



A collaboration between AWI, GRDC, MLA, RIRDC and Dairy Australia

Turnip

Scientific name(s)

Brassica campestris var. *rapa*

Strengths

- Vigorous summer growing fodder crop with excellent feeding value; high leaf to stem ratio.

Limitations

- Sensitive to several common insect pests

Plant description

Plant: leafy, plant 0.6-1.2 m tall; swollen stem forms an edible bulb at base; deep tap root. Some varieties regrow to allow 1-3 repeat grazings

Bulb: varies with variety from large to small and from bulbs that sit well into the ground (suited to storing for late grazing) to those that are more accessible early/mostly out of the ground.

Leaves: large, flat leaves, 30-50 cm long and 20-40 cm wide; yellow, cross-shaped flowers with four petals; and all produce sickle shaped pods containing tiny round seeds.

Seedhead: yellow, cross-shaped flowers with four petals; produce sickle shaped pods

Seeds: pods contain tiny round seeds

Pasture type and use

Sown in spring adjacent to a run-off pasture to provide summer grazing in ~3 months time. Some varieties can be managed to provide bulbs that will allow grazing through winter; some can provide leaf for early grazing and their bulbs can be grazed later. Often used as a pioneer crop or to provide weed control and soil preparation prior to renovating with perennial pasture. Useful as a break crop after cereal.

Where it grows

Rainfall

> 550 mm or irrigation

Soils

Tolerates a broad pH range. Some varieties are unsuited to soil with low fertility. Ensure Mo and B not deficient.

Temperature

Some varieties are well able to withstand heavy frost and retain leaf

Establishment

Companion species

Herbs: plantain, chicory

Legumes: white clover, red clover

Sowing/planting rates as single species

0.5 - 2 kg/ha. A low rate encourages good bulb development and enables delayed grazing into winter. A high rate aids rapid early yield and a high leaf:bulb ratio. Sow shallow (5-10 mm) in a finely worked firm, moist seedbed, cover with roller/mesh. Only suitable for direct-drilling in friable soil.

Sowing/planting rates in mixtures

1-2 kg/ha

Sowing time

From August through spring

Inoculation

Not applicable.

Fertiliser

Sow with ~20 kg P/ha as triple super or MAP/DAP. Ensure molybdenum and boron adequate. Molybdenum coated seed is available.

Management

Maintenance fertiliser

Nitrogen (50 kg N/ha) maybe applied at 4 weeks.

Grazing/cutting

Do not Graze when immature. Where yield is high, strip-graze dairy cattle along a long front - to minimize trampling losses. A back fence may maximise regrowth. Use a maximum 33% in the diet of dairy cows - 100% OK for lambs. Beef cattle OK up to 70%. Allow access to pasture/stubble, hay/silage for fibre.

Seed production

-

Ability to spread

-

Weed potential

-

Major pests

Not as vulnerable as rape. Red-legged earth mite, slugs, Aphis, cabbage moth, cabbage white butterfly, diamond black moth, cutworms, lucerne flea, wingless grasshoppers and leafminers. Insecticide coated seed is available to aid establishment.

Major diseases

No information.

Herbicide susceptibility

Glyphosate

Animal production

Feeding value

Excellent - low fibre is associated with a high rate of digestion which facilitates a high intake. ME approx 12 MJ/kg DM.

Palatability

Readily acceptable

Production potential

Up to 16 t DM/ha where moisture is available and soil fertility is high.

Livestock disorders/toxicity

Vaccinate and drench before grazing stock on Brassica. Monitor stock frequently. Red water/kale anaemia can occur especially where soil sulphur levels are high. Scouring, and nitrate poisoning (especially if molybdenum is deficient and/or if overcast conditions prevail). Avoid sudden and unrestricted access; do not provide Brassica crops as the sole ration straight off scarce/low quality pasture. Provide good source of water. Begin 1-2 hr access daily and take 7-10 days before reach maximum allowance.

Cultivars

Group	Cultivar	Seed source/Information
Early	Vertus 69	Stephen Pasture Seeds
	Samson	AusWest Seeds Seed Force NZ
	Marco (4n)	Stephen Pasture Seeds
	Appin	Wrightson Seeds AusWest Seeds
	York Globe	AusWest Seeds
	New York	PGG Seeds
Mid	Barkant	Wrightson Seeds AusWest Seeds
	Barabas (4n)	AusWest Seeds
	Polybra	Smyth Seeds AusWest Seeds
	Civasto	Smyth Seeds
	Rival	Stephen Pasture Seeds PGG Seeds
	Vollenda	AusWest Seeds
Late	Australian Purple Top	PGG Seeds
	Mammoth Purple Top	Stephen Pasture Seeds
	Green Globe	Wrightson Seeds
	White Star	Seed Force NZ

(4n) = tetraploid

Further information

Pasture and forage brassica management
Species for profit: a guide for Tasmanian Pastures and Field Crops

Author and date

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December 2008