



DSV TerraLife® 2024

Plant cultivation systems with species-rich crops,
companion crops and undersown seeds

TerraLife® makes
the difference!



Innovation for
your growth



Let's all come back down to earth.

Because its preservation is the basis of your business success. We have been working for healthy, nutrient-efficient varieties for 100 years and are experts in sustainable crop rotation systems. This is how DSV ensures high-quality yields and soil fertility.

- 5 | TerraLife® CoverCrops
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If individual species and varieties are not available, they are replaced by equivalent ones. The seed percentages are subject to natural variation and the values given are for guidance only.

Organic inspection body: DE-ÖKO-039

Optimising cultivation systems with plant communities

Plant communities offer many opportunities to utilise resources more efficiently and close cycles. The basis for this is the positive effect on soil structure, humus build-up, water balance, microbiome (totality of microorganisms) and nutrient balance. It is important which species come together. In other words: Not all mixtures are the same!

Thanks to its 100-year history, DSV has unique species expertise and has set itself the task of developing cover crops that support the main crop in the best possible way. We are convinced that there is still a great deal of potential in utilising plant interactions to make crop rotation more successful and sustainable. That is why we are continuing to develop TerraLife®. In addition to species-rich cover crop mixtures (TerraLife® CoverCrops), we now also offer companion and undersown crops (TerraLife® CompanionCrops).

TerraLife® makes the difference!

We compose our mixtures in such a way that the species optimally support the main crops in their mutual interactions and promote their growth. Only **the right combination of species** has a positive effect.

As breeders, we are working intensively on new, even **more suitable varieties**, which we integrate into the TerraLife® mixtures.

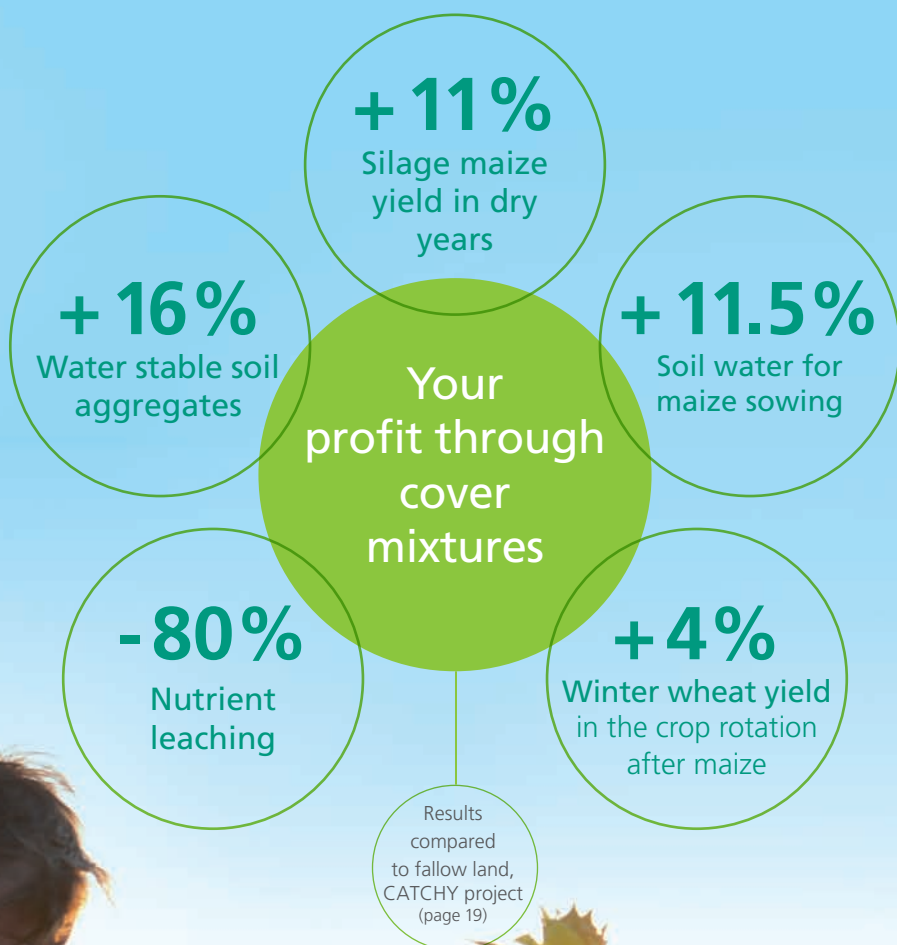
With TerraLife® you acquire mixtures that have been put together with a great deal of experience and are continuously adapted to the latest state of research.



Nic Boerboom
DSV Breeder

"The selection of top varieties for our TerraLife® mixing programme contributes significantly to the success of the mixtures, as this ensures the effect on soil health and the yield of the main crop."

TerraLife® makes the difference!



Jan Hendrik Schulz
DSV product manager

"Each species has a task to fulfil in a mixture. Properly combined, as in TerraLife®, they create the optimum conditions for crop rotation and achieve sustainable effects."

