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ABOUT US

An Italian company that for over forty years has passionately dedicated itself to researching the best products for turf and greenery, creating highly professional mixtures and fertilizers.

Comagricola Green Europe's commitment is aimed at identifying products and solutions, to offer customers high-quality and best-consulting services for the management and care of lawns for ornamental and sports use.

The consultancy is addressed to gardeners, municipal administrations, sports clubs for the design and management of parks, gardens and playgrounds.

Our team, thanks to a know-how acquired over decades of field studies and practice, deals with all the agronomic aspects related to the management of the turf, providing guidelines and management plans for proper ordinary and extraordinary maintenance, according to the principles of environmental sustainability. We carry out inspections, consultancy, appraisals wherever there is a lawn, in Italy and abroad.

SERVICES

Professionals with specific skills who work in research, assistance and technical consultancy in the field of green management through biological techniques and rationalisation of interventions.

PHILOSOPHY

Through research programmes and the distribution of products, Comagricola promotes biological control as a valid alternative to defence methods based exclusively on chemistry.

PRODUCTS

Innovative and original products, derived from the most advanced knowledge of plant physiology. Products for nutrition and defence, based on microorganisms or plant extracts, for the prevention and treatment of plant diseases and deficiencies.



biologic, really

Green Europe Comagricola is engaged in technical-agronomic and phytosanitary assistance in the turf sector and, more generally, in the ornamental green sector.

Through our programs and the distribution of natural products, we want to spread an approach of biological management to the maintenance issue, as a valid alternative to obsolete defense methods, based exclusively on chemical molecules.

For this reason, also thanks to the collaboration with important and qualified partners, we have a team of highly specialized agronomists at our disposal in the management of turf for ornamental and sports use, who develop and implement ideas and projects with a highly innovative content.

These are the points we base ourselves on our management programs:

- Healthy and robust plant
- Correct agronomic practices
- Induction of resistance
- Containment of pathogenic risk



we import purity we produce innovation

Recovering the microbiological part of a soil means recovering the functionality of a system that allows easier and healthier management, avoiding the use of chemical substances and obtaining better results thanks to more effective philosophies.

Green Europe Comagricola, among the few on the market, creates on request mixtures of seeds treated with symbiotic microorganisms such as mycorrhizae and rhizosphere bacteria (Pseudomonas spp and Bacillus megaterium).

Comagricola tanned mixtures allow you to obtain the best production and quality results:

- «Mechanical barrier effect» against pathogenic fungi.
- Increased water and nutrient absorption capacity.
- Greater resistance to drought and high salinity levels.
- Mineralization of the organic substances present in the soil which are thus transformed into mineral elements readily assimilable by the roots.



The rediscovery of effective technical lines and a **reduced environmental impact** it becomes a necessity, in a context in which the healthiness of the spaces used and the quality of the turf must go hand in hand.



the new course

In one sector constantly evolving, **Green Europe Comagricola** selects the best products on the market through partnerships with important **research institutes** and leading companies in the field of microbiology.

Highly specialized and guaranteed material combined with consultancy of **qualified agronomists**, they allow us to anticipate or resolve any turf issues.

Mycorrhizae

Our mycorrhiza-based formulations establish a symbiotic association with the root system of the turf, then extending into the rhizosphere and surrounding soil. This symbiosis is of mutualistic type, whereby the two organisms carry out their life cycle living in close contact and drawing mutual benefits, especially nutritional and metabolic, thanks to the ability of the fungal symbionts to capture the nutrients available in inorganic and organic form in the soil and to transfer them to the plant.

The distribution of mycorrhizae is justified by the fact that their presence in the top soil is generally scarce and insufficient, due to the inert nature of a large part of the substrates normally used in the sector in the construction or maintenance phase (sand and soil), or due to the intrinsic sterility of a large part of the land affected by grassing, which can be corrected with difficulty (if not over time and at very high costs).

Mycorrhizae can and must be included in any cultivation program to enormously increase its effectiveness and results. However, their action is severely limited by the possible use of fertilizer plans containing inhibitors (of urease or nitrification) or with a high level of phosphorus.

Bacillus subtilis

Our based formula of *Bacillus subtilis* spores contributes to improving the fertility of the soil, the efficiency of nutrition and the radical and vegetative growth of plants, favorably predisposing the turf to overcoming all biotic and abiotic stresses.

Bacillus subtilis also has a strong inhibitory action against some fungi responsible for feared turf pathologies (first and foremost Dollar spot).

The preparation is miscible with almost all products used to control pathogens.

Inductors of resistance

The induction of resistance against pathogens, through the administration of natural or synthetic substances, it is one of the most promising strategies for the control of plant diseases.

Our formulations allow the turf to react to any attacks by fungi, bacteria, viruses and insects, inducing the creation of structures and conditions useful for strengthening its cell walls and endogenous resistance mechanisms.

Compatible and mixable with all products based on soil microorganisms (Mycorrhizae, Trichoderma, Bacillus Subtilis) and a large part of the fertilizers on the market.

Trichoderma spp

Once distributed, the *Trichoderma* contained in our formulations the colonization of the top soil begins, reducing with its antagonistic action the pathogenic load of any fungi present, with particular effectiveness on those responsible for root rot and turf collar. The optimal thermal average for the rapid proliferation of *Trichoderma* (and therefore for its distribution) is approx. 15-18°C (however remaining fairly active in a range between 10 and 30°C).

Even the occasional use of chemical fungicides can inhibit the action of Trichoderma, nullifying the colonization work undertaken at the time of distribution.

PROTOCOL OF NUTRITION AND INTEGRATED BIOLOGICAL DEFENSE OF LAWNS

in collaboration with



Use of fertilizers, mycorrhizae, antagonistic fungi and bacteria, resistance and rooting inducers.



