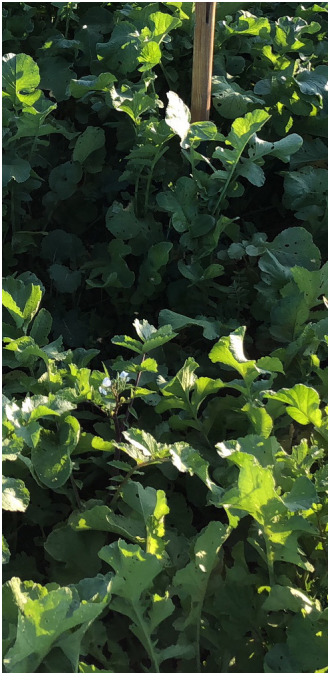




HUTCHINSONS
Crop Production Specialists

Catch and cover crop mixes

2020



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Introduction

Catch and cover crops are now increasingly used across all sectors of crop production for many reasons, including their ability to improve soil structure, add green manure and capture nutrients for the following crop. Our agronomists have considerable experience of using these crops to benefit our clients and provide the correct solution for the problems faced.

We are pleased to now offer our own range of catch and cover crop mixes, specifically designed to maximise the many benefits associated with their use.

These mixes have been constructed on the reliability of the individual species and their ability to deliver key agronomic advantages and improvements in soil health.

Technical justification has been the driver in each species selection and the key aim with each mix has been to offer as much diversity as possible, while considering cost, reliability and confidence in performance.

Our over-winter cover crop mixes all use the same eight species, with ratios of each adjusted according to the situation in which they are placed. This means we can work consistently with species we have confidence in to provide the results required.

Our catch crop mixes present a great opportunity for those with more restrictive rotations to gain improvements in soil health, but also an additional opportunity for those already using cover crops.

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MaxiCover

SPECIFICATION

SPECIES	% (plants/m ²)
Linseed	28.5
Buckwheat	8
Phacelia	11
Daikon radish (tillage)	2.5
Fodder radish (oil)	5.5
Brown mustard	13
Hairy vetch	7
Crimson clover	24.5

Seed rate: 12.5 kg/ha (2ha pack)

This is a general-purpose over-winter mix which suits a wide range of situations and soil types.

It offers a wide diversity in rooting depth and architecture to penetrate both vertically and horizontally to structure soil and create drainage channels.

Various types of plant canopy offer good soil armour and weather protection.

The mix contains legumes, forbs and brassicas which provides a varied food source for soil microbes.

The diversity of the mix and the low inclusion rate of each plant type reduces the risk of exacerbating rotational pest or disease issues.

This mix should be drilled as soon as possible in the summer, following harvest of the previous crop, and no later than mid-September.

Speak to your Hutchinsons agronomist for timing and technique of cover crop termination.

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MaxiN

SPECIFICATION

SPECIES	% (plants/m ²)
Linseed	3.5
Buckwheat	2.5
Phacelia	7.5
Daikon radish (tillage)	3
Fodder radish (oil)	2
Brown mustard	5
Hairy vetch	34
Crimson clover	42.5

Seed rate: 15 kg/ha

This mix is suitable for a wide range of situations and soil types but offers the opportunity to maximise the fixation of nitrogen through the high ratio of legumes. Rates of applied N can therefore be reduced in the following crop, subject to the correct management.

Hairy vetch has been shown to produce a higher biomass in a given length of time and fix more nitrogen than other vetch and clover species. **Crimson clover** is faster to establish than long-term clovers and grows rapidly during the early growth stages.

Except for **daikon radish** which can store high quantities of N in its large tap root, the brassica content of this mix is significantly lower than in the **MaxiCover**, which makes it suitable in situations where brassicas may cause issues. With the **MaxiN** mix containing the same eight species as **MaxiCover**, it delivers all the same benefits and retains the diversity of roots and canopy, but with the addition of high N fixation.

This mix should be drilled as soon as possible in the summer, following harvest of the previous crop, and no later than mid-September.

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MaxiRooter



SPECIFICATION

SPECIES	% (plants/m ²)
Linseed	48.5
Buckwheat	3
Phacelia	5
Daikon radish (tillage)	6.5
Fodder radish (oil)	6.5
Brown mustard	10.5
Hairy vetch	5.5
Crimson clover	14.5

Seed rate: 12.5 kg/ha (2ha pack)

A mix designed to break up tight soils or bust through shallow compaction, using species with larger root systems.

Linseed has a very fibrous root mass which spreads well throughout the upper soil layer. This is used in combination with higher levels of the deeper rooting brassica species, particularly **daikon radish** (also known as tillage radish).

The aim with **MaxiRooter** (more so than with the other mixes) is to save a cultivation pass. Using 'roots not iron' to repair damage and create a friable soil for establishment of the following crop.

Careful examination of the soil prior to planting this mix will help to determine whether the intended outcome is achievable, or if targeted subsoiling should be used alongside this cover crop.

This mix should be drilled as soon as possible in the summer, following harvest of the previous crop, and no later than mid-September.

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Maxi InterCrop

SPECIFICATION

SPECIES	% (plants/m ²)
Linseed	28
Buckwheat	8
Phacelia	9.5
White mustard	13
Berseem clover	25
Japanese reed millet	16.5

Seed rate: 12.5 kg/ha (2ha pack)

The **Maxi InterCrop** mix is designed to provide summer cover in a variety of situations on all soil types.

