



## Species

# Annual and Alternative Turnips for Forage

## Illinois

### General Information

Turnips are short-season root brassicas that provide roots, stem and leaf growth rotational grazing or strip grazing 70 - 90 days after seeding. Leaves can be grazed from mid-September until April depending upon critical low temperatures and snow cover. Top growth generally will survive temperatures between 15-20 °F, while bulbs will be about 5 °F colder.

### Growth Characteristics

The proportions of tops and roots varies markedly depending on variety, crop age and planting date. Turnip crops can vary from 90% top/10 % roots to 15% top/85% roots. Yields can be up to 12,000 lb/acre of dry matter. The tops can have 15 - 24% crude protein while roots contain 12 - 15% crude protein. This has some significance in that stockpiled tops appear to be more vulnerable to weather and pest damage than roots. Some of the new forage type turnips produce relatively more top dry matter than roots. They also feature several growing points for regrowth. Turnips can be seeded either in spring or fall for grazing. Turnips should not be planted in the spring until soil temperatures is at least 50° F. Maximum production occurs during a 70 - 75 day growing period.

### Establishment

Turnips require good soil drainage and a soil pH should be in the range of 5.5 - 6.8. Turnips can be no-tilled into a sod provided it has been killed with glyphosate. This reduces insect problems. They can also be seeded into wheat stubble. Clean till seeding works well but may have increased insect pressure. If seeding after crop farming, herbicide carryover residues are an enormous problem for turnips. Some commonly used herbicides can affect the establishment and growth of turnips for up to 24 months. As a rule, carry-over label recommendations for sugar beets are usually applicable to most members of the turnips varieties. Use 2 - 4 lbs of seed per acre for turnips. Turnips can be seed conventional, no-till or aerial. Turnip seed is small and it is essential that it be seeded into a fine, firm seedbed with adequate moisture for germination. Drill the seed on 6 - 8 inch row spacing and place seed no more than 1/2 to 1/4 inch deep. Some producers have had success in aerial seeding of turnips, small grain crops in to standing corn in mid-August. Again, check out your herbicide program for potential carryover and grazing restrictions before attempting this seeding method.

Fertilizer should be applied at the time of seeding to give the turnips a competitive edge on weeds. Apply 75 - 80 pounds per acre of nitrogen and fertilize with phosphorus and potassium similar to what would be applied for a small grain.

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## Types of Turnips



**Leafy  
-7 Top**  
Lower Forage  
Yield  
Lower  
Bulb Yield



**Forage  
Turnip**  
High Forage  
Yield  
Low Bulb  
Yield



**Globe**  
Medium  
Forage  
Yield  
Medium Bulb  
Yield



**Tankard**  
High Bulb  
Yield  
Med Forage  
Yield

## Management

Although turnips can be harvested for green chop, or baled, they are most often grazed. Rotational grazing or strip grazing help reduce trampling and waste by livestock. During the growing season, strip-grazing with a break wire in front of and behind the animals can be used to control consumption, allow regrowth, prevent wastage, and conserving available dry matter. Strip-grazing limits grazing damage to the root and lower leaf, allowing leaf surface for regeneration of plant growth. If regrowth is desired, at least two inches of leaf should be left intact. Generally, animals will consume the leafy portion of the plant before progressing to the root portion.

## Feed

Turnips are highly digestible, and do not contain much “effective fiber”—the sort of fiber that makes the animal chew. Feeding extra fiber means more chewing and more salivation for the animal. It is important to feed dry roughage with turnips to prevent disease problems and achieve maximal daily gains. When introducing animals to turnips, allow stock access to pasture, or feed hay, straw or silage before letting stock onto turnip crop. This helps prevent gorging by some animals and helps rumen microbes adjust to the feed. Two to three pounds of grain, grass hay, alfalfa hay, or straw should be fed per head per day. Although quality need not be high, the palatability of the dry roughage must be good enough that the animal will consume adequate amounts daily. One alternative is to allow free access to corn stalk field adjacent to the turnip field. Another alternative is to plant small grain crops with the turnips.

## References

Brassicas for Forage (AGF-020-92) Ohio State University Extension  
Forages-Species: Brassicas, PennState University  
Brassicas for Fall Grazing, David W. Koch, Extension Agronomist, Department of Plant Sciences,

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