Biostimulants

Improving the health of the turf and that of symbiotic species with the aim of increasing resistance to pathogens is certainly an objective to be pursued.

Biostimulants are a category of products that have been around for some time. However, it is fair to say that today there is greater emphasis on what these products can do, as the use of plant protection products is increasingly limited by current legislation.

A biostimulant is distinguished from a fertilizer and a plant protection product because it should not provide any nutritional input (although in some cases it contains trace elements and carbon sources) and should not have any direct action on diseases or parasites.

However, biostimulants, when applied to the soil or foliar, can improve resistance to abiotic stress and increase plant yield, vigor and quality through a wide range of different mechanisms.

Obviously what a biostimulant can do must be carefully analyzed and the results obtained examined to evaluate the convenience of continuing with the program or, possibly, modifying it.

Products sold as biostimulants include algae and their extracts, humic and fulvic acids, molasses, vinasse, amino acids, soil oxidants, phosphite solutions, chitin derivatives and microorganisms (bacteria and fungi).

Furthermore, it is important to use adequate application rates to obtain results.

Antagonistic fungi and bacteria

- **TRICO-GE:** (Tricoderma viridae): particularly effective formulation on the control of fungal pathologies of the collar (Rhizoctonia and Pythium).
- **BACILLUS SUBTILIS:** antagonistic bacterium, with a bacteriostatic action and control of related fungal pathologies to Colleotrichum spp. (anthracnose), Rhizoctonia solani, Lanzia spp and Moellerodiscus spp. (Dollar spot), Helminthosporium spp., Botrytis cynerea (Gray mold) and Botrytis spp., Sclerotinia spp., Pythium spp.

- **MICO-GE:** (Glomus intraradices): formulation containing a high concentration of superior quality propagules, to be used when wetting the soil in the presence of a minimum of root (post-regeneration, aeration and decompaction) also in combination with other complementary technical lines such as nutrients and resistance inducers.

Resistance inducers

They induce resistance mechanisms in plants (SAR: systemic acquired resistance) and are translocated both via leaves and roots.

- **KITO-GE:** inducer of resistance to pathogenic fungi and bacteria. The application of chitosan mimics the presence of a pathogen by inducing the plant to activate its own defense mechanisms.

Insect control

- **META-GE:** inoculation of beneficial fungi (Beauveria Bassiana and Metarhizium Anisoplie) ideal for controlling the proliferation of harmful insects.

Organic fertilizers and organo-minerals

- **HUMIC-GE:** liquid formulation based on humic and fulvic acids obtained from leonardite.
- **ALGA-GE:** liquid extract of brown algae.
- **AMINO-GE:** polypeptides and amino acids.
- **O-MICRO 5-0-0:** fertilizzante organico ricco di flora batterica con aggiunta di amminoacidi.

Mineral fertilizers

- (minimum duration 60 days):
- **DUO 18-0-15:** Quick-acting fertilizer with long-lasting action.
 - **QUADRO 18-5-14:** balanced fertilizer ideal in the phases of maximum vegetative growth.
 - **THERMO 8-0-30:** fertilizer to counteract thermal and water stress.
 - **UNO CHELATED 0-0-10+3fe:** liquid fertilizer with potassium citrate and chelated iron (DTPA).
 - **MICRONUTRIENTS:** systemic formulation of chelated microelements to be used in soil application.





The winning hand

Green Europe Comagricola mixes the **latest generation varieties**, well aware that genetic research represents an essential resource for achieving success in greenkeeping.

The response to the global need for sustainability, combating climate imbalances and resistance to the aggressiveness of pathogens finds maximum effectiveness through research and development, thanks to the crossing of plants with the most promising genotype and the selection of the best performing varieties.

The NTEP ranking represents for **Green Europe Comagricola**, as for every professional in the sector, a valid (although not the only) point of reference to look at when developing its catalog proposal, planning supplies, and creating the most homogeneous blends.

For each new season **Green Europe Comagricola** draws on the best on the market with regards to the fundamental parameters: fineness of the leaf, colour, density of the coat, resistance to trampling and pathogens.

The varieties improve every year. Green Europe Comagricola identifies them in advance.

Pure quality blending, since 1977

The seeds used to create our mixtures are monitored and controlled by specialized technicians who they subject them to analysis laboratory. They are calibrated and conditioned within our companies.

Our lines:

BLUE LINE

for prestigious gardens
and roll carpet manufacturers

GREEN LINE

for the landscape

The traceability of our seeds is guaranteed.

This means:

- **Optimal germination with guaranteed results during the establishment phase.**
- **Maximum vegetative coverage.**
- **High purity.**



Seed quality

For a wonderful lawn it is essential not to compromise, **selecting and sowing the right mixture.**

Choosing a Green Europe Comagricola blend represents the certainty that all these important aspects have been considered to guarantee maximum quality. With state-of-the-art seed cleaning facilities and a well-equipped analysis laboratory, we are confident that each seed has the right characteristics for each specific need.

SAFE SEED

This choice includes a number of key features.

Firstly the mixture must contain species and varieties that have been selected and produced to provide the results you expect, whether it is a football pitch, an ornamental lawn or a public park.

The quality of the seed is also fundamental: the presence of excessive quantities of dust or inert matter could in fact create important repercussions on the project you intend to carry out.

In addition to the purity of the seed, the ability of the pure seed to germinate and establish itself quickly is equally fundamental.

With **Green Europe Comagricola** there is an additional quality bonus: our blends are treated with **SAFE SEED**. This treatment is easy to use and non-toxic it can help the seed germinate as best as possible, especially if conditions at the time of planting are not ideal.

