

WINTER ANNUALS AND SHORT TERM PERENNIALS FOR GRAZING

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During the last 5 years there has been a renewed interest in winter annual and short term perennials for grazing and for stored feed. There are many sources of information on this subject. I especially encourage you to read the new publication written by Dr. Garry Lacefield and colleagues, "Extending Grazing and Reducing Stored Feed Needs". I have used information from this publication and other publications from the University of Kentucky Forage Website (www.uky.edu/Ag/Forage) in writing this article. This website contains many use publications on the subject of winter annuals and variety trial information on annual ryegrass and on wheat varieties when harvested for forage. I encourage you to review this information before choosing the variety you will plant.

Numerous winter annual forage crops can be used to extend the grazing season. The growth habit and seasonal distribution varies widely between these annual species. Annual ryegrass, which makes most of its growth in early- to mid-spring, is a particularly productive winter annual in areas where it is adapted. By contrast, small grains such as cereal rye, triticale, and oats are more productive in autumn. Wheat does not have as much fall growth as these small grains, but produces a higher quality hay or silage when harvested at an early grain filling stage.

Ryegrasses

Annual ryegrass (*Lolium multiflorum*) and perennial ryegrass (*Lolium perenne*) are high-quality, productive cool-season grasses used in Kentucky. Both have exceptionally high seedling vigor and are highly palatable to livestock. Annual ryegrasses are increasing in use across Kentucky as more winter-hardy varieties are released and promoted.

Annual ryegrass is productive for three to four months and is used primarily for late fall and early to late spring pasture. Winter growth occurs only during mild winters. There is also increased interest in this crop for high quality baleage. There are two main types of annual ryegrasses. The most commonly used type in Kentucky is Italian ryegrass. The other is sometimes referred to as Westerwolds ryegrass. The Westerwolds type is a true annual, in that stands seeded in the spring produce seedheads that summer, and little regrowth occurs after seedheads are produced. Westerwolds ryegrass varieties are commonly used in the lower South (Florida to Texas) because they can be seeded in the fall and will survive the winter. In Kentucky, winter survival can be an issue for

Westerwolds varieties, so before planting one of these varieties, review winter survival results for Kentucky.

Italian ryegrass is native to Southern Europe and is not a true annual. In Kentucky most varieties behave as biennials or short-lived perennials, depending on environmental conditions. Italian ryegrasses provide high yields of quality forage and show quick regrowth. If planted in the spring, there will be no or few seedheads that summer (vernalization is required). Spring planting of Italian ryegrass is common in northern states (e.g., Wisconsin, Minnesota, etc.) for summer grazing, but most current varieties do not dependably survive Kentucky summers. Italian ryegrasses are almost always planted late summer to early fall in Kentucky and typically provide forage production into early summer.

Both forage and turf types of annual ryegrasses are available. Turf types are low growing and have poor yield. Turf types are also infected with a fungal endophyte that lives inside the plant, protecting it from insect attack but producing a toxin that reduces performance of grazing animals. All turf types are infected. Plant only forage-type varieties for grazing, hay, or silage.

Perennial ryegrass can be used as a short-lived hay or pasture plant and has growth characteristics similar to tall fescue. It is more persistent than Italian ryegrass but less persistent than other cool-season grass species. It tillers more profusely but is lower growing than Italian ryegrass and will not form a seedhead in the seeding year. There are both diploid (two sets of chromosomes) and tetraploid (four sets of chromosomes) varieties of perennial ryegrass. Tetraploids have larger tillers and seedheads and wider leaves. Tetraploid types tend to be taller and less dense than diploid types even in early stages of regrowth. Diploid types produce more tillers, have better stand persistence, and are more tolerant to heavy grazing.

Intermediate or hybrid ryegrass (*Lolium hybridum*, *Hauska*) is the result of a cross between Italian ryegrass and perennial ryegrass. It is not as winter hardy as perennial ryegrass, but it is higher yielding. It is also more persistent and winter hardy than Italian ryegrass. Its uses would be similar to those of perennial ryegrass.

Festuloliums are hybrids between various fescues and ryegrasses with higher quality than tall fescue and improved stand survival over perennial ryegrass. Their use in Kentucky is still limited since they do not survive as long as tall fescue.

Brassicas

Brassicas (including **turnips, rape, kale, and swedes**) are highly productive, digestible forbs (broadleaf forages that are not legumes) that contain relatively high levels of crude protein when fertilized with nitrogen. Animals will readily consume the tops and will also grub the root bulbs out of the ground. These crops are best suited for crop rotation

pastures or for being no-tilled into sod that has been severely thinned by drought by or overgrazing. Dry matter yield is variable and highly dependent upon soil type, fertility, time of seeding, and precipitation.

Turnips are the main brassica used in Kentucky. They grow fast and can be grazed as early as 45 days after planting. They reach their near maximum production level in 80 to 90 days. The proportion of top growth to roots for turnips can vary from new grazing-type varieties with 90% tops and 10% roots to the more traditional bulb-type with 15% tops and 85% roots. Many livestock producers prefer the grazing-type turnip because it can be grazed repeatedly and the majority of the plant growth is leaf material rather than bulbs. In addition, several companies are now selling “summer grazing turnips.” These varieties are usually hybrids of heat tolerant rape and grazing turnips and are most often planted in combination with warm-season annuals for high quality summer grazing.

It is important to remember that brassicas should not comprise more than about two-thirds of livestock diets because of their low dry matter content. Therefore, it is important to provide adjacent pasture, corn stalks, or provide a palatable, free choice dry hay to cattle when grazing these crops. It is also desirable to introduce livestock to brassicas slowly by limiting grazing to a couple of hours per day until their digestive systems are accustomed to them.

Combination Systems

Grazing crop residue has long been used for low-cost grazing, but forage quality is fairly low. By overseeding **oats, turnips, and rye** into corn fields the quality, production, and grazing season can be improved dramatically. Turnips provide a very high quality forage, spring oats grow quickly for fall grazing, and cereal rye has rapid fall growth and survives the winter for early spring grazing. One method used for overseeding in areas of Illinois and Indiana involves broadcasting seed from an airplane over standing corn that has started to brown off. With adequate rainfall these seeds will germinate and start to grow under the corn canopy and then grow quickly once the crop is harvested. This system works best when rainfall occurs within two weeks of seeding, but even with poor germination there is usually enough growth to more than cover the cost of seed. In Kentucky, several producers have added a broadcast seeder on their high-boy sprayer to seed over the top of standing corn.

An even better way to seed this mixture is into crop stubble or a prepared seedbed in late August/early September. You are virtually guaranteed establishment and the earlier date seeding provides for ample crop growth for late-season grazing.

Cereals

Cereal rye is more productive than wheat or triticale for both fall and early spring production. However, forage quality is better with triticale than with rye. Oats seeded in the fall can be excellent quality and very productive, but will be killed by cold weather during winter (except in the Deep South). Depending on geographical location, planting date, and fall moisture, rye, triticale, and wheat should be available for grazing from October through much of December and then again in early spring. The intended use of small grain determines what the stocking rate and grazing dates should be. If a silage or grain harvest is planned, grazing should only be moderate, as heavy grazing can reduce grain yields. Moderate grazing in the autumn will not result in significant silage or grain losses provided moisture and soil fertility are adequate. In fact, fall pasturing can be beneficial where the small grain was seeded early and has made excessive growth and soil conditions are dry. Spring grazing may be started when growth resumes. If a grain or silage crop is to be harvested, grazing should be discontinued when the plants start to grow erect just before jointing (growth stage); otherwise grain yield will be reduced.