

The universal fertiliser with sulphur.



PIAMON[®] 33-S

The guarantee of success



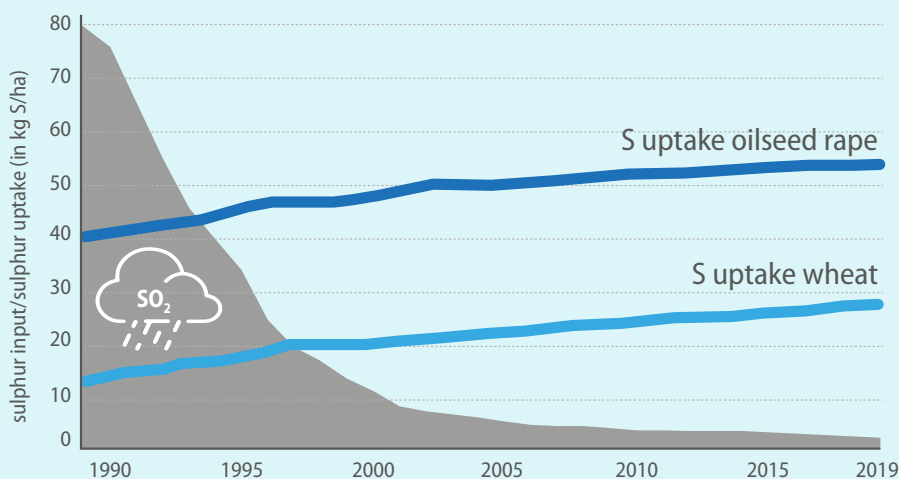
The future of fertilisation.

PIAMON® 33-S – Prevent sulphur deficiency

Environmental protection measures such as flue gas desulphurisation have resulted in sulphur inputs from the atmosphere being reduced to below 10 kg S/ha per year in many areas.

Only small quantities (10 to 40 kg S/ha) are released from the soil reserves annually. That is often not sufficient to supply the plant with an adequate level of sulphur. The amount of sulphur in the soil available to the plant may be subject to considerable fluctuations depending on the location and the fertilisation. There is often a sulphur deficiency at times of low mineralisation such as before or at the start of growing.

Reduced sulphur inputs from the atmosphere since 1990



Sulphur deficiency situation of winter wheat and winter oilseed rape;
Federal Environment Agency; emission development 1990 to 2019 (status 01/2012)

Prevention of sulphur deficiency

The sulphur requirement of most agricultural crops is between 10 and 70 kg/ha S* so the sulphur input from the atmosphere and the provision from the soil are today no longer sufficient to replace the extraction of average harvests.

Increased sulphur extraction is also observed due to the ever higher yields and quality objectives. Sulphur deficiency often occurs as a result of this. In addition to a reduction in yield, even latent sulphur deficiency may lead to lower protein qualities, lower harvest qualities and poorer N-exploitation.

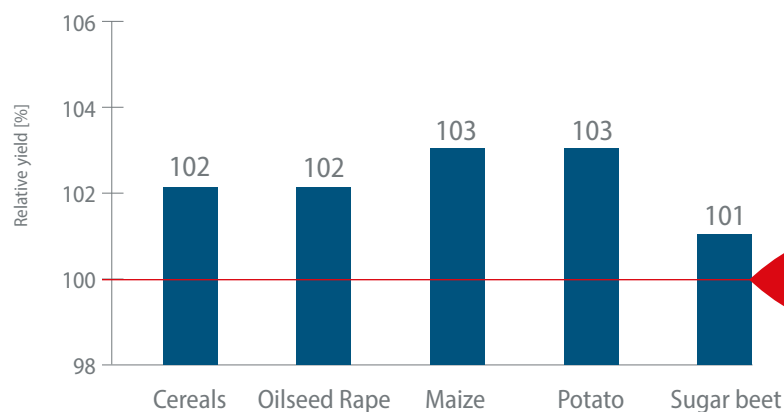
* Source: Sturm, H.; Buchner, A. and Zerulla, W. (1994): Gezielter düngen. 3. vollkommen neu überarbeitete Auflage, Verlagsunion Agrar, DLG-Verlag, Frankfurt/M. (u.a.)