So, the next time you purchase a seed mix, remember that not all grass seeds are created equal! An initial wrong choice can compromise your goals.

Make the right choice: the beauty and health of your lawn can be a certainty with Green Europe Comagricola mixtures and all its care and maintenance materials.

seven reasons to choose GREEN EUROPE COMAGRICOLA

1. **EXPERIENCE**
2. **QUALITY**
3. **EXCELLENCE**
4. **SELECTION**
5. **RESISTANCE**
6. **ADVICE**
7. **RELIABILITY**

EXPERIENCE

Green Europe Comagricola is one of the most respected brands in the Italian seed sector, **with over 45 years of experience** and knowledge of turf

QUALITY

Green Europe Comagricola is one of the most respected **brands in the Italian seed sector**, with over 45 years of experience and knowledge of turf.

EXCELLENCE

Our product portfolio does not is second to none thanks to proven blend lines such as Blue Line and Green Line, used in many leading companies in Italy and Europe.

SELECTION

All the varieties we market have an excellent production pedigree and have been selected and bred for their ability to provide **high quality turf characteristics.**

RESISTANCE

Our seed treatment **SAFE SEED provides more resistant sprouts**, allowing your lawn to get the best possible start to development.

ADVICE

Our team of authorized distributors was selected for his experience in the field of turf and is highly trained to provide information and technical advice.

RELIABILITY

So the choice is clear: if you want to produce quality turf, it must start with **Green Europe Comagricola.**



BLUE LINE

for prestigious gardens
and roll carpet
manufacturers

The competition pushes us
towards continuous
improvement, and nothing is
truer with regards to turf.

Blue Line was born from constant
research of the best varieties on the
world market and is made up of five
mixtures suitable for the creation of
high-quality sports fields and
residential gardens.

The selected cultivars are
aesthetically presented with a dark
green color and high density, high
tolerance to drought and resistant to
diseases, parasites and wear.

One of the most important factors in
selecting turf seed for your site is
deciding which species (or mix of
species) is best suited to your
climate, use and expected level of
maintenance.

Since turf essence producers
improve their varieties every year, it
is important to purchase the best
varieties available on the market to
offer the customer a consistently
perfect lawn for years to come.



**BLUE LINE
robust leaf**

**BLUE LINE
robust leaf**

**BLUE LINE
fine leaf**

**BLUE LINE
for sport**

**BLUE LINE
for overseeding**

TALLADEGA II

THOR



ASPIRE
PERENNIAL RYEGRASS

PROMINENT

PILLAR II

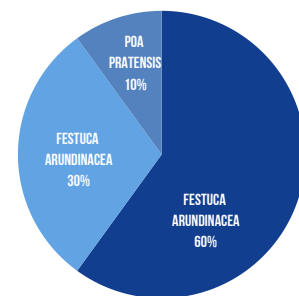
AVIATOR II

BLUESEM

**BLUE STAR
ARUNDINACEA**

- Excellent resistance to drought
- Low maintenance requirements
- High resistance to diseases
- Ideal for prestigious gardens
- Good winter colour
- Made up of latest generation cultivars

Blue Star Arundinacea is a traditional blend of the highest quality made up of the best essences on the world market. The mix of Festuca Arundinacea and Poa Pratensis, SOD certified, is ideal for prestigious gardens or roll carpet manufacturers.



Seeding rate: 40 gr/mq
Cut height: 4/5 cm
Period: from March to November

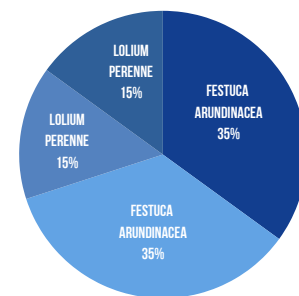
AVAILABLE IN PACKS

- Packaging Bag Kg. 1**
- Packaging Bag Kg. 3**
- Packaging Bag Kg. 10**

**BLUE STAR
SPEED**

- Excellent resistance to drought
- Low maintenance requirements
- High resistance to diseases
- Good winter colour
- Made up of latest generation cultivars

Blue Star Speed is the fast establishment variant thanks to the presence of Lolium Perenne and Festuca Arundinacea. The high quality and certified purity make it a mixture suitable for any soil and climate situation with very low maintenance levels.



Seeding rate: 40 gr/mq
Cut height: 4/5 cm
Period: from February and November

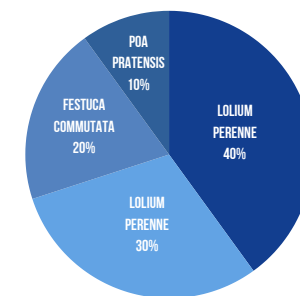
AVAILABLE IN PACKS

- Packaging Bag Kg. 10**

BLUE STAR

- Good speed of settlement
- Fine and resistant leaf
- High density of shoots
- High resistance to diseases
- Low cut tolerant
- Excellent winter and summer colour

Blue Star is a blend of widely tested and nationally recognised strains. Consisting of three different species, it allows for a wonderfully fine turf with greater resistance to disease and low temperatures.



Seeding rate: 30 gr/mq
Cut height: 4/5 cm
Period: from February to November

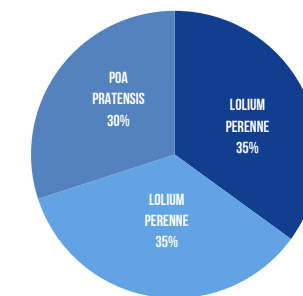
AVAILABLE IN PACKS

- Packaging Bag Kg. 1**
- Packaging Bag Kg. 3**
- Packaging Bag Kg. 10**

**BLUE STAR
SPORT**

- Rapid settlement of the turf
- High resistance to diseases
- Excellent wear tolerance
- Excellent winter and summer colour
- Excellent playing surface

Blue Star Sport is a blend of selected varieties of Lolium Perenne and Poa Pratensis ideal for setting up sports fields for intensive use. It establishes quickly to provide a smooth, professional quality playing surface with excellent wear tolerance.