Mixtures suitable for early sowing

TerraLife®-EarlySummer

Ideal for early sowing dates

- Crop rotation neutral and ideal within oilseed rape crop rotations
- Suitable for early sowing
- Good familiarisation in spring

The demand for mixtures that tolerate warmth and early sowing dates is growing. EarlySummer is ideal for early sowing dates and prefers to grow in warm conditions. The potential for seed formation is low. Its balanced composition makes it suitable for many crop rotations. Sorghum, phacelia and niger provide mass formation, linseed grows in deeper soil layers and sparrose clover is a leguminous plant that responds to the soil.

NEW

N Potential
approx. 60 kg/ha

Sowing rate: 20–30 kg/ha
Optimum sowing date: End of June to mid-August
Crop rotation: Cereals, rape, sugar beet, maize

<25 % Legumes
0 % Cruciferous
Seed percentage in % (Ø)
Linseed, niger, sorghum, sparrose clover, phacelia



TerraLife®-WarmSeason

Time for growth

- Suitable for early sowing and dry conditions
- Long vegetative growth
- Maximum photosynthesis

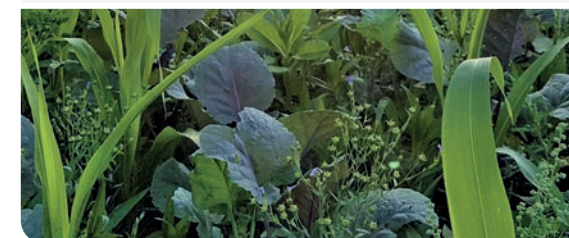
WarmSeason is ideal for very early sowing, e.g. after early-clearing cereals or GPS mixtures. The specially balanced components tolerate very warm conditions well and have long vegetative growth, which reduces the risk of seeding. In addition, early sowing leads to strong root growth and maximum photosynthesis.

N Potential
approx. 60 kg/ha

Sowing rate: 25–30 kg/ha
Optimum sowing date: End of June to beginning of August
Crop rotation: Cereals, maize, sugar beet¹, legumes¹
¹Consider crop rotation diseases

<25 % Legumes
<25 % Cruciferous
Seed percentage in % (Ø)

Sorghum, common vetch, niger, linseed, forage pea, egyptian clover, **abyssinian cabbage**



! WarmSeason is not suitable for narrow beet crop rotations.



Variety: **REDBONE**

Abyssinian cabbage *Brassica carinata*
Task in TerraLife®:
• Dry germinator
• Shallow rooter
• P digestion (org. bound.)

All-round mixtures

TerraLife®-MaizePro

Balanced, partially winter-hardy catch crop for maize crop rotations

- TerraLife®-MaizePro DT 50
- TerraLife®-MaizePro DT 30
- TerraLife®-MaizePro DT

- Leaves an optimal soil structure
- Promotes root penetration
- Very good N utilisation
- Partially hardy

MaizePro DT is the ideal mixture for following maize crops. It specifically supports the mycorrhisation of maize and thus improves the soil structure. If the catch crop is successful, tillage to the depth of the maize placement horizon is sufficient in spring. This maintains capillarity, which ensures the availability of germination water.

With more than 30,000 ha cultivated annually, TerraLife®-MaizePro is the first choice as a catch crop for many farmers!

MaizePro DT is available in the 30 and 50 variants with a reduced proportion of legumes (<30 % or <50 %) and can therefore be fertilised without restriction by the proportion of legumes, depending on the federal state regulations. Please refer to the current legal texts.

N Potential
approx. 80 kg/ha

Sowing rate: 30–35 kg/ha; MaizePro DT: 40–45 kg/ha
Optimum sowing date: Mid-July to end of August (before rape until 15 July) (as a flowering mixture end of April to end of May)
Crop rotation: Cereals, maize, oilseed rape¹

¹ Consider crop rotation diseases

MaizePro DT 50 **N-potential: approx. 80 kg/ha**
< 50 % Legumes
< 25 % Cruciferous

Abyssinian cabbage, egyptian clover, forage pea, crimson clover, linseed, persian clover, phacelia, swedish clover, deep-rooted radish, alsike clover, niger, serradella, common vetch, sunflower, sorghum, white clover, hairy vetch

MaizePro DT 30 **N-potential: approx. 60 kg/ha**
< 25 % Legumes
< 25 % Cruciferous

Abyssinian cabbage, forage pea, linseed, persian clover, phacelia, deep-rooted radish, common vetch, sunflower, sorghum, white clover, niger, red clover, serradella

MaizePro DT **N-potential: approx. 80 kg/ha**
< 50 % Legumes
< 25 % Cruciferous Seed percentage in % (Ø)

Abyssinian cabbage, forage pea, crimson clover, linseed, deep-rooted radish, persian clover, phacelia, niger, sunflower, sorghum, white clover, hairy vetch, winter rye



TerraLife®-MaizePro Organic

Balanced, largely hardy mixture before maize or other summer crops

Specifically supports the mycorrhisation of maize. The balanced ratio between taproots and shooting roots ensures deep coarse and fine rooting of the soil and thus has a strong humus-forming effect.

