



PETRO

CEREALI



Wheat: efficient fertilisation



+ safe



+ roots



+ yield



Produce more and produce healthy!

Modern farming is called upon to guaranteed increased, safer and higher quality production.

The need to rationalise farming practices and adopt new fertiliser management methods in order to reduce waste and pollution becomes paramount.

In view of this, fertilisation becomes the primary factor for successfully achieving abundant, safe and environmentally and economically sustainable production.

Green Path is Agriges' answer to the challenges of modern agriculture. Through this project, Agriges is collaborating with research institutes, test centres, cooperatives and farms, with the aim of developing products capable of efficiently feeding and maximising the production performance of the crop, while reducing the use of chemicals and potentially polluting products.



+ safe



+ sustainable



+ yield



+ quality



- chemicals



- pollution



OBJECTIVE

The importance of basal dressing for cereal crops

Basal dressing not only provides part of the nutrients needed by the crop in the early stages of development, but also increases soil biological fertility and builds up the organic base that is essential for subsequent fertilisation. The addition of quality organic matter is essential to preserve soil fertility in the long term and obtain **abundant, quality production**, especially for cereal crops (which are subject to intensive monoculture and biological impoverishment of the soil) that benefit from the positive effects of organic matter: slow release, bio-stimulating action, starters, soil amendment and desalinating capability, etc.

PETRO SPECIALE CEREALI: Agriges' basal dressing for cereal crops

PETRO Speciale CEREALI is the line of basal dressings, in pellet form, specifically designed to meet the **nutritional needs of cereal crops** and to **restore the organic substance to exhausted and overexploited soil**, essential for staying vital and healthy over the years.

The products in the PETRO Speciale CEREALI range contain a mixture of **high-quality raw materials** which, when enhanced with RyZea and ThioBac technology, create the ideal conditions for perfect **seed germination** and a balanced growth of the seedlings. Among the different raw materials, **organic matter, which is highly humified and naturally matured** in the company's own facilities and without the use of ovens or external heat sources, has excellent soil conditioning effects, thus leading to a reduction in soil compaction, an increase in water retention, and adequately preparing the seed bed.

In addition, the presence of **calcium sulphate and micronized sulphur** improves the chemical and physical characteristics of the soil, thus **acidifying and desalinising it and unlocking** the nutrients, giving the plant greater mechanical resistance (e.g. lodging) and, at the same time, determining the excellent quality and quantity of the final production (increasing production yields and giving the grain a higher gluten, total protein and hectolitre weight content).

The products in the PETRO Speciale CEREALI range have **low humidity** and are free from *Salmonella* and *E. coli* with easy distribution.





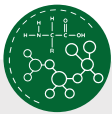
The innovation

ThioBac innovative production technology that combines the activity of **organic acids**, **micronised elemental sulphur** and the unique siderophore bacterium, *Bacillus megaterium* strain **S3Nb3**, capable of **chelating iron and phosphorus solubilising**. The result of this synergy is an increase in the availability of nutrients for the crop, especially iron and phosphorus, and a significant acidifying and desalinising action on the soil.



The technology

RyZea is the "gentle" extraction technology of the fito-activating and biostimulating compounds of three brown algae: *Ascophyllum nodosum*, *Fucus spp.* and *Laminaria spp.*, capable of maximising extraction without altering the stability and functions of the algal fitostimulant molecules. **RyZea** enriches the products of the Petro Speciale Cereali Line with phyto compounds capable of boosting the growth of roots, flower organs and the development of the quality and quantity of caryopses, as well as increasing the plant's endogenous resistance to stress situations (e.g. cold, drought, etc.). **RyZea** provides natural chelating agents that improve the assimilation of nutrients and their translocation into the plant.



Amino acids

The addition of protein raw materials contributes to the biostimulation of the PETRO Speciale Cereali Line products as they are rich in **amino acids**, a source of **rapid energy**, biostimulation of growth and root system activity. Amino acids also boost an increase in nutrient assimilation and also perform **stress-relieving** functions, amplifying the plants' response to the most common limiting factors responsible for loss of crop productivity.