Seeding rate: 30 gr/mq
Cut height: 2/4 cm
Period: from February to November

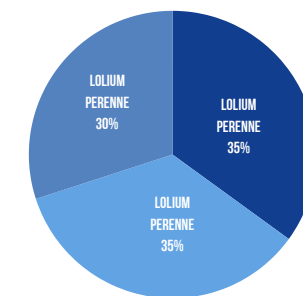
AVAILABLE IN PACKS

- Packaging Bag Kg. 10**

**BLUE STAR
REGENERATION**

- Rapid germination and establishment
- Dense and resistant turf
- Fast recovery from wear
- High resistance to diseases
- Excellent playing surface

Blue Star Regeneration is a leading blend in the regeneration of prestigious sports fields and ornamental lawns. Composed of three excellent Lolium Perenne, it guarantees the rapid recovery of worn areas and long persistence.



Seeding rate: 30 gr/mq
Cut height: 2/4 cm
Period: from February to November

AVAILABLE IN PACKS

- Packaging Bag Kg. 10**



GREEN LINE for the landscape

When selecting the mixture for landscaping purposes due consideration must be given to both the end-use and the planned maintenance regime.

A turf with little Lolium Perenne and more Festuca Arundinacea will require less maintenance, with a consequent reduction in the need for cutting and use of fertiliser. A turf with Lolium Perenne, Festuca Rubra and Poa Pratensis will require more care which will be rewarded by its aesthetic beauty.

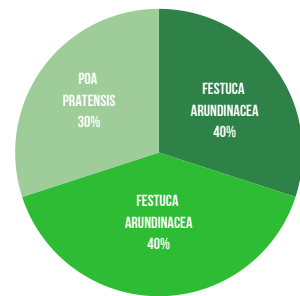


**BLUE LINE
robust leaf**

**GREEN STAR
ARUNDINACEA**

- Excellent wear tolerance
- Good appearance all year round
- Lower nutrient, irrigation and maintenance requirements
- Dense and highly disease resistant turf
- Excellent for new systems, even extensive ones

Green Star Arundinacea produces a tough-looking sward that is drought tolerant and shade resistant. The inclusion of fescue, arundinacea provides these key attributes. Green Star Arundinacea is also suitable for soil stabilisation of embankments and steep slopes, while remaining low maintenance.



Seeding rate: 40 gr/mq
Cut height: 4/5 cm
Period: from March to October

AVAILABLE IN PACKS

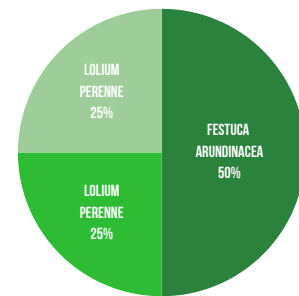
Packaging Bag Kg. 10

**BLUE LINE
robust leaf**

**GREEN STAR
SPECIAL**

- Tolerant to drought and shade
- Low nutritional needs
- Reduced cuts
- Good soil stabilisation
- Produces a dense and attractive turf

Where both less maintenance and some wear tolerance are required, use **Green Star Special**. This blend of Lolium Perenne and Festuca Arundinacea is suitable for both goals.



Seeding rate: 40 gr/mq
Cut height: 4/5 cm
Period: from February and November

AVAILABLE IN PACKS

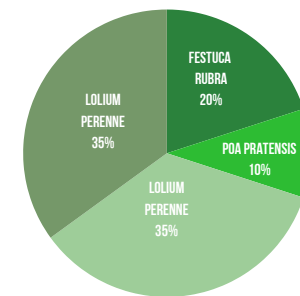
Packaging Bag Kg. 10

**BLUE LINE
fine leaf**

GREEN STAR

- Dense, fine and attractive turf
- Tolerant to drought and shade
- Suitable for a wide range of terrains
- Good appearance all year round

Green Star produces a sward that is both tough and attractive. The cultivars of Lolium Perenne alongside the fine-leaved Festuca Rubra and Poa Pratensis make it possible to create an excellent lawn or landscaped area all year round.



Seeding rate: 30 gr/mq
Cut height: 4/5 cm
Period: from February and November

AVAILABLE IN PACKS

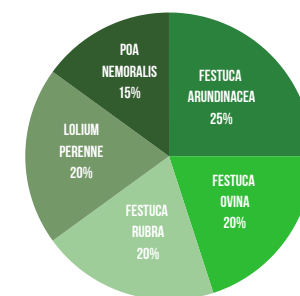
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Packaging Bag Kg. 10

**BLUE LINE
fine leaf**

GREEN STAR SHADE

- Excellent for spring and summer sowing
- Very tolerant to shade
- Greater resistance to diseases
- Low need for nutrients
- Fine and dense turf

Trees, shrubs and buildings create shaded areas that vary continuously throughout the day. When parts of your garden are both sunny and shaded, a versatile seed blend like **Green Shade** can help you achieve outstanding results in both conditions.