N-potential approx. 80 kg/ha

Sowing rate: 40–45 kg/ha
Optimum sowing date: End of July to end of August
Crop rotation: Summer cereals, maize

< 50 % Legumes
< 50 % Cruciferous Seed percentage % (Ø)

Forage pea, winter rye, sunflower, crimson clover, hairy vetch, sorghum, sparrow clover, linseed, false flax, phacelia

TerraLife®-Rigol DT

Strong root formation stabilises the soil structure

- Proven in practice over the long term
- Very deep rooting
- For compacted soils

The cover crop mixture Rigol DT is extremely effective in penetrating soil compaction, as the plant species it contains have an intensive root performance. Numerous root channels are created, which can be utilised by the following crop for rapid root penetration. At the same time, Rigol DT ensures good soil shading and rapid fine rooting of the A horizon and good above-ground biomass production. The proportion of legumes leads to good humus and nutrient accumulation. The favourable C/N ratio allows rapid N availability for the subsequent crop. Rigol DT is one of the oldest TerraLife® mixtures and has proven itself over many years.

N Potential
approx. 30 kg/ha

Sowing rate: 20–22 kg/ha
Optimum sowing date: End of July to end of August
Crop rotation: Cereals, maize¹, rapeseed¹

¹ Consider crop rotation diseases

< 25 % Leguminosen
< 50 % Cruciferous Seed percentage in % (Ø)

Phacelia, linseed, sunflower, bristle oat, niger, common vetch, deep-rooted radish, abyssinian cabbage, false flax, forage pea, egyptian clover, sorghum



DSV Variety: **LIGENA**

False flax *Camelina sativa*
Task in TerraLife®:
• Dry germinator
• Shade cloth creator
• Fast-growing

Variety: **PANACHE**

Bristle oat *Avena strigosa*
Task in TerraLife®:
• Shallow rooter
• Nematode-reducing
• Allelopath



Legume-free mixtures

TerraLife®-AquaPro

Safe nutrient conservation for water protection areas and rapeseed crop rotations

- Ideal for oilseed rape crop rotations
- Tolerates dry conditions
- Very good nitrogen storage

As a legume-free mixture, AquaPro is the first choice for water protection areas, as the species it contains are particularly efficient at absorbing and storing available nutrients. Nutrient retention over the winter is guaranteed and the risk of possible leaching is reduced. AquaPro is particularly suitable as cover crop before grain legumes and in rape rotations.

Tip: Increase seed rates by 10 % in areas where manuring is not possible.

Legume-free: Absorbs excess nutrients and retains them in the soil

Sowing rate: 25–30 kg/ha
Optimum sowing date: End of July to no later than 25 August
Crop rotation: Oilseed rape, legumes, sugar beet, cereals, maize

0 % Legumes
 0 % Cruciferous Seed percentage in % (Ø)

Phacelia, linseed, sunflower, bristle oat, niger, sorghum



TerraLife®-AquaPro Organic

Legume and crucifer-free mixture

The mixture is well suited for water conservation areas and for crop rotations with a high proportion of legumes. The balanced composition of humus formers further improves soil dynamics.

Sowing rate: 40–45 kg/ha
Optimum sowing date: End of July to 25 August
Crop rotation: Grain legumes, crucifers, spring cereals

0 % Legumes
 0 % Cruciferous Samenanteil in % (Ø)

Bristle oat, phacelia, sorghum, sunflower, linseed

DSV Sorte: BEEHAPPY

Phacelia Phacelia
Task in TerraLife®:

- Deep rooter
- Shade cloth creator
- P digestion (org. bound)



TerraLife®-VitaMaxx DT

Fast-growing mixture for livestock farms to optimise nutrient utilisation and conservation

- Suitable for late sowing
- Good nitrogen and phosphorus storage
- Scatter sowing, cutter sowing and combine sowing are possible

VitaMaxx DT is a fast-growing, legume-free catch crop mixture and is therefore also well suited for use in water protection areas. The mixture produces a lot of biomass, which serves as a source of food for earthworms and other soil organisms for a longtime and conserves nutrients over the winter.

Sowing rate: 20–25 kg/ha
Optimum sowing date: End of August to beginning of September
Crop rotation: Legumes, cereals, maize

0 % Legumes
 < 50 % Cruciferous Seed content in % (Ø)

Phacelia, linseed, bristle oat, niger, deep-rooted radish, abyssinian cabbage, false flax, fagopyrum tataricum, mustard



TerraLife®-BioMaxx Organic

Ideal, fast-growing mixture for optimum utilisation and conservation of nitrogen after legumes

The mixture without legumes is a good substitute for mustard and is suitable as a preceding crop for legumes. The high amount of biomass serves as a food source for earthworms and other soil organisms.

