

2022 RURALCO CATCH CROPPING GUIDE

Offering you the latest information on Ruralco's
top selling catch crop seed varieties.



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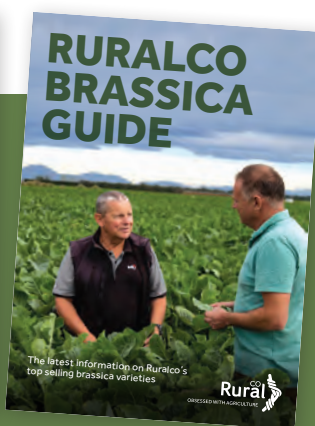


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WHY CATCH CROPS?

The purpose of a catch crop is to increase annual dry matter production, to take up soil mineral and urine nitrogen and to reduce the risk of leaching or runoff.

The key attributes of catch crops when following autumn or winter grazed crops are that they:

- Are cold tolerant
- Are winter active
- Have fibrous deep root systems capable of removing nitrogen at depth

Catch crop benefits vary depending on weather conditions, particularly during establishment, with direct-drilling or light pre-drilling cultivation being recommended methods where possible to minimise nitrogen mineralisation.

Environmental benefits

Nitrate leaching is a naturally occurring process, but when excess N is lost from N fertiliser and N deposited in urine, not only is it a loss of valuable nutrient from the farm system, it can pollute both ground and surface water. This pollution is the focus of national and regional government strategies to improve water quality.

Nitrogen from fertiliser or urine can be problematic because when added to the soil, a large proportion is converted to nitrate (NO_3^-) which is especially susceptible to leaching. This conversion process is known as "nitrification". Nitrification occurs relatively slowly in winter, offering a window of opportunity for catch crops to capture some N before it is lost through leaching. Catch crops sown after winter grazing can take up significant quantities of N and reduce N leaching losses by up to 50%.

Establishing a catch crop after winter grazing can offer additional forage production per hectare, and in turn, higher farm productivity.



Mohaka has excellent early growth and cool season activity. Mohaka is a broader leaved, well tillered hybrid suited to 2-4 year pastures.

Mohaka is ideal for undersowing into run-out pastures, with AR37 endophyte offering increased protection against insect attack and providing improved persistence compared to Italian ryegrass options.

- Available with AR37 and AR1 endophyte

SYSTEM FIT:

- Ideal for undersowing programmes
- Ideal for short term finishing pastures, runoff pastures and supplementary systems

SOWING:

Sow Mohaka at
25-28kg/ha



Asset was bred from surviving winter-active, second year plants. Due to these attributes Asset is a perfect choice if a persistent Italian ryegrass is required. Asset has a high tiller density to encourage persistency, even under occasional heavy winter grazing.

Asset has excellent summer quality for its type, coupled with very high annual production. Asset was the first Italian ryegrass with AR37 endophyte.

- Italian ryegrass available with AR37 novel endophyte and without endophyte (WE)
- Excellent second year production potential
- Low aftermath seed head for a true Italian

SYSTEM FIT:

- Ideal for undersowing programmes
- Asset is a dense cultivar suited to winter grazing

SOWING:

Sow Asset at
20-25kg/ha

Plant and Food
Monty
Silage Barley

Monty is a medium-maturity spring barley. It has consistently achieved high grain and silage yields over many trials. Silage quality is very good due to the high grain content. Trials indicate that Monty is capable of producing 8-14 tonnes DM/ha silage crops in Canterbury with irrigation and good management. Conventional barley has hard spiky awns that remain quite sharp in the stack. Monty is unique in this respect having reduced awns which minimise the damage conventional awns can do to soft, sensitive mouths, reducing animal stress and maintaining animal performance.

- Hooded barley reducing the impact of awns during feeding
- High yield whole crop barley
- Excellent straw strength
- Ideal catch crop option

SYSTEM FIT:

- Ideal for spring sown Whole Crop Cereal Silage
- Ideal to be used as a catch crop to achieve high silage yields

SOWING:

Sow Monty at 140kg/ha (based on a 40g 1000 seed weight)



Plant and Food
Milton
Forage Oats

Milton is a very high yielding oat with improved disease resistance and has the ability to hold quality until grazing/cutting. It can be planted in autumn to provide a single grazing in early to mid winter. Milton is also ideal for green chop cereal silage, either planted in autumn after a maize or summer crop or in early spring following a winter brassica crop. Milton oats can successfully be used as a catch crop by planting after winter crops. Catch crops are used to grow in cooler temperatures to cover the fallow ground and take up the urinary nitrogen deposited by winter grazing to help reduce the risk of nitrate leaching.

- Very high yields
- Improved disease resistance
- Rapid establishment
- Can be used as a catch crop

SYSTEM FIT:

- Ideal catch crop option
- Ideal for spring sown Green Chop Cereal Silage

SOWING:

Sow Milton at 120kg/ha





CATCH-CROP+

HATTRICK OATS TABU⁺ ITALIAN RYEGRASS

Dual species catch-crop mix (Tabu+ and Hatrick oats) takes up N and increases ME, with the flexibility and reduced resowing costs from being a 12-18 month pasture.

Fast-growing species such as oats and Italian ryegrass quickly cover ground left bare after autumn or winter forage crops have been grazed. In doing so they utilise soil N and other nutrients deposited during grazing and prevent these from leaching. They also protect soil quality. Benefits are both environmental, and systemic, as catch-crops provide valuable feed.

Barenbrug trials show the Catch-crop+ mix will capture soil N very well, with increased re-growth and feed quality. And rather than a 1-2 cut or graze system of oats alone, the Tabu+ provides a high performance 12-18 month pasture, reducing the need and cost of immediate resowing. Yield at the first silage cut or grazing is like a straight cereal crop, but from the second grazing onwards, this mix has better re-growth and ME.