Seeding rate: 40 gr/mq
Cut height: 4/5 cm
Period: from March to October

AVAILABLE IN PACKS

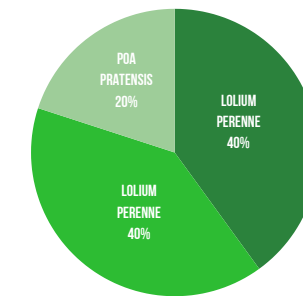
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Packaging Bag Kg. 3
Packaging Bag Kg. 10

**BLUE LINE
for sport**

**GREEN STAR
SPORT**

- Produces a fine and dense turf
- Low cut tolerant
- High resistance to diseases
- Excellent wear tolerance
- Brilliant colour all year round

Green Star Sport is ideal for the construction of new sports facilities. This blend of Lolium Perenne and Poa Pratensis quickly establishes itself giving a dense and resilient turf thanks to strong root growth in the early stages of turf development.



Seeding rate: 30 gr/mq
Cut height: 2/4 cm
Period: from February to November

AVAILABLE IN PACKS

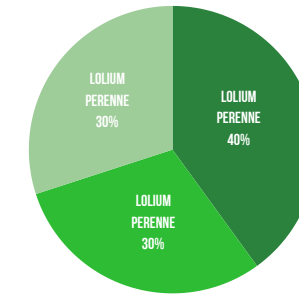
Packaging Bag Kg. 10

**BLUE LINE
for overseeding**

**GREEN STAR
REGENERATION**

- Quick germination
- Rapid settlement of the turf
- Good disease resistance
- High wear tolerance
- Excellent winter and summer colour
- Good drought tolerance

Green Star Regeneration has been developed over the years with these needs in mind, to provide high-quality grass surfaces. The blend of Lolium Perenne allows the turf to recover quickly from the damage caused by intensive use.



Seeding rate: 30 gr/mq
Cut height: 2/4 cm
Period: from February to November

AVAILABLE IN PACKS

Packaging Bag Kg. 1
Packaging Bag Kg. 3
Packaging Bag Kg. 10

Impossible green

Aware of the current value and above all of the increasing importance that grassing with **hydroseeding technique** will play in the future, **Green Europe Comagricola** has analysed and chosen the best materials currently available globally, to propose and **guarantee a quality result for the lowest possible cost.**

This relationship, in the sowing of large areas or on surfaces with prohibitive slopes, remains the critical data where every operator must deal, that is the variable that decides whether or not to acquire the order.

The solution is represented by a selection of the best adhesives and mulches in wood fibre or cellulose, to be mixed in appropriate doses to the Comagricola Green Europe certified seeds, available in the most varied and customisable mixtures on request of the customer.



HYDRO-MULCH 100% Wood Fibre



HYDRO-MULCH "UE" is a compound of vegetable fibers (NFU code: 44-4551), specifically designed for jobsites where Hydraulic Seeding techniques (Hydroseeding and Hydromulching) are being used.

Made from noble prime materials, HYDRO-MULCH biodegrades into the soil and is easily assimilated by vegetation.

ACTION FIELDS

Hydro-mulch is active on 3 levels:

Provides a "Temporary" Anti-Erosion Protection for the shorter term (<6 months):

This product acts like a real "barrier", absorbing the impact energy of raindrops (the "splash" effect) whilst at the same time capturing rainwater from thunderstorms.

Accelerates Germination:

Its water retention capacity allows the seeds and seedlings to develop in a "controlled" environment where it concerns temperature and hydro stress, as temperature peaks are flattened out and evaporation/transpiration is being limited.

Increases Performance Levels:

It allows homogenizing the mix of hydroseeding products (water, seeds, fertilizer and fixing agents) and helps applying a uniform layer to the soil. Its 'coating' capacity helps to limit germination loss that can occur due to friction on the seeds while passing through the Hydroseeder pump.

SPECIFICATIONS & PERFORMANCE

Tracer	0 % (natural mulch)
Prime material	Pinus
Fibre length (mm)	2 to 6 mm
% Wood Fibre	100 %
% Water Retention Capacity / Dry Weight	700 %
% Organic Matter	98 %
% Ash	2%
Erosion Protection Life Span	6 months
Water mixing ratio	1 Bale per 1000 litres of water

APPLICATION RATE

Slope Steepness	Average Application Rate
< 2 :1	90 Bales/ha
< 3 :1	60 Bales/ha
< 4 :1	30 Bales/ha



EURO-MAT F.G.M.



EURO-MAT F.G.M is a blended product, ready to use, %100 bio-degradable, and is made of "PREMIUM" vegetable fibers (NFU code: 444551) with the addition of stabilizing agents, germination activators and growth enhancers.

Its performance level is superior to that of mulches in the SMM (Stabilized Mulch Matrix), BFM (Bonded Fibre Matrix) or EFM (Engineered Fiber Matrix) ranges.

ACTION FIELDS

Hydro-mulch is active on 3 levels:

Provides a "Temporary" Anti-Erosion Protection for the medium term (>6 months <24 months):

This product acts like a real "barrier", absorbing the impact energy of raindrops (the "splash" effect) whilst at the same time capturing rainwater from thunderstorms. Its performance level is comparable to that of 'roll matrixes' (Curlex, Needlefel...) or geo-textiles made of vegetal fibres.

Accelerates Germination:

Its water retention capacity allows the seeds and seedlings to develop in a "controlled" environment where it concerns temperature and hydro stress, as temperature peaks are flattened out and evaporation/transpiration is being limited. The presence of germination activators and growth enhancers allows for quick establishment of the green cover.

Increases Performance Levels:

Applied hydraulically through a Hydroseeder, this product does not need any specific jobsite preparation nor fixation systems.

