Smart Radish®

RADISH

: Raphanus sativus L





Lifespan

→ 6-8 months

Time to first grazing

8-10 weeks

Minimum rainfall

3 400mm annual rainfall

Sowing rate

- ⊕ Dryland 5kg/ha
- High rainfall/irrigation 8kg/ha

Suitability

- Quick growing cover crop with additional soil improvement benefits and provision of grazing
 - **Seed treatment**
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Smart Radish® is a specially bred Daikon radish for cover cropping. This tillagetype radish features a unique 'pull-down' bulb aiding the aeration and breakup of compacted soils, and has also proven effective in reducing common soilborne pests and diseases. It produces large, light-intercepting leaves and a strong taproot with lateral roots that explore horizontal fissures and scavenge nutrients efficiently, along with nutrient recycling through animals when grazed.

FEATURES & BENEFITS

① 'Pull-down' bulb grows further into the ground

A feature unique to Smart Radish*, this increases water and air infiltration in soils, assists in reducing soil compaction, and allows for greater root depth in subsequent crops or pastures

① Creates quick ground cover, reducing weed competition

Potential for less chemical usage in a pasture renovation phase

⊕ Bio-fumigant effects

Reduces soil-borne diseases and insects to benefit subsequent crops

Highly digestible forage source

Produces quality feed for animals

① Large taproot and tuber

Enables the plant to withstand drier conditions compared to shallow-rooted forage options

STRENGTHS

- Very quick to establish
- Opportunities for both soil improvement and grazing

LIMITATIONS

No registered weed control options

WHERE IT GROWS

Rainfall: Smart Radish® is adapted to a wide variety of climates, from summer-dominant to winter-dominant rainfall areas, receiving a minimum of 400mm annual rainfall. In most regions it is planted in late summer to early autumn, so only requires moderate rainfall in winter and early spring to grow a successful crop.

Soils: It prefers well drained, deep, well drained, deep soils, but will grow in heavier soils providing they are not prone to waterlogging for extended periods.

Temperature: Smart Radish® should be planted before soil temperature decreases to 12°C in autumn, or once they have reached 10°C and rising in spring.

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ESTABLISHMENT

Performance optimisation or limitations for your soil type can be discussed with your local agronomist.

Sowing time: Can be sown year-round with basic establishment practices. Spring sowing on rising temperatures may quicken maturity, but autumn is preferred option for extended growth and bulb development.

Inoculation: Not required.

COMPANION SPECIES

Ideally, Smart Radish® should be planted as a monoculture to maximise soil benefits but is often included in grazing and multi-species blends.

- Forage cereals
- Winter legumes
- ⊕ Clover & pasture legumes
- ⊕ Forage herbs & brassica
- Cereal grain crops
- ⊕ Other multi-species blends

MANAGEMENT

Maintenance fertiliser: Smart Radish® responds well to N applications for growth and requires boron to enhance tuber development. If using as a biofumigant option, ensure adequate levels of sulphur are applied, but be aware that this may increase animal health risks if grazing crops whilst plants are flowering.

Grazing/cutting: Smart Radish® can be used as a grazing option with ability to provide multiple grazings prior to maturity (flowering) of the plant.

Ability to spread: Can regenerate from seed under some circumstances but does not spread widely.

Weed potential: Low – Smart Radish® is unlikely to become a weed since plants tend be short lived, is susceptible to commonly used herbicides, and is highly palatable and readily grazed.

MANAGEMENT CONTINUED...

Major pests: May be susceptible to earth mites and white-fringed weevils, although damage is usually not serious. Slugs can cause significant damage and crop failure, particularly in directdrilled crops.

Major diseases: No significant diseases have been reported.

Herbicide susceptibility: Susceptible to many broadleaf herbicides. Always check label before herbicide use. Best sown into weed-free pastures. Always consult with local agronomist for advice.

Companion cropping: Some arable farmers sow Smart Radish* with their autumn cereal grain crops to improve soils during the early stages of the crop. The radish is removed with a broadleaf herbicide after bulbs have formed and before flowering to achieve the benefits from Smart Radish* without seed or plant material interfering with the grain harvest.

ANIMAL PRODUCTION

Feed value: Has a good balance between crude protein, energy and minerals resulting in rapid passage through gut and very high feeding value. Sometimes the diet may lack sufficient fibre and cause scouring.

Palatability: Highly palatable.

Production potential: Fast establishment and high yields.

Livestock disorders/toxicity: Does not appear to have any major animal health related issues other than the traditional clostridial diseases (e.g. pulpy kidney/blackleg etc.) and nitrate toxicity associated with transitioning onto any new forage crop of high feed value. Always have an up-to-date vaccine program in place and allow grazing animals to have access to water and a fibre source. Similar to brassica crops, levels of some compounds like s-methyl-L-cysteine sulfoxide (SMCO) can be higher when crops flower, so grazing when the crop is in this state should be done with caution.