Humic and fulvic acids

After the natural ageing process, the fertilisers in the PETRO Speciale Cereali range are rich in **humic and fulvic acids**, compounds from which the plants benefit on multiple levels because they: stimulate the **development of healthier roots**, resulting in **higher yields** and allowing for a **greater absorption of the nutrients**. In the soil, these compounds also have a positive impact on the **chemical and physical properties of the ground**, thus improving the conditions for development of both the roots and telluric microorganisms.



Manure

The manure in the product is only supplied by selected and constantly monitored companies. It has a very low initial moisture content and undergoes processing (shredding, natural fermentation, periodic turning and inspections) under the company's Quality Control, at the end of which the material obtained has a low moisture content and is ready to be used for the production of basal dressings. The process takes a minimum of six months, during which a natural fermentation and sanitisation process is guaranteed.



Plant cakes

The PETRO Speciale Cereali product range also contain safe, organic plant-based materials derived from food industry processing residue to achieve a complete product with an **optimal C/N ratio**. The breakdown of the entirely plant-based raw materials produces **top-quality humus** and thus, reduces loss through leaching whilst aiding drainage in heavy soils. The plant component supplies a **high-quality organic substance**, free from harmful industrial by-products and is safe and completely natural.



Mineral raw materials

The fertilisers in the PETRO Speciale Cereali range are naturally rich in **meso- and micro-nutrients**, all of which are particularly bioavailable because they are "protected" and conveyed by the organic component with a high humification rate that prevents immobilisation and increases absorption through the roots.

The fertilisers in the PETRO Speciale Cereali range are enriched with **calcium and sulphur**, essential elements that perform various actions: nutrient, soil conditioner, mechanical resistance (e.g. lodging), grain technological quality, **soil acidifying and desalinising**, both on limestone and alkaline (sodic) soils. The presence of **micronized elemental sulphur** (average particle diameter 100 µm) completes the pH-balancing action of soils. It speeds up the processes of bioxidation and transformation of sulphur into sulphuric acid by bacteria and soil moisture.

PETRO 330 ST BIO ThB Speciale Cereali: the ideal titre

It is the ideal titre for pre-sowing fertilisation of cereals. It is always advisable to carry out crop rotation and to carry out soil analyses to find out the initial nutrient supply, i.e. the crop's specific nutritional requirements. A consistent supply of fertiliser is essential for proper plant growth and productivity. Agriges recommends **PETRO 330 ST BIO THB 400-600 kg/ha** before sowing

Composition

Organic nitrogen (N)	3,0%	AEROBIC bacterial load*	1,2 x 10 ⁹ CFU/g
Total phosphorous pentoxide (P ₂ O ₅)	3,0%	AEROBIC bacterial load*	5,6 x 10 ⁸ CFU/g
Total calcium oxide (CaO)	10,0%	<i>Bacillus megaterium</i> strain S3Nb3*	1,0 x 10 ⁶ CFU/g
Total sulphur trioxide (SO ₃)	16,0%	HUMIDIFICATION RATE*	75-85%
Organic carbon (C)	15,0%	HUMIC + FULVIC acids*	10-11%

* Average values not shown on the label and referring to natural live organic matrix.

Components: protein hydrolysates with variable mineralisation, humified manure mixture (cattle, poultry), plant cakes, calcium sulphate, elemental sulphur, RyZea, ThioBac. Product enriched with 5% of elemental sulphur contributing 12% SO₃.

Bacillus megaterium S3Nb3 is an exclusive strain isolated and deposited by Agriges in an international microbial culture collection.