SPECIFICATIONS & PERFORMANCE

Tracer	1% (green)
Prime material	Betula papyfera / Populus tremuloides
Fibre length (mm)	2 to 10mm
% Wood Fibre	75 %
% Organic Stabilizer	10%
% Germination activator and Growth Enhancer	5%
% Biodegradable Reinforcement Fibre	9%
% Water Retention Capacity / Dry Weight	1500%
% Organic Matter	99,3%
% Mineral Matter	0,70%
Erosion Protection Life Span	18 months
Water mixing ratio	1 Bale per 500 litres of water

APPLICATION RATE

Slope Steepness	Average Application Rate
<1 :1	176 Bales/Ha
< 2 :1	150 Bales/Ha
< 4 :1	120 Bales/Ha



PENNMULCH

PennMulch Seed Accelerator is a pelleted seed establishment mulch comprised of:

- recycled newsprint
- starter fertilizer
- Hydrobond™ tackifier
- Moisture Cell Technology®.

Adaptable to any soil type, PennMulch is ideal for establishing a thicker healthier lawn in one convenient application.

Faster Turf Establishment

Full **application** rate of starter fertilizer

Better Germination

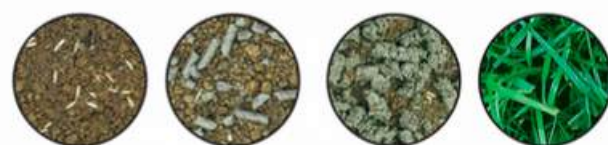
Stores moisture for seedlings

Binds Mulch & Seed

Tackifier holds mulch and **seed** in place

Easy to Apply

Use your existing equipment



SPREAD THE SEED APPLY THE PENNMULCH WATER THE AREA WATCH IT GROW

Application Instructions:
Hydrobond™ Polymer Tackifier

1. Prepare the seed bed.
2. Spread the seed and lightly rake into the soil.
3. Apply PennMulch at a rate appropriate for the application.
4. For best results, irrigate after applying PennMulch, with 0.1 – 0.2 inches (0.3 – 0.5 cm) of water.

ACTION FIELDS

PennMulch is active on 3 levels:

Faster Turf Establishment

A full application rate of starter fertilizer provides the nutrients necessary to establish a strong turf stand as quickly as possible

Better Germination

Moisture Cell Technology incorporated in each granule stores water to help prevent seedlings from drying out

Binds Mulch & Seed

Hydrobond tackifier creates a matrix of the mulch and seed to prevent movement during the critical time of seedling development.

SOIL-FIX SOIL STABILIZER



SOIL-FIX is a soil conditioner and surface stabilizer, made of water soluble, Poly- acryl amide (PAM) and is specifically designed for use in hydroseeding operations. Its function is to both lessen soil erosion due to surface water runoff and increase soil permeability.

No product toxicity has been identified in either water or soil.

SOIL-FIX has been approved in the United States by the F D A (Food & Drug Administration) as well as by the French Ministry of Health.

ACTION FIELDS

Soil-fix is active on 3 levels:

Increases cohesion in soils with poor structure and reduces leaching :

Fewer sediments are carried away by runoff water 95% less erosion on average 84% less leaching of nutrients (phosphates and nitrates) on average.

Improves soil porosity:

Improves water infiltration into the soil 35% gain over silty clay soils, and a 50% gain over clay soils.

Provides higher germination and rooting rate:

35% enhancement for plants sensitive to crusted and/or capped soils

SPECIFICATIONS & PERFORMANCE

Composition	Made of water-soluble anionic polymers with a high molecular weight
Viscosity	Brookfield viscosity @ 5.0 g/l equal to 1,800 cps
Appearance	White powder
Degradation process	When exposed to UV light and under microbiological action, SOILFIX naturally breaks down in the soil into CO ₂ , H ₂ O and ammonium nitrate. The nitrogen group of the molecule is rapidly consumed by soil bacteria, while on the other hand the carbon group decomposes by 10 % to 15 % a year.
Soil erosion protection	6 months
Viscosity	5.0g/l
Water mixing ratio	300 gr SOIL-FIX to 1 000 L of water

APPLICATION RATE

Slope Steepness	Slope Length.	Constraints (low, medium, high)	Average Application Rate
<1 :1	12 m	Medium to High	12 Kg/Ha
< 2 :1	12 m	Medium to High	7 Kg/Ha
< 4 :1	12 m	Medium to High	5 Kg/Ha

grow healthy

Turf is, agronomically speaking, a **monoculture in single succession**. A greenkeeper, a maintenance worker, a gardener, a homeowner, decide that a plot of land will have to accommodate and nourish one or more sown herbaceous species (and only those) for the longest possible time; **day after day, season after season, seamlessly**. All of this, preferably, with the maximum aesthetic result, free from diseases or weeds, aiming to periodically produce healthy and vigorous leaves. This, after all, is the mission of our monoculture in single succession: to produce small leaves, **to develop a green and living, natural carpet**.

Green Europe Comagricola has decided to address the topic of "care and nutrition" starting from a **purely agronomic approach**, creating a new line of professional fertilizers through its subsidiary Turf-on. A choice going against the trend: avoid reselling material imagined on the drawing board by technicians without the necessary knowledge, but develop and create the correct fertilizer yourself, based on the specific needs of the turf.

Only in this way will we be able to **grow up healthy**.
Us and the meadow.



The fertilizer plan
FIVE PHASES
five needs



PHASE **01**

THE AWAKENING

JANUARY / MARCH

In this phase, with day light and temperatures increasing quickly and inexorably, our grass requires nutrients of top quality and ready assimilation: the main target is to hook the full restoration of the metabolic functions to the better weather conditions as soon as possible.

Only by spreading the right fertilizer made of correct elements can we help this process of "awakening", ensuring the proper green-up and quality excellence of our turf from the first moments of the season.

