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***Forage Focus: Planting Small Grains in
Late Summer and Autumn for Supplemental Forage***

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Producers who own and manage ruminants are looking to grow more forage this autumn and early next spring because of the reduced forage yields resulting from dry weather this year. Supplemental forage can be produced yet this year by planting small grains or annual ryegrass on land coming out of wheat or corn silage. In this article we discuss options for planting in early August (on wheat stubble ground for example), in late August to early September (after corn silage removal), and after soybean harvest (late September to mid-October).

Before making any plans to plant supplemental forages, sure to check the plant back restriction interval for herbicides used in the previous crop. Corn herbicides, especially atrazine products, have a long rotation restriction interval for many of the forage options listed below. So check the labels for the herbicides you used this year especially.

Early August Plantings: The best options are to plant spring oat, spring triticale, or annual ryegrass (see section below on annual ryegrass). An increasing number of Ohio producers are gaining experience with August planted oat. Oat seed usually can be purchased at a more economical price than spring triticale seed, but either species will produce good dry matter yields within 60 to 80 days after planting. When planted the first two weeks of August and with adequate rainfall, oat and spring triticale can produce from 4000 to 5000 lbs/acre of dry matter by mid-October. They will reach the boot stage of growth in October, which provides the best compromise of yield and forage quality. If harvest is delayed until November, the early August planted oat and spring triticale will be in heading stage and will yield 6000 lbs of dry matter/acre or more. Early August planted oats or spring triticale forage will have crude protein (CP) content of 12 to 15% and neutral detergent fiber (NDF) of 38 to 50% depending on planting date and stage at harvest.

Late August to Early September Plantings: Spring oat, spring triticale, and annual ryegrass can also be planted from late August to mid-September, immediately after an early corn silage harvest. These later planting dates will produce lower yields (1500 to 3000 lbs dry matter/acre) and harvest will be delayed into months with poor drying conditions (November to early December), but would be an excellent option for grazing or green chopping. Forage quality will be very high with these later plantings - CP will range from 20 to 32%, NDF will be 30 to 38%, and NDF digestibility will be 75 to 85%. If an early spring forage harvest is desirable next year, winter triticale and winter rye should be included in mixture with the spring oat and spring triticale planted in late August and early September.

Late September to October Plantings: Wheat, winter triticale, and winter rye can be planted to produce good yields of high quality forage next spring. Rye will grow and mature the quickest in the spring and has the deserved reputation of becoming "like straw" in a short period of time once it turns reproductive in the spring. Wheat and winter triticale will be easier to manage next spring because they mature a later and more slowly than rye. Wheat planting should be delayed until after the Hessian fly-safe date, which is 22 September in northern Ohio and 5 October in

southern Ohio. Forage quality can be excellent for these species if harvested in the vegetative to boot stage of growth in the spring, producing from 2 to 4 tons/acre of dry matter depending on stage of harvest.

Seeding Rates and Mixtures: Plant high quality seed of a named variety to ensure high germination rate and avoid unpleasant surprises regarding varietal identity and crop characteristics. Oat should be planted at 75 to 100 lbs per acre and spring triticale at 90 to 110 lbs/acre when seeded alone. Winter rye should be seeded at 110 lbs/acre while wheat and winter triticale should be seeded at 110 to 120 lbs/acre. For mixtures of these small grains, the seeding rate of each component can be reduced to 70% of the full rate.

When planting in early August, field peas or soybeans could be added to the mixture to boost the CP content of the forage, an important consideration for dairy producers this year. While we have no data on planting such mixtures in August, we would expect the CP content to be increased by 3 to 4 percentage units when including field peas or soybeans with oats or spring triticale planted by August 10 to 15. This should provide an extra value of \$40 to \$50/acre from the increased protein content of the forage. This needs to be compared to the extra cost of the legume seed included in the mixture. Field peas should be inoculated with N-fixing bacteria and sown in the mixture at 70 to 90 lb/acre. Soybean seeding rates for this application are not well-defined, but perhaps should be included in the mixture at 60 to 70% of normal soybean seeding rates. If the legume seed cost is no more than \$50/acre, then including the legume in the mixture should be cost effective for lactating dairy cows, because the legume-small grain mixture should have lower NDF content leading to higher forage intake and greater milk production.

Annual Ryegrass Option: Annual ryegrass is another possible option for producing high quality forage, especially for grazing in late autumn and early winter followed by forage harvests or grazing next year. Some varieties are more likely to survive the winter than others. The forage quality will be at least equal to and is usually higher than that of the small grain forages discussed above. Refer to the Ohio Forage Performance Trials for selecting varieties (<http://hostedweb.cfaes.ohio-state.edu/perf/>). Plant 20 to 25 lbs/acre of annual ryegrass seed and apply 30 to 50 lbs N/acre either at planting or at early tillering stage. Additional nitrogen will be required next spring for good production.

We have planted annual ryegrass in early September for several years, and one can expect 800 to 2000 lbs of dry matter/acre by late November and early December, with yields of 3 to 5 tons of dry matter/acre the following year from improved varieties with good winter survival and with adequate nitrogen fertilization rates. Some varieties planted last September at South Charleston, OH produced 6 to 7 tons/acre of dry matter in 2012. Annual ryegrass can be planted earlier in August, especially if soil moisture is favorable, which should provide higher yields in late autumn (up to 3000 lbs/acre dry matter).

Agronomic Management

* No-till planting of these supplemental forages will conserve moisture and provide firmer soil for either harvesting equipment or grazing animals in the fall.

* A burn down application of glyphosate is an important and cost-effective weed control practice prior to planting.

* When planted after wheat, oat, spring triticale, or annual ryegrass will likely require 40 to 50 lbs N/acre at planting for best economic returns. Manure applications can replace some or all of the N fertilizer need, depending on the amount of readily available N in the manure.

* When planting after corn silage this year, it is NOT advisable to apply additional nitrogen, because there probably is still sufficient carryover nitrogen in the soil from the corn crop. Applying more nitrogen after a corn this year has a high probability of resulting in toxic levels of nitrates in the forage at harvest this fall.

Harvesting/Grazing Options:

* Chopping and ensiling these supplemental forages is the best mechanical harvest alternative, whether harvesting this fall and or next spring. Wet wrapping individual bales will work, but is more expensive than ensiling into a permanent structure or long silage bags.

* Dry baling in the fall has been done in Ohio, but it's a challenge because the small grains dry about half as fast as grass hay. Ryegrasses are also slower to cure than other grasses. When cutting in early November, that typically means at least two weeks or more of curing time. Baling will result in lower forage quality compared with silage.

* For September planted forage, grazing will provide the most effective and affordable alternative for harvesting the forage. Ohio beef cattle producers have strip grazed oats all winter and actually began the calving season on them before the oats ran out in mid-March. So grazing through part of the winter could be an option for dry cows or heifers. Oats won't die until temperatures have been in the mid 20's for several hours. That means they'll still be green and alive in December most years in Ohio. The other forage options mentioned in this article will survive even longer before going dormant.

Additional information on annual forages and their establishment and management is provided in Chapter 7 of the Ohio Agronomy Guide, 14th ed., available at extension offices and at <http://ohioline.osu.edu/b472/0008.html>. Good management is important to achieve success with these alternative forages.