



Barkant Forage Turnips

Barkant forage turnips are a palatable and energy rich feed which can help fill a feed shortage over the summer and fall months. Barkant turnips are one of the highest yielding turnips available on the market at present. A well-grown crop has the potential to increase MS(milk solids)/acre by 20%. Barkant turnip tops can range in protein from 18–25% CP and 75% TDN, whereas the roots are typically 8–9% CP and 80% TDN. Excellent feed for dairy, beef and sheep producers to extend the grazing season later into the fall/early winter. This is a crop for grazing only, it cannot be mechanically harvested for stored feed.

How much to grow?

Plant approximately 6 acres per 100 cows to get enough turnips for 60 days feeding. With a crop yield of 5 ½ tons DM per acre, this will allow 10–12 lbs DM/cow/day offered. Sow two varieties with different maturity date, for example sow 60–70% in Barkant, and sow the balance in a later maturing turnip such as the Winfred.

Seeding

Select a field with no herbicide carryover. Turnips require a field with good soil drainage and a pH between 5.3 and 7.5. Seed should be planted in a firm, moist seedbed. Turnips can be broadcasted at 5 lbs./acre and culti-packed or they can be drilled at 4–5 lbs. per acre alone. They can also be planted at 3 lbs. per acre with 1 to 1 ½ bu. of oats. If broadcasting seed and fertilizer, broadcast immediately to prevent seed burning and reduced germination. If broadcasting seed and fertilizer, remember that seed will not spread as far as the fertilizer granules so overlap runs to avoid strips in field. Turnips should ideally be planted approximately 1/8" deep. Brassicas should not be planted more than 2 consecutive years in the same field to avoid disease and pest problems. Apply 50–60 lbs. additional Nitrogen per acre (300 lbs ammonium sulphate (21–0–0)) is recommended. Seeding in early to mid-August is recommended for northern Indiana, Northwest Ohio, and southern Michigan.

When should the Barkant Turnips be grazed?

Barkant turnips mature 60–90 days after sowing. After 90 days the digestibility of the turnip may decline, reducing its feed quality. Begin grazing the crop from day 70, to make use of it while the quality is still good. Plan to have Barkant grazing completed by 100 days from sowing. Barkant should be two thirds of the crop. A later maturing variety such as Winfred, should be ready to graze from 100 days, making up the final one third of the crop.

Turnips should be fed to cows immediately after milking. Turnips have the potential to produce a flavor taint in milk. The volatile compound responsible for the taint is absorbed from the air by the milk, it is not passed through the cows udder. Try to avoid feeding turnips at least four hours before milking.

Crop Yield

Average Barkant turnip crops yield 4 ½ ton DM/ac at 60 days after sowing. The target yield for profitable use of the crop in dairying should be over 5 ½ tons DM/ac.

To calculate the yield of a crop:

1. From 5 different areas in the field, chosen randomly, remove all of the turnips from a 4 foot square area (2' x 2').
2. Clean any dirt off the turnips, and weigh them.
3. Multiply the fresh weight of the turnips by 0.11 (11% DM) to get the dry matter yielded from the sampled areas.
4. Multiply that figure by 2178 to get the yield of the crop in lbs. DM/ac.

Example: Total fresh weight of 5 samples = 42 lbs.
 Dry matter of samples 42 x 0.11 = 4.62 lbs. DM
 Turnip crop yield 4.62 x 2178 = 10,062 lbs. DM/ac.

Grazing management

Turnips are fed to cows by break feeding. Some helpful hints for grazing include:

1. Make breaks long and narrow, to minimize waste by cows walking on the turnips. Fencing down the length of a paddock, rather than across the width, is best. Some graziers expose two faces, by starting across the middle of the paddock, and moving fences out each way from there. This increases the area of face available, which gives the younger animals a better chance.
2. Like all supplementary feeds, introduce cows gradually to your turnip crop. Offer a maximum of 4 ½ lbs DM/cow (approximately 20–30 sq. ft/cow/day) in the first five days.
3. First few days, cows will usually eat just the tops, after about 7–10 days they then clean up the bulbs also.
4. Increase feeding levels gradually over the next five days, up to 11 lbs DM/cow/day. Turnips should make up no more than a third of the daily ration.
5. With good management up to 90% utilization can be achieved.

Area required to feed 100 cows					
Crop Yield		Daily turnip intake (lbs. DM/cow)			
		4	6	8	10
Poor	3.6 tons DM/ac	2353 sq. ft.	3529 sq. ft.	4706 sq. ft.	5882 sq. ft.
Average	4.5 tons DM/ac	1904 sq. ft.	2857 sq. ft.	3810 sq. ft.	4762 sq. ft.
Good	5.4 tons DM/ac	1600 sq. ft.	2400 sq. ft.	3200 sq. ft.	4000 sq. ft.
Excellent	6.3 tons DM/ac	1379 sq. ft.	2069 sq. ft.	2759 sq. ft.	3448 sq. ft.

Economics

For turnips:

5 lbs. turnip seed @\$3.65/lb. = \$ 18.25 seed cost/acre.
 60 lbs. N @\$1.00/lb. N = \$ 60.00 nitrogen cost/acre
 = \$ 78.25 /acre

Assuming a good yield at 5.4 tons DM /acre = 10,800 lbs. DM/acre
 Assuming a good utilization rate of 85% = 10,800 lbs DM x 85% = 9,180 lbs DM/
 acre utilized

Cost per lb. DM is \$78.25/9,180 lbs. DM = \$ 0.0085/lb. DM
 At 10 lbs. DM/day, feed cost is \$0.08/hd/day.

For hay:

Assume hay price of \$300.00/ton as-fed.

At 15% moisture, there is 1800 lbs. DM in a ton of hay.

$\$300.00/1800 \text{ lbs. DM} = \$0.17/\text{lb. DM}$

At 10 lbs. DM/day, feed cost is \$1.70/hd/day.

For each day you can graze turnips and save feeding hay, you save approximately \$1.62 in feed cost per animal. If you graze turnips for 30 days it results in a savings of \$48.60/hd. If you can graze 60 days, it results in a savings of \$97.20/hd. On 100 cows that equals a savings of \$9,720.00 feeding turnips over hay.