A quick re-start is also crucial as it guarantees a fast recovery

after the winter stress, as well as helping to block the entrance for the spring's weeds.

We cannot underestimate another important issue, which can be successfully faced through proper nutrition: turf diseases mainly develop by taking advantage of the physiologically critical phase endured by our plants; the best prevention is consequently the distribution of fertilizers specially designed for their reinforcement. In either case (pests or pathogens), the containment of the potential risk equates to limiting or canceling any herbicide and fungicide treatments, to the benefit of the environment, management costs and the final customer satisfaction.

PHASE **02**

CONSOLIDATION

MARCH / MAY

The spring months are the months of vegetative growth. The weather is the best one could ask for: ensured rainfall, ideal medium temperature and the sunshine rising gradually to the annual peak of duration and intensity. It is the easiest time to deal with, from the point of view of maintenance. The favorable conditions, however, may be a double-edged sword: this is in fact the time of the consolidation of our turf. A consolidation which will shape, for better or for worse, morphological and metabolic characteristics that will challenge the seasons to come. The supply of nutrients becomes crucial, avoiding uncontrolled growth, focusing mostly on the health's balance and correct size of the plant. Soil or leaf analysis will allow us to make up for any deficiencies, elaborating a specific fertilizer plan. In the absence of real imbalances, it is advisable to distribute half of the phosphorus amount scheduled for the whole year.

PHASE **03**

STRESS-TIME

MAY / AUGUST

May opens the most risky and stressful time for our cool-season turf. In an effort to counteract the high perspiration induced by the high temperatures and the associated risk of drying, the grass plants regulate their water balance through the cyclical closure of the stomatal pores, inevitably slowing photosynthesis and growth, as well as their defense capabilities. Once we add the necessary irrigation, we'll find ourselves providing one of the two useful conditions to the fungi attack (i.e. moisture on the ground, while the other is of course the hot temperature), making summer months the most critical period in the whole year. Accordingly, the fertilizer plan will be higher in potassium, an element which positively affects the suction ability by adjusting the stomatal dynamism and root water potential, and totally eliminating readily soluble nitrogen (potential of "lighter" of fungal attacks) and the phosphorus, that encourages the rooting of annual and perennial weeds.

PHASE **04**

REGENERATION

AUGUST / OCTOBER

At the end of the summer-stress, it is time to "clean" the turf as well as the time for its regeneration: the first operation will eliminate the thatch, result of leaf senescence, while the second will take advantage of the now favorable climate, compensating the natural loss of grass-cover by selected seeding. The temperatures and the autumn rainfall will help our turf to quickly restore its beauty, allowing even the young seedlings to mature before winter dormancy. In this season the fertilizer plan is scheduled by the same kind of material distributed in spring, meeting the weather conditions and also the need to support the rooting of the sown (this is why we supply the second half of the year's planned amount of phosphorus). The maintenance will contain excessive turf growth, keeping the right mowing height and avoiding the use of unbalanced fertilizers.

PHASE **05**

READY TO DORMANCY

OCTOBER / DECEMBER

Though conversely, the winter's coming means similar evapotranspiration and temperature peaks to the ones during the summer, with equally stressful effects. To some extent, the solution may be the same as the one adopted before the hot season, as also in this case the potassium element proves to be the only helpful element to overcome the coldest time. But beware: on the contrary of the summer period, we cannot forget to ensure the accumulation of nutritional reserves to the older turf's roots and the correct supply of nitrogen to the young seedlings (born from the previous late-summer regeneration) to achieve a correct maturation. The concept of "correct nitrogen supply" should follow the slow fall in temperatures and daylight hours useful for photosynthesis, while approaching the months of December and January; that is why we suggest to copy the nutritional scheme that we propose, for opposite reasons, at "the awakening" time, in the beginning of the year.



DUO

18 - 0 - 15 + 2Mg

N total	18%
3% Nitric nitrogen	
+ 9.5% Ammoniacal nitrogen	
+ 5.5% Controlled release nitrogen	
K₂O	15%
MgO	2%
CaO	2%
SO₃	35%

Starting from late winter-early spring, our turf will take successfully advantage of DUO's specific formulation: this means an excellent **greening, a rapid thickening** of the grass and the best natural way to compete against the germination of weeds, as these will be unable to find useful light and space in a dense turf. In addition, the **absence of phosphorus** (not essential in this part of the season) makes DUO the authentic **"no weeds fertilizer"** (the phosphorus could potentially support their root growth). The great percentage in n-methyl urea assures the prolonged effect, while the notable nitrogen/potassium ratio (the K comes entirely from potassium nitrate) guarantees a nutrition of **excellent quality**.

If used in the last part of the year (late autumn), DUO could also help the turf in overpassing its winter physiological decline in the best way, thanks to the creation of reserves and the strengthening of plant cells against climatic stress.

Instant energy

With **DUO**, we developed a fertilizer, which is ready-to-act even at low temperature: after the distribution, the **nitrate fraction of the nitrogen's** total amount will be immediately available in the soil solution, making the absorption possible also in extreme climatic conditions.

- + **Ready-to-act fertilizer**
- + **Long-term effect**
- + **"No Weeds" philosophy**



QUADRO

19 - 5 - 14

N total	19%
2% Nitric nitrogen	
+ 11% Ammoniacal nitrogen	
+ 6% Controlled release nitrogen	
P₂O₅	5%
K₂O	14%
SO₃	33%

Balance and performance

The containment of the growth, otherwise dangerously exuberant in spring and autumn phases, has inspired the study of this fertilizer.

Thoroughly investigated in a nutritional program regarding the distribution of a correct percentage of phosphorus in more climatically favorable months, QUADRO guarantees a maturation of the turf and a consolidation of the best quality features.