Sowing rate: 20–25 kg/ha
Optimum sowing date: Mid-August to early September
Crop rotation: Spring cereals, grain legumes, maize

0 % Legumes
 < 50 % Cruciferous Seed content in % (Ø)

Bristle oat, fagopyrum tataricum, sunflower, phacelia, false flax, mustard, oil radish, linseed, sorghum

DSV Variety: LIFAGO

Buckwheat Fagopyrum tataricum
Task in TerraLife®:

- Dry germinator – suitable for late sowing
- Digestion of inorganically bound phosphorus



DSV Varieties: LIVIOLETTA, PISKATOR

Forage pea Pisum sativum L.
Task in TerraLife®:

- Dry germinator
- Shallow rooter
- N-collector



Legume-emphasised mixtures

TerraLife®-N-Fixx TerraLife®-N-Fixx 50

Rapid soil cover and nitrogen fixation

- Very good freezing
- Very good nitrogen accumulation
- Rich bee feed
- All-round mixture

N-Fixx is ideal for maize and winter cereal crop rotations. The mixture is shooting resistant and is also suitable for early sowing dates. It freezes off reliably and thus can also be established before sugar beet or rape cultivation. N-Fixx leaves very good soil tilth, creates humus and contributes to the health and vitalisation of heavily used soils. The subsequently released nitrogen must be considered during N-fertilisation of the follow-on crop.

N-Fixx 50 can be fertilised without restriction by the legume content in federal states where the legume content in the catch crop mixture is reduced to a maximum of 50%. Please refer to the current legal texts.

Also suitable as a summer catch crop (min. 6–7 weeks vegetation period)

N Potential
approx. 100 kg/ha

Sowing rate: 40–45 kg/ha
Optimum sowing date: End of July to 25 August (before rape until 15 July)
Crop rotation: Cereals, maize, oilseed rape, sugar beet

N-Fixx **N potential: approx. 100 kg/ha**
< 75 % Legumes
0 % Cruciferous

Phacelia, linseed, sunflower, niger, sorghum, forage pea, common vetch, egyptian clover, persian clover, serradella

N-Fixx 50 **N potential: approx. 80 kg/ha**
< 50 % Legumes
0 % Cruciferous Seed content in % (Ø)

Phacelia, linseed, sunflower, niger, sorghum, forage pea, common vetch, egyptian clover, persian clover



TerraLife®-GreenPower Organic

Diverse mixture for ground cover

The mixture is not only very diverse, but also very fastgrowing and deep-rooted. The high proportion of fine legumes binds additional nitrogen.

N-potential approx. 100 kg/ha

Sowing rate: 30–35 kg/ha
Optimum sowing date: End of June (grazing) to mid-August
Crop rotation: Crucifers, summer cereals, winter cereals, sugar beets, maize, grain legumes

< 75 % Legumes
0 % Cruciferous Seed percentage in % (Ø)

Egyptian clover, sparrose clover, linseed, persian clover, phacelia, serradella, bristle oat

Mixtures for potato crop rotations

TerraLife®-SolaRigol TerraLife®-SolaRigol R

The catch crop mixture for potato crop rotations

- Reduces susceptibility to disease in potato crop rotations
- Promotes soil fertility
- Ensures rapid rooting of the potato

SolaRigol is a balanced mixture specially adapted to potato cultivation, which shades the soil well, ensures intensive rooting and increases biodiversity. Blue lupin and false flax create deep root channels. The soil structure is ideally prepared for cultivation in ridges and erosion within the ridges is reduced. In addition, blue lupin reduces the infestation of tobacco rattle virus in potatoes like no other plant species. The summer vetch has a particularly positive effect on soil bacteria that protect the plants from pathogens.

N Potential
approx. 80 kg/ha

Sowing rate: 55–60 kg/ha, SolaRigol R: 55–60 kg/ha
Optimum sowing date: Mid-July to 15 August
Crop rotation: Oilseed rape, potatoes, cereals, maize, sugar beet (SolaRigol R: Cereals, maize, potatoes)

SolaRigol **N-Potential: ca. 80 kg/ha**
< 50 % Legumes
0 % Cruciferous

Linseed, bristle oat, persian clover, niger, forage pea, common vetch, serradella, egyptian clover, blue lupin

SolaRigol R **N-Potential: ca. 30 kg/ha**
< 75 % Legumes
< 25 % Cruciferous Seed percentage in % (Ø)

Niger, common vetch, oil radish (nematode-resistant Cat. 1), egyptian clover, persian clover, forage pea, blue lupin



TerraLife®-Solanum Organic

Stabilisation of the soil structure and nitrogen fixation

Harmoniously balanced mixture of large- and smallgrain, fast-growing legumes in combination with nonlegumes. Due to their root performance, some species are able to break through dense soil layers. In addition to stabilising the soil structure, the high proportion of legumes binds nitrogen.