Aminogram	% w/w		% w/w
Aspartic acid (including Asparagine)	1,28 %	Glycine	2,70 %
Glutamic acid (including Glutamine)	2,15 %	Isoleucine	0,52 %
Alanine	1,34 %	Histidine	0,30 %
Arginine	1,39 %	Leucina	1,09 %
Phenylalanine	0,56 %	Lysine	0,89 %
Proline	1,22 %	Cysteine and total Cysteine	0,11 %
Sérine	0,69 %	Total Tryptophan	0,06 %
Threonine	0,44 %	Methionine	0,20 %
Threonine	0,52 %	Valine	0,70 %
Total 16,2 %			

Formulation

pellet/powder

Packaging

25-600 kg

Pellet diameter

approx. 3,5 mm

Humidity

5/6%

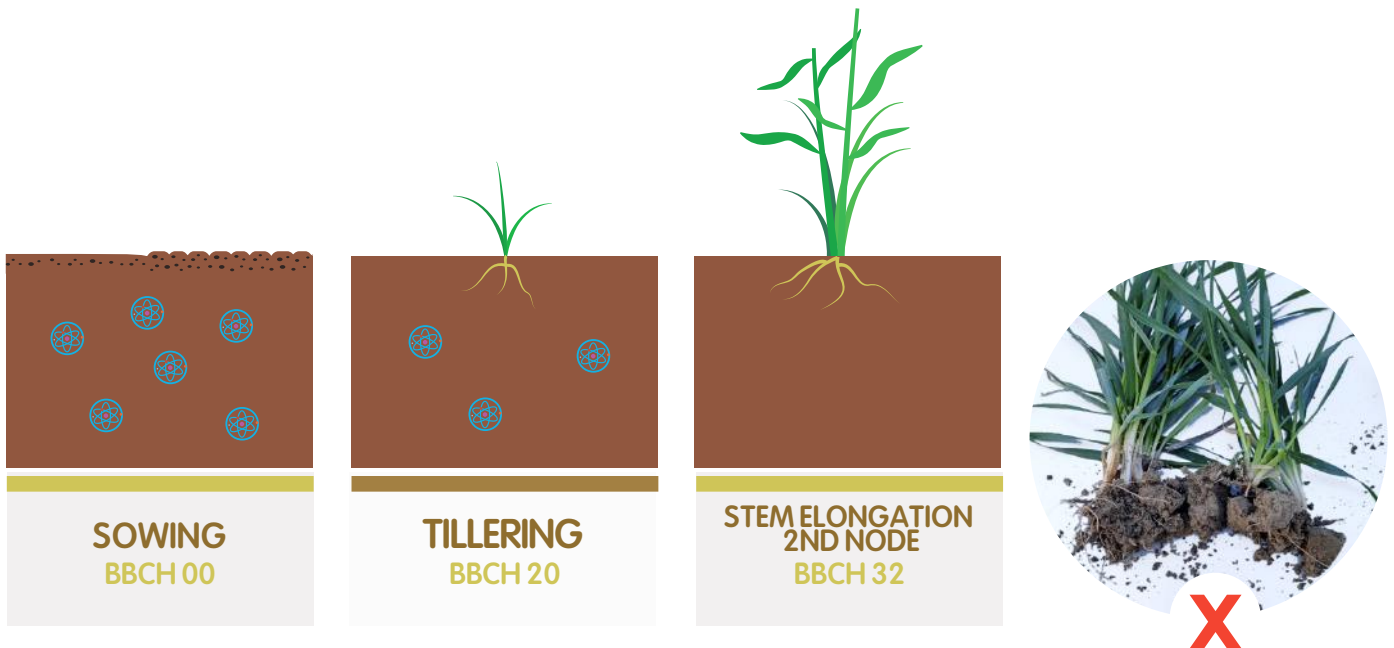