- + **Balanced Nitrogen**
- + **Right amount of Potassium**
- + **Ideal during the growth period**

The ternary composition ensures immediacy of results and guarantees support of the nutritional requirements during that period. A result immediately visible and not excessive, to the benefit of customer satisfaction, but at the same time a planned sale of the nitrogen fraction, with a positive impact on costs of care and management of the coat (absence of growth peaks, killing the disease risk).

A complete fertilizer, which with a right percentage magnesium facilitates the photosynthesis and compensates for substantial amounts of potassium from the planned annual fertilizer plan, helping to maintain the correct ratios of calcium - magnesium - potassium to terrain.



THERMO

8 - 0 - 30 + 4Mg

N total <i>Controlled release nitrogen</i>	8%
K₂O	30%
MgO	4%
SO₃	26%

Anti-stress shield

During the periods immediately preceding the most critical climatic phases, characterized by high values in evapotranspiration and extreme temperature peaks (including the winter ones, which are close to zero degrees), the distribution of a "high in potassium value" fertilizer helps the plant to **defend itself from the risk of wilting**, thus keeping active all the metabolic processes fundamental for their survival.

- + **Anti-stress**
- + **High in potassium value**
- + **Exclusively "slow-release" Nitrogen**

By conditioning the water potential, the potassium ion is directly involved in the regulation of the stomatal opening rhythm and also guarantees the appropriate turgidity to vacuoles and therefore the plant cell. When dosed in a correct way, **it is the best ally for obtaining a healthy plant ready to counter any adversity.**

Another of the features that make **THERMO** the ideal fertilizer for the summer months, is represented by the limited contribution in nitrogen; this is present only in a "slow-release" N-Methylurea form, pandering the reduced requirements of our turf (slowed in its metabolism thanks to the temperatures), but certainly not the voracity of annual weeds typical of the period. A philosophy also extended to phosphorus, absent in our case: by excluding it totally, we avoid facilitating the rooting of possibly present weeds, which could have reached the ground in the seed form.



POP-UP

16 - 30 - 5

N total 12% Ammoniacal nitrogen + 4% Controlled release nitrogen	16%
P₂O₅	30%
K₂O	5%
MgO	3%
SO₃	4,5%

Root booster

A ternary fertilizer studied especially for satisfying the specific requirements during the seeding and post-seeding phases, both on uncover ground or turf overseeding.

- + **It helps in rooting phases**
- + **Balanced Nitrogen**
- + **For all kind of seeding**

We have added a fraction of "slow-release" nitrogen to a material with high values of phosphorus, an element notoriously contributing to the rooting process: the aim is to guarantee a gradual nutritional support to the plant which will be born, by uniting the rooting and growth in only one distributive step: the potassium and ammoniacal nitrogen ensure a balanced fertilizer unique in its kind, extending its efficiency even towards turf overseeding, enabling them to endure the physical stress caused by the mechanical operations, sometimes invasive. An "eclectic fertilizer", studied especially for every type of seeding.



NEW + ALGAE AND TRICHODERMA SPP.

O-MICRO PLUS

PROFESSIONAL BIO-ORGANIC

nutrition, but a virtuous path that reactivates what is already potentially available in the soil. By creating **O-Micro Plus**, Turf-on found the perfect answer to all these needs, with particular attention to the characteristics that a product must possess in order to support the maintenance work: here is therefore the **homogeneity of the micro-diameter**, for distribution even on stoloniferous and rhizomatous plants, and the elimination of unwanted bad smell, as a “must” for its use without limitations. In O-Micro Plus, we find fractions of phosphorus, potassium, microelements and important percentages of 18 precious amino acids: **glutamine, glycine, aspartic acid, tryptophan, arginine, lysine, proline, leucine, isoleucine, serine, alanine, histidine, methionine, valine, tyrosine, threonine, cystine, phenylalanine**. But the absolute novelty lies in the new formula: the addition of **algae and Trichoderma spp.** of the highest quality and certified origin give the new O-Micro Plus a further enrichment in terms of speed of absorption of nutritional elements and contrast to turf pathologies. **O-Micro Plus**: the natural response to new maintenance needs.

Life and dynamism

With **O-Micro Plus** Turf-on presents its own interpretation of the new fertilizer trend, aimed at enhancing and **increasing the more purely biological characteristics of the soil**. This goal can only be achieved through the use and distribution of organic matrices of certified origin, „alive“ and dynamic, which can providing not only

- + Certified organic matrices
- + Neutral odor
- + 18 Active amino acids
- + Trichoderma spp.
- + Algae (*Ascophyllum nodosum*)



UNO CHELATED

3Fe + 10K₂O

PROFESSIONAL FLUID

Safe green

Fluid fertilizer with unique qualities, Turf-on **UNO CHELATED** acts with the speed and effectiveness of a **nutrient solution characterized by double chelation** (synthetic and organic) and **total absence of sulphates: a natural greening agent, which gives chromatic brilliance and vigor metabolic, to be used without thermal conditioning** (no limit temperature at the time of distribution) and with purely **detoxifying nutritional properties** (only pure iron and potassium of certified origin).

- + Fully chelated fluid
- + It does not stain, does not clog
- + Detoxi

A fluid constantly in solution (it is not necessary to shake it before use and it never clogs bars and nozzles), without danger even in the event of involuntary overdosing, precious within a fertilizer plan that provides for the leaf path against physiological stress, **ideal adjuvant for all occasions in which preventive or curative spraying are needed**, even in sensitive contexts of integrated and biological control. The assimilation times, thanks to the more effective chelated forms, are so fast that they allow the **treading of the turf even after just a few minutes**.



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