N-potential approx. 100 kg/ha

Sowing rate: 40–45 kg/ha
Optimum sowing date: End of July to end of August
Crop rotation: Potatoes, summer cereals, maize, sugar beet, winter cereals

< 75 % Legumes
< 25 % Cruciferous Seed percentage in % (Ø)

Field pea, common vetch, bristle oat, blue lupin, oil radish, serradella, sparrose clover, false flax, sunflower, egyptian clover

Mixtures for beet crop rotations

TerraLife®-BetaSola

The nematode-reducing mixture for sugar beet and potato cultivation

- Nematode reduction & soil protection
- Wide range of effects
Heterodera schachtii and *Trichodorus*
- Specially adapted to potato and beet production technology

The combination of species in BetaSola has a broad spectrum of activity. For example, the different nematode-resistant oil radish varieties help to reduce beet nematodes. Multi-resistant oil radish is also resistant to root gall nematodes. Another advantage of oil radish varieties are their different growth periods. This means that nematodes are attracted as long as possible. The mixture partner bristle oat also reduces root nematodes (*Pratylenchus*). Vetch and egyptian clover fix nitrogen and promote shading. The species richness of BetaSola ensures good soil structure and thereby differs considerably from the cultivation of a single nematode-resistant monocrop.

N Potential
approx. 60 kg/ha

Sowing rate: 35–40 kg/ha
Optimum sowing date: Mid-July to end of August
Crop rotation: Potatoes, sugar beet, cereals, maize

<25 % Legumes
<50 % Cruciferous Seed content in % (Ø)

Oil radish, common vetch, bristle oat, niger, egyptian clover



DSV variety: **RESET**
Oil radish *Raphanus sativus*
Task in TerraLife®:
• Fast-growing
• Compatible with late sowing
• Nematode-reducing (Cat. 1)

Variety: **CARABOR**
Blue lupin *Lupinus angustifolius*
Task in TerraLife®:
• Dry germinator
• Deep rooter
• N-collector



TerraLife®-BetaMaxx

The catch crop mixture for sugar beet cultivation

- TerraLife®-BetaMaxx 50
- TerraLife®-BetaMaxx 30
- TerraLife®-BetaMaxx DT

- Safe freezing
- Creates ideal seedbed conditions for sugar beets
- Also for oilseed rape crop rotations

BetaMaxx creates ideal conditions for the successful cultivation of summer crops, especially sugar beet. This is particularly helpful for beet in dry periods. As it does not contain any cruciferous plants, BetaMaxx can also be used in vegetable cultivation and in combined oilseed rape and beet crop rotations. BetaMaxx is not suitable for the biological control of *Heterodera schachtii* (in this case we recommend TerraLife®-BetaSola).

BetaMaxx is available in the 30 and 50 variants with a reduced proportion of legumes (<30 % or <50 %) and can therefore be fertilised without restriction by the proportion of legumes, depending on the federal state regulations. Please refer to the current legal texts.

! BetaMaxx DT is not suitable for close beet crop rotations with nematodes.

Also available as TerraLife®-BetaMaxx Organic.

N Potential
approx. 80 kg/ha

Sowing rate: 40–45 kg/ha; BetaMaxx DT 30–35 kg/ha
Optimum sowing date: Mid-July to 25 August
Crop rotation: Oilseed rape, sugar beet, cereals, maize (BetaMaxx DT: Cereals, maize, sugar beet, oilseed rape)¹
¹ Consider crop rotation diseases

BetaMaxx 50 N-potential: ca. 80 kg/ha
<50 % Legumes
0 % Cruciferous

Blue lupin, forage pea, bristle oat, common vetch, niger, linseed, egyptian clover, phacelia, serradella

BetaMaxx 30 N-potential: ca. 60 kg/ha
<25 % Legumes
0 % Cruciferous

Blue lupin, bristle oat, niger, forage pea, common vetch, egyptian clover, phacelia, false flax, serradella

BetaMaxx TR N-potential: ca. 30 kg/ha
<25 % Legumes
<25 % Cruciferous Seed percentage in % (Ø)

Bristle oat, forage pea, common vetch, niger, deep-rooted radish, phacelia, linseed, serradella, abyssinian cabbage, egyptian clover



Mixtures suitable for late sowing

Winterhardy TerraLife® mixtures can be sown after a late main crop harvest. The hardy components bind nutrients ideally and protect against leaching.

TerraLife®-SoilProtect

Winterhardy base mix

- As pure seed or as a hardy combination with other TerraLife® mixtures
- For hardy greening in water protection and red areas
- For long-lasting greening and photosynthesis performance

Customised solutions are sometimes necessary: If several objectives of catch crop cultivation are to be combined, SoilProtect can be mixed with other TerraLife® mixtures to provide a winterhardy basis. If, for example, the focus is on maximising nitrogen fixation, N-Fixx is recommended as a partner. If a deep-rooting supplement is required, Rigol DT is a perfect fit. In this way, customised solutions can be created. The species in SoilProtect intensively stabilise the soil structure and are beneficial for soil life as a whole.