Allowed in organic farming

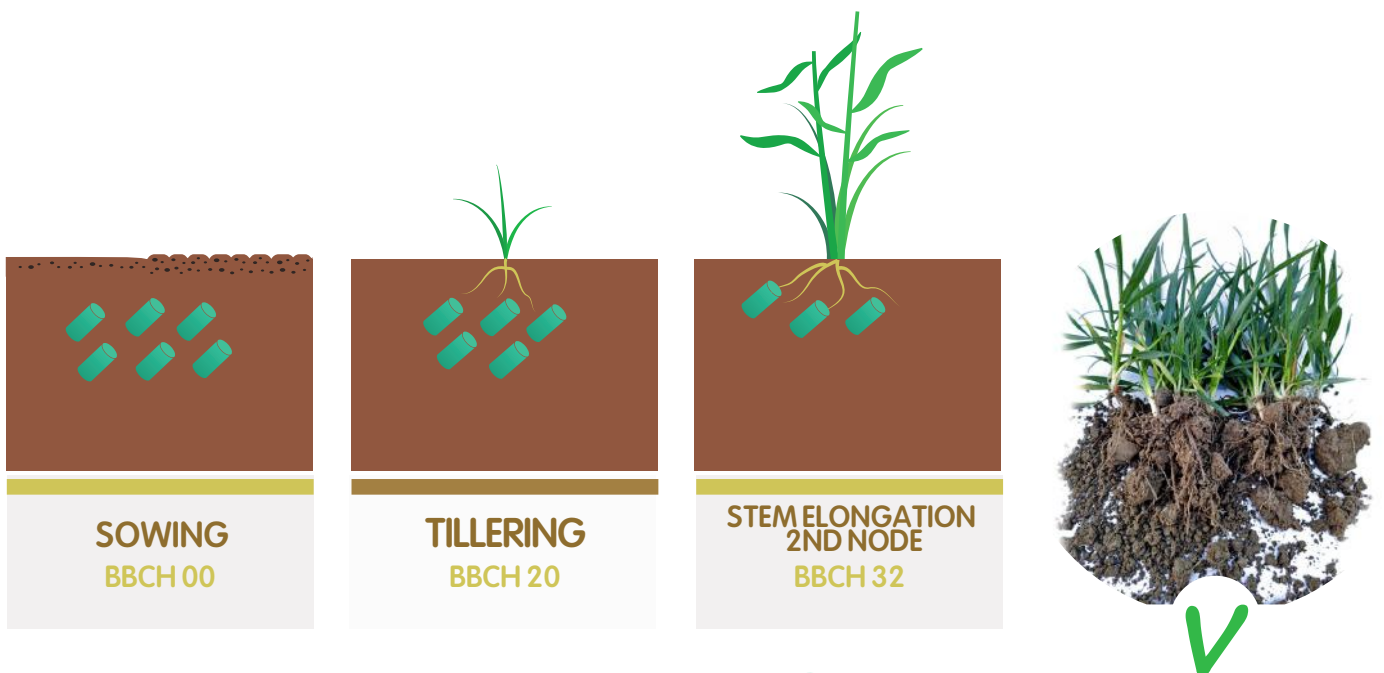
Agriges' technical tips for cereal crop cultivation

Organic fertilisation makes it possible to conserve the soil organic fraction, thus avoiding soil impoverishment that can negatively affect agricultural production over time.

Maintaining optimal levels of organic matter increases the efficiency of nutrient utilisation, reducing phenomena such as leaching and immobilisation and thus loss of fertility and nutrients.



Chemical fertiliser



Petro Cereali

RESULTS

Petro 330 ST Bio - Cereali



Goal :