SYSTEM FIT:

In summer-moist areas, sow Catch-crop+ ex autumn or winter crop for:

- Efficient utilisation of soil N deposited during crop grazing, to reduce leaching
- A high quality/yield spring silage crop with multi-graze and/or multi-cut flexibility
- AGRICOTE Clover can be oversown to Improve feed quality and fix N

In dryland areas, sow Catch-crop+ ex autumn or winter crop for:

- Efficient utilisation of soil N deposited during crop grazing, to reduce leaching
- Grass growth summer (moisture dependent), with fast response to autumn rain for high quality winter feed

SOWING:

Sow Catch-crop+ at 7.5 kg/ha.

It comes in 25 kg bags, containing 18 kg Hatrick and 7 kg Tabu+, for sowing at 3 bags/ha.

FITTING CATCH CROPS INTO YOUR FARM SYSTEM

Supplied by DairyNZ. See full information on www.dairynz.co.nz/feed/crops/catch-crops

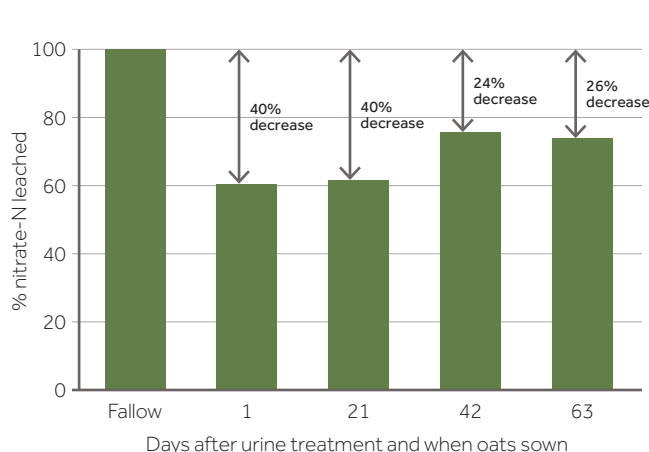
The choice of catch crop species will depend on the farm system, i.e. crop rotation, and the end use for that catch crop.

Sufficient time must be allowed between catch crop establishment and the sowing of the subsequent spring crop to maximise the benefits of catch crops. The timing around when spring feed is required, and whether there is sufficient irrigation for the following crop, may also be important considerations. For some systems, main cereal crops such as triticale, wheat and barley could be planted early and dual-purposefully used as a catch crop as well as a main crop (e.g. whole-crop silage or grain).

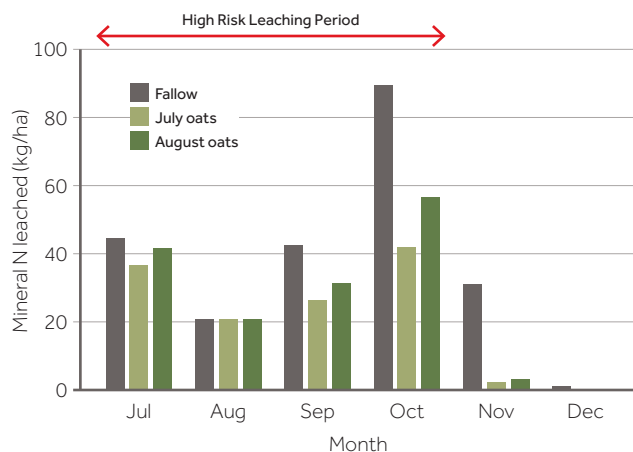
The earlier the crop is established, the greater the potential to reduce leaching

The ability of a catch crop to reduce nitrate leaching is strongly driven by the timing of its establishment after a winter grazing event.

The high-risk drainage period is typically between June and mid-October, although this will vary by season, region and soil type. After this time catch crops can be taken through to maturity for maximum yield potential (grain or forage) or terminated earlier (late October) through grazing or incorporation as green manure crops, without compromising the likely environmental gains.



Percentage of nitrate-nitrogen (N) leached compared with a fallow for an oat catch crop sown 1, 21, 42 and 63 days after a winter grazing event (urine application).



Monthly mineral nitrogen (N) leached in wet year from a light soil in 2017 following artificial urine deposition in July, after sowing of an oat catch crop in early July or early August, Canterbury.

Shallow stony soils will drain earlier and faster than deeper and heavier soils. More substantial reductions in nitrate leaching occur in the mid to late part of the catch crop growth cycle, from mid-September onwards under Canterbury conditions, when a rapid increase in canopy expansion creates demand for N uptake by the crop. The graph above shows leaching losses over the high-risk period in Canterbury, and although the August sown oat catch crop did not reduce leaching as much as the earlier sown July catch crop, it still reduced N losses by 33%.

The earlier the catch crop is established, the greater the potential to reduce N leaching. However, there can be significant challenges with sowing of catch crops in the middle of winter, particularly in wet and cold conditions. The weather will be an important factor affecting whether you can get onto the paddock after the grazing event to establish a catch crop. In some years, particularly on heavily pugged and/or fine-textured soils, sowing may not be possible until spring. On heavy poorly-drained soils where N leaching losses are not as prevalent, delaying sowing until spring may not actually compromise potential environmental gains. Importantly, trial data has indicated that successful catch crop emergence is only hindered by gravimetric soil moisture contents that are 40% or above for prolonged periods of time, therefore, only under particularly rare circumstances is it likely that catch crops will fail due to high moisture content.

YOUR COMPLETE INDEPENDENT SEED & AGRONOMY EXPERTS

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