In situations of bad soil condition, wet weather and poor prospects for spring drilled crops, this mix repairs damage to soil structure, returns organic matter and makes full use of the summer sun to pump carbon into the soil, feeding soil biology.

It will store/fix nutrients for the following crop to utilise, making it an ideal entry into a winter cash crop.

Other situations in which this mix may be used might include: after harvesting carrots winter/early spring, after vining peas, after wholecrop cereals (AD or feed).

This mix contains legumes, forbs and brassicas but also includes a C4 plant in the form of millet, a warm season grass species. C4 plants are very fast growing and fix vast amounts more carbon than C3 plants. Root systems develop well in a short period of time. High levels of sugary root exudates offer a great food source for soil microbes. C4 plants also have a high drought tolerance.

This mix should be established in early April onwards, but may require termination well in advance of the following crop to prevent it going to seed.

Please speak to your Hutchinsons agronomist for more specific advice on this.

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Maxi CatchCrop

SPECIFICATION

SPECIES	% (plants/m ²)
Buckwheat	14.5
Japanese reed millet	61
Giant sorghum	24.5

Seed rate: 11 kg/ha

The **CatchCrop** mix can be used on any soil type and is designed to fill a gap of approximately eight weeks between cash crops. Between oilseed rape and winter wheat is a good example.

It provides a way of introducing diversity and living roots at every opportunity in the rotation.

All three chosen species are fast to establish and grow quickly, which are important characteristics in the timeframe.

Buckwheat is very effective at scavenging for phosphate, which when broken down will be available to the following crop.

This mix includes two C4 plants, **Japanese reed millet** and **giant sorghum**, the benefits described in **Maxi InterCrop**.

If this catch crop is sown after oilseed rape there will also be an amount of volunteers to add to the mix, providing further diversity and root growth.

This mix must be sown immediately behind the combine for it to be as effective as possible, but soil moisture levels must be considered and will determine the success of establishment.

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SPECIES DETAILS

Forb	Linseed	Thin, upright plant that is easy to establish and develops a deep, fine fibrous root, that conditions soils to depth and extracts moisture well. Not frost tolerant but will stand through the winter.
	Buckwheat	Very fast growing, upright annual plant that is effective at scavenging phosphate from a fine, fibrous root system. Can reach maturity in 8-10 weeks and provides a pollen and nectar source. Helps suppress weed growth but not frost tolerant. Do not graze pre-frost as it can cause photosensitivity in livestock. Low C:N ratio.
	Phacelia	A fast to establish annual, which covers ground quickly and develops fine, shallow roots which condition soil very well. Quick to reach maturity and frost tolerant. Will need managing to prevent seed return. Good at holding nitrogen.
Brassica	Daikon radish (tillage)	Annual with a very thick, deep tap root which is effective at breaking through compacted soils. Radish species are excellent nitrogen scavengers. Intermediate top growth which covers the soil well to compete with weeds. Not winter hardy but good persistence, may bolt if drilled too early.
	Fodder radish (oil)	Annual radish with larger top growth than daikon but a narrower, deep penetrating root.
	Brown mustard	Produces a deep tap root and very short top growth but can be slow to develop. The C:N ratio is much lower than white mustard meaning it releases nitrogen much quicker. More winter harder than white mustard.
	White mustard	Faster growing mustard, suitable for short-term catch crops. Will develop woody stem growth if left for long periods, increasing the C:N ratio, meaning slower nutrient release. Residue may block drilling equipment.
Legume	Hairy vetch	Annual legume with sprawling, creeping growth habit. Vigorous root and top growth with good frost tolerance. Low C:N ratio.
	Crimson clover	Rapidly growing annual clover with broad leaves. Limited frost tolerance. Low C:N ratio.
	Berseem clover	Fast establishing clover with a fine vigorous root system and narrow leaves. Very low frost tolerance. Ideal for short-term catch crops and companion planting.
C4 Annual	Japanese reed millet	Annual C4 warm season grass. Grows rapidly in warm temperatures with less water requirement. Large, thick root mass. Low C:N ratio when terminated early.
	Giant sorghum	Annual C4 warm season grass. Sorghum x Sudangrass hybrid. Grows rapidly in warm temperatures with less water requirement. Large, thick root mass. Low C:N ratio when terminated early.

THE COVER CROP PERCENT OF LABEL SEED RATE BY DRILLING DATE

	JULY	AUGUST		SEPTEMBER		OCTOBER
	2nd HALF	1st HALF	2nd HALF	1st HALF	2nd HALF	1st HALF
MaxiCover	90	100	100	120	160	Don't drill
MaxiN	90	100	100	120	170	Don't drill
MaxiRooter	90	100	100	130	170	Don't drill
Maxi InterCrop	100	100	110	140	Don't drill	Don't drill
Maxi CatchCrop	100	100	120	140	Don't drill	Don't drill

	APRIL		MAY		JUNE	
	1st HALF	2nd HALF	1st HALF	2nd HALF	1st HALF	2nd HALF
Maxi InterCrop	Don't drill	150	100	100	100	100

These rate adjustments relate specifically to the Hutchinsons range of mixes and should not be transferred to other cover crop mixes.

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