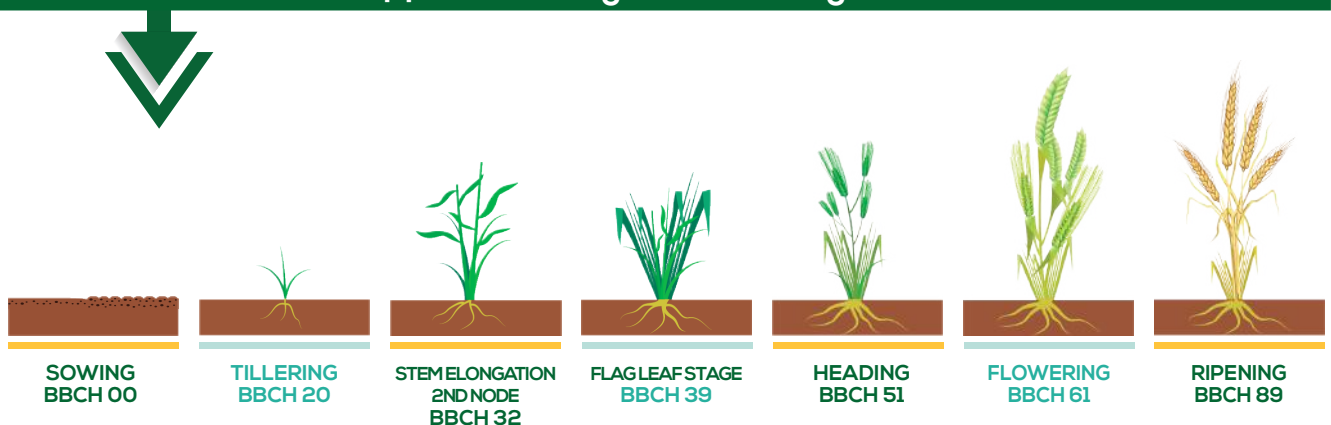
to verify the fertilisation efficiency of the product in cereal cultivation

TEST DATA

Crop	Cereals (San Carlo durum wheat)
Test facility	FTS
Company	De Berardinis Cesare
Test location	Catignano, Pescara, Abruzzo
Notes	Trial conducted in 2021 on a conventional crop, sowing season 18-12-21, 250 kg of seed per hectare
Surveys	Assessment of emergency fertiliser units required in spring by satellite system

Theory	Formulation	Active ingredients	Dose/ha	Application method	Application stage	Timing
T1	Petro 330 St Bio	N 3% P 3% CaO 10% SO ₃ 16% RyZea, Thio Bac	400 Kg	Radicale	BCCH 00	A
T2	NP 18-46	N 18% P 46%	300 kg	Radicale	BCCH 00	A

Application stage: Pre-sowing BBCH 00



RESULTS

Petro 330 ST Bio - Cereali



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to verify the fertilisation efficiency of the product in cereal cultivation

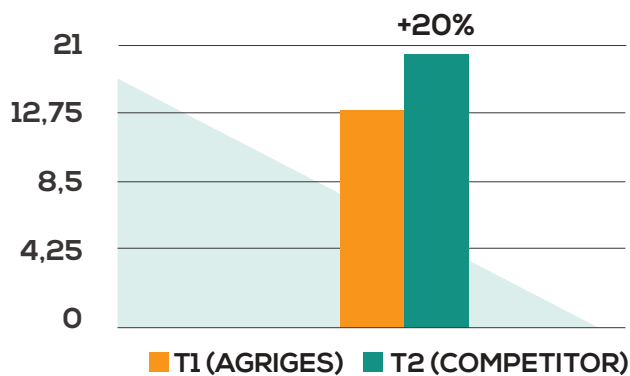


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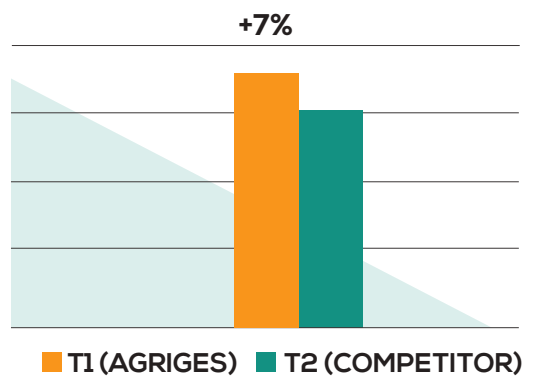
Cereal nitrogen alert system

Notification with satellite system. Crop nitrogen demand alert.

Demand for N units in stem elongation stage



Yield per hectare



Results

The use of Petro 330 ST BIO, compared to its competitor, despite the use of fewer fertiliser units, allowed spring fertilisation with 20% less nitrogen, which is due to the controlled and natural release of nutrients from Petro that allowed for reduced loss. The surveys were carried out by satellite. The final production is +7% higher in the Agriges strategy than the competitor.



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