N Potential
approx. 80 kg/ha

Sowing rate: 30–35 kg/ha, as undersowing: 15–20 kg/ha
Optimum sowing date: End of August to mid-September in bare seed, from mid-May as undersown mixture. (e.g. winter wheat, maize from 8-leaf stage)
Crop rotation: Oilseed rape, cereals, maize, potatoes, sugar beet


< 50 % Legumes
0 % Cruciferous Seed percentage in % (Ø)

Winter vetch, perennial ryegrass, linseed, **crimson clover**, swedish clover, ribwort plantain

TerraLife®-SoilProtect is also very suitable for sowing under maize. The species tolerate shading of the maize and provide excellent winter cover after the maize.

TerraLife®-SoilProtect as a hardy add-on in freezing mixtures:

Mixture combination			
SoilProtect/MaizePro DT 50			
Ratio	Hardy Species %	Seed vigour kg/ha	Legumes %
3:2	56	30	<50



Mixture combinations			
Ratio	Winter hardiness %	Seed vigour kg/ha %	Legumes Species %
SoilProtect/AquaPro			
2:1	55	25	<25
SoilProtect/N-Fixx			
2:1	55	30	<50
SoilProtect/Rigol DT			
2:1	55	25	<50

TerraLife®-CoolSeason

Ideal for late sowing and cool regions

N Potential
approx. 30 kg/ha

- Very good erosion protection over winter
- Good structure and humus formation
- Catch crop in preparation for decommissioning

CoolSeason consists of freezing and winterhardy species. This preserves nutrients extremely well and efficiently prevents them from being washed out. The mixture is very structure-forming, promotes the formation of humus in an ideal way and is also ideal as a wildflower cover crop.

Sowing rate: 12.5–15 kg/ha
Optimum sowing date: End of August to end of September
Crop rotation: Cereals, maize

< 50 % Legumes
< 75 % Cruciferous Seed content in % (Ø)

Winter rye, bristle oat, **crimson clover**, winter forage, rape, turnip rape, hairy vetch, abyssinian cabbage, persian clover, deep-rooted radish, linseed, false flax

New innovative recipe

TerraLife®-ForageRooter

The high-yield classic

N Potential
approx. 80 kg/ha

- High-protein feed
- Good winter hardiness
- Excellent improvement of the crumb structure

Thanks to its intelligent composition, ForageRooter actively promotes soil life. The proportion of water-resistant soil crumbs is increased, which improves water infiltration and significantly stabilises the soil structure. Its growth is suitable both as green fallow and for high-quality feeding.

Sowing rate: 50 kg/ha
Optimum sowing date: End of August to mid-September in bare seed, from mid-May in undersown crops (e.g. winter wheat, maize from 8-leaf stage)
Crop rotation: Oilseed rape, cereals, maize, potatoes, sugar beet

< 50 % Legumes
0 % Cruciferous Seed percentage in % (Ø)

Perennial ryegrass, **crimson clover**, winter vetch



Also available as TerraLife®-ForageRooter Organic.

DSV varieties: **LINKARUS, ZORRO**

Crimson clover *Trifolium incarnatum* L.
Task in TerraLife®:
• N-collector
• Bee pasture
• Winterhardy



As a harvestable catch crop we also recommend **ForageGreen**



TerraLife® CompanionCrops: The interactive combination with the main crop

The latest findings show that main crops benefit from intelligently combined plant communities (see page 19). This is why DSV is also developing solutions based on the TerraLife® principle for high-yielding main crop cultivation, in which species-rich cover crops provide an ideal environment.

TerraLife®-SolanumPro

The companion crop mixture for potato professionals

- Temperature control in potato ridges
- Promotes soil life
- Strengthens the vitality of potato plants

Seeding SolanumPro in potatoes significantly improves the soil structure. Green ridges significantly control the temperature in the soil. The potato benefits considerably from this. Through the interaction of the different plant species with the soil, the nutrient dynamics can be balanced over the entire growth phase. The deep rooting species root the soil intensively and nutrients are bound. The risk of ridge erosion is reduced by the plant and root architecture.

Sowing rate: 15 kg/ha
Optimum sowing date: Depending on the growth type of the potato varieties, approx. EC 9

< 50 % Legumes
0 % Cruciferous Seed content in % (Ø)
Common vetch, linseed, perennial ryegrass, ribwort plantain, niger, persian clover



TerraLife®-BrassicaPro

The companion crop mix for rapeseed professionals

- Optimises the nutrient dynamics
- Promotes soil life
- Good freezing properties

The carefully selected combination of different plant species promotes soil structure and the nutrition of soil life. The nutrient dynamics can be balanced through the interaction of the different plant species with the soil.

Depending on the location and year, the varied plant community can support weed suppression and distraction of insect pests in autumn if it develops sufficiently. In addition, it does not compete with the main crop. The high proportion of legumes has a positive effect on the C/N ratio. BrassicaPro can also be used as a legume-emphasised catch crop mixture, for example in oilseed rape crop rotations.

