



# Cattle Producer's Handbook

Range and Pasture Section

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## Forage Brassicas and Fodder Radishes: Turning Vegetables into Beef

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Turnips, kale, and radishes may be common supermarket produce and may even grace a dinner plate as a complementary entrée to a juicy T-bone steak. What about using these menu items for beef cattle?

Forage brassica (*Brassica* spp.) and fodder radish (*Raphanus sativus*) are cold tolerant, fast growing, high yielding, and high quality crops that have been used extensively as a forage resource for grazing livestock in Europe, Great Britain, New Zealand, and, to some degree, in the United States. Depending on the variety of brassica and fodder radish, production takes between 80 to 150 days from seeding to grazing. Their unique cold hardiness trait makes them well suited to variable growing environments, as they can generally handle temperatures as low as 20°F. Brassicas also maintain high nutritional quality, even as they mature, which allows for stockpiling forage.

### Brassica and Fodder Species

**Turnips** are probably the most widely used brassica crop for forage in the United States, and the one most familiar to people. Livestock can use both turnip tops and fleshy roots. They are fast growing and can reach maximum production between 60 and 80 days post seeding. Generally, turnip tops are higher in crude protein (10-14%) than roots (9-11%); however, the roots stockpile better than the tops. The proportion of tops to roots depends on variety and stage of growth. Initially, turnips put most of their growth into the tops, then after about 45 days, the fleshy roots grow more rapidly.

**Kales** are more cold tolerant and do not produce fleshy roots like turnips. Leafy kale varieties vary greatly in their winter hardiness and rate of maturity. Stemless varieties establish faster and can be grazed by 60 to 90 days after establishment and, if grazed appropriately, can allow for two grazing cycles. On the other hand, narrow stem varieties require between 150 to 180 days before they can be grazed.

**Rape** is a fibrous root, multi-stemmed, leafy brassica that can provide forage ready for grazing by 60 days, however, this is variety dependent. Giant and dwarf varieties, depending on variety, can provide multiple grazing opportunities.

**Swedes**, like turnips, produce a large fleshy root with minimal leafy growth. Swedes are more of a long season, stockpiling forage source. They need between 150 and 180 days to reach maximum production but make for excellent late season stockpiled grazing.

**Fodder radishes** (aka Japanese radishes) are not part of the brassica family but have been used in many countries as a forage source and break crop for nematode suppression. Like turnips, radishes produce both aboveground leafy growth and fleshy root growth for grazing.

Additionally, several brassica hybrid crosses exist. Many are crosses between turnip and rape or kale and of Chinese cabbage, rape, turnip, or swede. The grazing hybrid varieties are generally developed to improve leafy yield and reduce bulb production. Many tolerate multiple grazing if grazing is managed and environmental conditions are conducive.

### Potential Uses

Depending on the forage production system and needs, brassicas and fodder radishes can be used to fit a variety of situations. These alternative forages can be spring seeded and summer grazed, allowing for pasture rest or an opportunity to harvest grass pastures for hay. Brassicas also work nicely as a break crop for alfalfa. Fodder crops can effectively use residual nitrogen from the old alfalfa stand, thus allowing summer grazing with fall replant of alfalfa.

Brassicas and fodder radishes can also be seeded into permanent pastures or meadows. This scenario requires temporary chemical suppression of the sod to