

All Forage Blends Not Equal

By Ed Haag

Seeding blended forage grains can offer a variety of benefits to the grower but you had better know how those plants match-up agronomically or you might be sowing trouble instead of profit

Forage blends aren't just for perennial stands anymore. In recent years a growing number of forage producers are turning to blended forage grains as an insurance policy against single variety failure or as a way to fill out a production profile that would not be feasible with a single cultivar.

Scott Marks, Seed Sales Manager, Connell Grain Growers, has seen that interest grow within his Eastern Washington customer base. "Blends are very definitely an industry trend," he says adding that growers are using them to introduce qualities that might be lacking in single varieties.

He points out that as growers expect more out of their forage stands---whether it is higher yield, better nutritional value or even improved palatability--- they are turning to blends to help achieve those results. "When you think about what you are trying to accomplish when you mix seeds it amounts to taking the best attributes out of each variety and trying to make a product that has the best features of all," says Marks. "It can be an excellent way to introduce traits into a product without having to breed them into a single plant."

Steve Fransen, Washington State University Forage Agronomist, sees the use of blends increasing as our knowledge of individual forage annuals expand. "Once you know exactly how individual varieties and genotypes perform then we can start putting them together in a systematic way," he says. "Otherwise the grower is playing a guessing game."

A Valuable Tool

For those blends that are backed by solid research Fransen sees two particularly relevant forage production applications. "Many times individual varieties in a blend will grow at different rates," he says adding that some will germinate and develop rapidly while others will hold back for a growth spurt later in the season.

He notes that these blend characteristics already have been used successfully to manipulate and often extend the growing season on forage stands that are grazed.

An example of this is the blending and planting of spring oats and winter triticale in August to provide controlled grazing from October through April.

Another application of blends that shows a great deal of promise says Fransen is the positive role they can play in nutrient uptake and nutritional balancing. This is particularly relevant to dairy operators who are not only charged with producing forage

for their cows but also managing the nutrient rich manure their animals produce. “If you look at the nutrient status tables on grains or annual legumes you will see that each plant has a different concentration of nutrients in its stems and leaves,” says Fransen.

By blending the appropriate cultivars it is possible, not only to fine tune the nutritional balance of the forage being fed to cows, but also to balance the level of nutrients being extracted from the manure-applied fields.

Careful What You Sow

While Fransen is enthusiastic about the appropriate use of blended annual forage grains he cautions that there is risk in mixing cultivars without knowing ahead of time if the agronomic components of each grain are compatible with the others in the blend.

He points out that the wrong combination of plants can turn what could be a win-win into a lose-lose. “For instance, if you are planning to cut a stand for hay or silage to harvest as much biomass as possible in a single cutting you want all the cultivars in your blend to advance in maturity at the same rate,” says Fransen “So when you harvest, all plants are close to the same stage of development at the same time.”

Fransen adds that when grains in a blend have widely differing rates of maturity a grower is forced to choose between compromised production on one cultivar by harvesting it before its yield potential is fully realized or quality on the other cultivar by harvesting later when its nutritional value is already declining. Either way the grower loses says Fransen

Other problems that arise from poor blend choices can range from a competitiveness imbalance within the mix to visual appeal issues in the stand.

In spite of the obvious risks Fransen still sees most blend selections made by growers and seed outlets as less than scientific. “More often the motivation behind seed selection is cost or availability,” he says. “Even those looking for something more out of a blend are usually just hoping and guessing.”

Fransen fails to see the logic behind such an approach. “A farmer’s lowest cost input item is his seed. At the same time it is literally the foundation of any production system,” he says. “Why someone would gamble hard work and expense on an unknown is beyond me.”

Research Reveals Win-Win

One group of seed specialists is trying to change how growers and suppliers select for their forage annual blends by providing them with the research-based data they need to make informed decisions. Over the last three years, Connell Grain Growers (CHS) working with ProGene Plant Research (PPR) of Othello, Washington have grown several combinations of commercially available forage oats and triticale, under research trial

conditions, in order to identify compatible cultivars. “From just looking at the plots the difference between mixes was really noticeable.” says Dave Beach of Connell Grain Growers. “Some obviously weren’t meant to grow together and others were.”

He recalls one combination in particular, EverLeaf Oat 126 and Merlin Triticale, as performing exceptionally well as a blend. “They are both real strong varieties in their own right,” says Beach. “But they seemed to always keep up with each other. Neither appeared dominant.”

One aspect of compatibility that was clearly evident to Beach was how well EverLeaf 126 Oat and the Merlin Triticale shared a common space so that both plants could benefit from maximum levels of sunlight. He recalls each variety filling in any gaps left by the other so that next to no sunlight got past the interwoven leaves to the ground below. “Between the two varieties the stand just looked like a solid mass of productive forage,” says Beach. “That is compatibility you can take to the bank.”

SUMMARY OF FORAGE OAT/TRITICALE BLEND RESEARCH WORK

2007 Variety	Days after planting harvest date	yield	protein
EvrLf 126/107 Trit	109	9.82	11.25 %
EvrLf 126 oat	109	9.04	11.88
Trical Merlin triticale	102	8.29	11.25
Trical 107 triticale	106	9.23	11.75
EvrLf 126/Merlin Trit	106	8.15	12.13

2009 Variety	Days after planting harvest date	yield	protein
EvrLf 126 oat	111	13.78	10.90 %
Kona oat	106	11.90	10.19
Trical Merlin triticale	102	11.13	9.32
Kona oat/Merlin Trit	104	9.38	9.25
EvrLf 126 oat/Merlin	106	9.26	11.25