS is 80%, you would have to seed 12.5 pounds of seed per acre to compensate for the inert material. [The actual seeding rate conversion is the recommended seeding divided by percent PLS (10 ÷ 0.8).] The lower the PLS, the more I would suspect the overall quality is poorer," Sedivec says.

Another tip when considering grass seed that has beards or awns, such as little bluestem or big bluestem, is to purchase a seed that is de-bearded or de-awned. "Otherwise that seed will be fluffy, bunch up in the drill box and be hard to pass through the drill with any accuracy," he adds.

Both Sedivec and Hopkins recommend producers do their homework and consider resources located close to their environments for advice and tips on what species may work best. Universities, USDA research centers, NRCS personnel, local Extension agents, reputable seed companies and neighbors can be excellent resources.

While it is not always possible, Sedivec says producers should "try and select a variety that was developed within a 300-mile radius north and south, and a 200-mile radius east and west." It's important to do the research to find what has been tested and proven to work in a local environment.

Sedivec encourages producers to look around for prices, as seed costs can vary between dealers. He warns that some plant seeds are hard to find, with year-to-year variability depending on the crop harvested. "Government programs (like the Conservation Reserve Program) can and do dictate needs for certain plant species, leading to high demand, low supply and vice-versa depending on year and program," he says. "Always plan ahead and be willing to lay in your seed early or contract early."

While seed costs may not be the highest cost of planting grassland or reclaiming farmland, many times it's considered a long-term commitment.

"Particularly if they are growing a perennial grass or perennial forage of any kind, most farmers would like to plant it and have it be there for many, many years. That seed cost is not going to be that great when it is spread out over five, 10 or 25 years," Hopkins says. "Saving a few dollars per acre on seed costs may cost a huge amount of money in the long term, considering they could have had a better variety planted."

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