Sowing rate: 15–20 kg/ha, in Reinsaat 40 kg/ha
Optimum sowing date: With a normal seed drill shortly before rape; with a two-tank seed drill at the same time as rape
Crop rotation: Oilseed rape, cereals, maize

> 75 % Legumes
0 % Cruciferous Seed content in % (Ø)
Blue lupin, linseed, serradella, egyptian clover, niger, persian clover



TerraLife®-CerealPro

formerly M2 Plus

Species-rich companion crop and undersowing mixture for cereal crop rotations

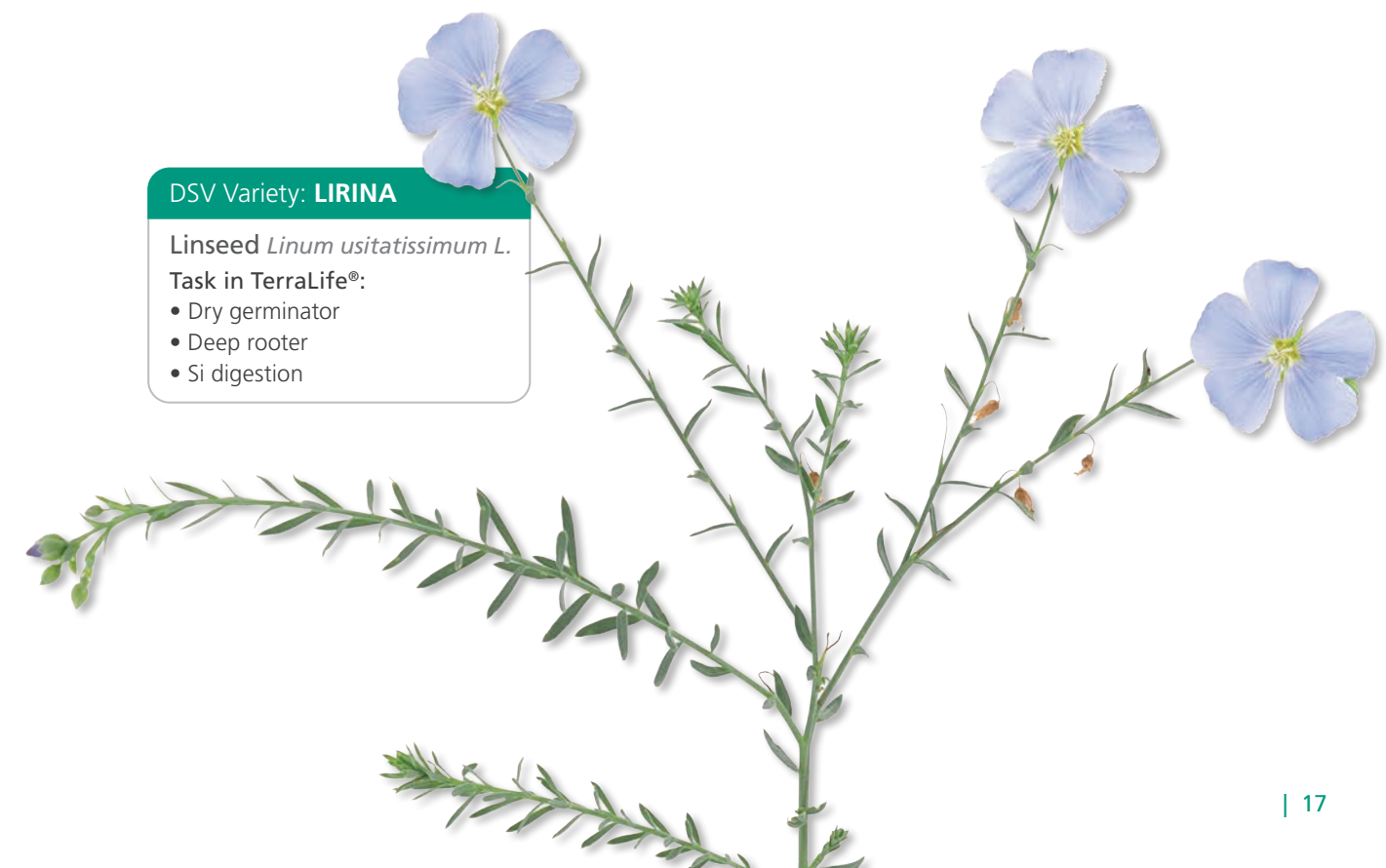


- Not competitive to the main crop
- Intensive rooting
- Diverse composition

CerealPro brings species richness into cereal cultivation. The balanced mixing ratio prevents competition with each other and at the same time stimulates soil life in an extremely diverse way. After the cereal harvest, some of the species are retained and are then an ideal winter cover crop. The intelligent site cover ensures good weed suppression.

Sowing rate: 10 kg/ha
Optimum sowing date: Spring (March/April)

< 50 % Legumes
0 % Cruciferous Seed content in % (Ø)
Perennial ryegrass, white clover, clover, horned clover, ribwort plantain, phacelia



DSV Variety: **LIRINA**
Linseed *Linum usitatissimum* L.
Task in TerraLife®:
• Dry germinator
• Deep rooter
• Si digestion

TerraLife® Undersown crops: Keeping the soil green

Undersowing is a proven arable farming measure. During the growth phase of the main crop, the undersown crop can establish itself and develop its full effect after the main crop harvest. In addition to protection against wind and water erosion, undersown crops can be used to fulfil both crop rotation and winter greening within the CAP.