PIAMON® 33-S – the guarantee of success

The optimal combination of water-soluble sulphur and very easily available urea nitrogen and ammoniacal nitrogen in PIAMON® 33-S, allows plenty of plant cultivation and economic advantages to be achieved. The even distribution of both nutrients in a granule means that PIAMON® 33-S can be used universally in all crops. This results in greater planning flexibility while saving on working hours and labour costs, also being easy on machines, plants and the soils.

- ✓ Optimal supply with nitrogen and sulphur
- ✓ High efficiency due to greatest possible nitrogen utilisation
- ✓ Improvement in yield and quality for late fertilising

Yield results for PIAMON® 33-S in main crops



LAF Cunnersdorf: Average from 159 trials from 1999 to 2020

Intelligent fertilisation systems with PIAMON® 33-S

The use of PIAMON® 33-S is particularly economical. The simultaneous fertilisation of nitrogen and sulphur in one grain reduces fertiliser part applications.

Thanks to balanced plant nutrition, PIAMON® 33-S ensures maximum use of the nitrogen applied over the complete growing period. In addition to a higher yield, improved raw protein contents and sedimentation values can also be achieved depending on the crop.

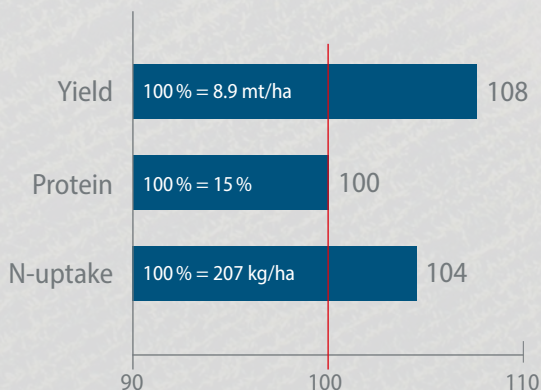
N-stabilized fertiliser mixtures

PIAMON® 33-S is an extremely suitable mixing partner with ALZON® neo-Mplus as they both have the same grain size and density as well as a very similar granule structure. This helps to prevent segregation of the mixture during storage, transport and applications. The spreading characteristics of the composite fertiliser are almost the same as for its individual components. A mixture of PIAMON® 33-S and ALZON® neo-Mplus results in cereals-power® or OSR-power® depending on the mixing ratio.

Using synergy effects

As organic fertilisers only contain little sulphur which is available to plants, the combination with PIAMON® 33-S is recommended in order to guarantee an adequate supply of sulphur as well as nitrogen.

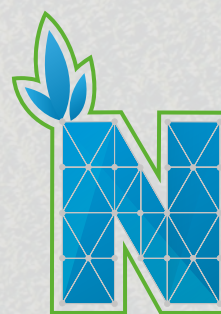
cereals-power® results in higher yields, good raw protein contents and it relieves pressure on the N-balance



Added efficiency in % compared with PIAGRAN® 46 (100 %); LAF Cunnersdorf, N-fertilisation for winter wheat, fertilisation level 220 kg/ha N; cereals-power = 58 % ALZON® M-plus and 42 % PIAMON® 33-S



cereals-power
neo-N



OSR-power
neo-N

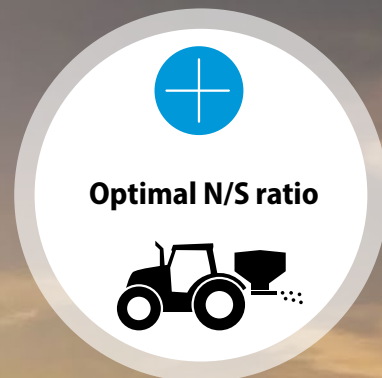
- ✓ High level of flexibility for the application
- ✓ Stabilised fertiliser
- ✓ Optimal N-S ratio
- ✓ More security for yield and quality