Maize undersowing

TerraLife®-HumusPlus 1.1

The classic

Sowing rate: 15 kg/ha
Optimum sowing date: 6–8 leaf stage of maize

Perennial ryegrass, italian ryegrass

TerraLife®-HumusPlus 1.2

Robust and frugal

Sowing rate: 7–10 kg/ha
Optimum sowing date: Directly before or after maize sowing

Red fescue (forming clumps), tall fescue

Cereal undersowing

TerraLife®-HumusPlus 2.1

Mixture with safe green mass growth

Sowing rate: Pure sowing 40 kg/ha; undersowing 15 kg/ha

Perennial ryegrass (late), white clover

TerraLife®-HumusPlus 3.1

Easy to care for, slow-growing

Also available as TerraLife® -HumusPro 3.1 Organic.

Sowing rate: Pure sowing 35 kg/ha; undersowing 15 kg/ha

Red fescue, perennial ryegrass, white clover

TerraLife®-HumusPlus 3.2

Easy to care for, slow-growing

Sowing rate: Pure sowing 25–35 kg/ha; undersowing 15 kg/ha

Red fescue, white clover

TerraLife®-HumusPlus 5.1 Organic *Vigorous and rich in legumes*

As undersowing in winter cereals in late autumn or in spring after the last frost. As an undersowing in spring cereals after sowing up to the 4-leaf stage.

Sowing rate: Pure sowing 35 kg/ha; undersowing 15 kg/ha

Perennial ryegrass, red clover, alfalfa, white clover, crimson clover

What can cover crop mixtures do in my crop rotation?



With support from
Federal Ministry
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The soil is one of our most important resources; scarce and non-renewable

To measure to what extent different cover crops contribute to a healthy soil, the CATCHY research project was established. From 2015 to 2023, individual components were compared as pure seeds and cover crop mixtures with a black fallow in crop rotation trials. The agronomic findings are summarised below.

Control nutrient cycling and water balance with catch crops

Catch crops make a significant contribution to closing nutrient cycles in arable farming as individual plant species can specifically mobilise different nutrients. These properties can be selectively combined in mixtures to optimise nutrient management, which leads to more stable biomass formation and nutrient utilisation.

The long-term crop rotation trials of CATCHY showed that nutrient leaching is between 80 and 90 % lower under catch crops compared to fallow. It also showed that nutrients released from the catch crop not only remained available for the following crop but, via organic nutrient deposits in the soil, over the entire crop rotation. The project results demonstrate that catch crops can be used to actively control the site-specific water balance. Freezing catch crops can provide the following main crop with more water than a fallow (+ 11.5 % soil water supply for maize sowing). In years with (early) summer drought (2018 to 2020), this effect led to additional yields of up to + 11 % for silage maize.

Humus build-up & soil structure

Catch crops show an improvement in the formation of water-stable soil aggregates. Mixtures of different species provide even better options here than individual components. The resulting improved soil structure is the basis for healthy soil and the arable farming that takes place on it. Cover crops can also increase the humus content in the long term if it is continuously integrated into the crop rotation. Due to the favourable C/N ratio of the chaff, the 12-crop mixture (TerraLife®-MaizePro) showed the highest potential in the CATCHY trials.

Microbial fingerprint and the stabilisation of herd health

Microbes influence all soil functions. The more diverse the microbiome (totality of microorganisms), the more resilient the agroecosystem can be against disturbances, e.g. extreme weather conditions. The CATCHY project showed that each plant species develops an individual microbiome. A combination of different species can lead to a greater microbiome diversity, depending on location and year. It was also possible to prove that catch crops influence the microbiome of the following main crop. The most health-promoting fungi were found after phacelia in pure stand and after the 12 species-mixture TerraLife®-MaizePro. Harmful Fusarium fungi occurred most frequently after fallow or mustard.

Long-term earnings stability

The diverse influencing factors described above also result in a complex effect of catch crops on the yields of the main crops. The short-term yield effects on the direct subsequent crop are rather low (0.8 % additional yield in the following silage maize). However, the project proved that there are effects beyond the following crop, benefitting the entire crop rotation. In winter wheat after silage maize, long-term trials showed yield increases of 1 to 4 %.

Conclusion

The CATCHY project significantly improved our understanding of the many benefits of catch crops in arable farming. The properties and effects of different plant species and their societies are very complex. When considering all the parameters as a whole, it becomes clear that the targeted combination of species in mixtures leads to greater resilience in the crop production system. Continuous integration of the right catch crops into the crop rotation is essential to realise most of the benefits.

Dr. Matthias Westerschulte, Team Lead Biodiversity, Deutsche Saatveredelung AG

More about
CATCHY





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