The universal fertiliser with sulphur

The correct nitrogen-sulphur ratio is decisive

The sulphur requirement for agricultural crops varies. Cruciferous plants such as rapeseed have a particularly high sulphur requirement due to their high oil content. The sulphur concentration in the plant dry matter of oilseed rape should not go below 0.45%. Concentrations should not go below 0.30% for wheat, as high yields and protein contents are otherwise endangered (DLG 2012). In the event of an acute deficiency, sulphur fertilisation should occur right at the start of growing and at the start of stem extension at the latest. An additional supply of sulphur for quality application encourages the formation of raw protein. The absorption of sulphur into the plant occurs in sulphate form.

Sulphur deficiency can result in problems with the nitrogen absorption. Nitrate cannot be converted as there is a deficiency in the sulphur containing enzyme nitrate reductase. The nitrogen incorporation in amino acids is thus disturbed and protein formation is inhibited. One kilogram of deficiency in sulphur per hectare can block the absorption of 10 kg of nitrogen.



The nitrogen-sulphur ratios of various crops

Crops	N/S ratio	S-fertiliser quantity kg S/ha
Rapeseed	5:1	30 – 50
Grassland	8 to 12:1	20 – 40
Cereal/Sugar Beet/Potatoes/Maize	10:1	10 – 25

The nitrogen-sulphur ratio in the respective crops determines the sulphur requirement and the amount of sulphur fertilisation (source DLG: Schwefel-Düngung effizient gestalten, DLG Merkblatt 373, 2012).

PIAMON® 33-S – solid yields – high quality

With PIAMON® 33-S you simultaneously apply nitrogen and sulphur effectively in the optimum ratio. The following recommendations are based on a large number of tests in our agricultural applied research and in practice. They are to be adapted to the plant requirement in

line with the specifications of the RB209 on the basis of local conditions. You can find out further information about the appropriate use of PIAMON® 33-S at www.skwp.de and it is also available via your specialist adviser at any time.

Recommendation for application:

Culture	Application date	kg/ha N	kg/ha S	PIAMON® 33-S (dt/ha)
RAPESEED				
1st application	End of February, start of March	80 – 120	29 – 44	2.4 – 3.6
2nd application	Green bud	60 – 100	22 – 36	1.8 – 3.0
WINTER CROPS				
1st application	Start of spring growth	60 – 100	22 – 36	1.8 – 3.0
2nd application	GS 30	20 – 60	7 – 22	0.6 – 1.8
3rd application	GS 32	50 – 60	18 – 22	1.5 – 1.8
4th application (quality wheat)	GS 39	up to 50	up to 18	up to 1.5
SUMMER GRAIN				
1st application	At sowing	40 – 100	15 – 36	1.2 – 3.0
2nd application	GS 30 - 31	20 – 60	7 – 22	0.6 – 1.8
MALTING BARLEY				
1st application	At sowing	20 – 100	7 - 36	0.6 – 3.0
MAIZE				
1st application	At sowing	100 – 180	36 – 65	3.0 – 5.4
2nd application	Emergence	30 – 60	11 – 22	0.9 – 1.8
POTATO				
1st application	For planting	60 – 120	22 – 44	1.8 – 3.6
2nd application	Before closing rows	40 – 60	15 – 22	1.2 – 1.8
SUGAR BEET				
1st application	At sowing	60 – 120	22 – 44	1.8 – 3.6
2nd application	Up to May 20	30 – 40	11 – 15	0.9 – 1.2
PASTURE LAND				
1st application	Start of spring growth	80 – 100	29 – 36	2.4 – 3.0
Re-fertilisation	After every cut	40 – 60	15 – 22	1.2 – 1.8
COVER/CATCH CROPS				
	At sowing	up to 60	up to 22	up to 1.8
VEGETABLES (HIGHLY CONSUMPTIVE)				
1st application	At sowing/planting	up to 200	up to 73	up to 6.0
Additional applications	Re-fertilisations	up to 35	up to 13	up to 1.1

Product characteristics of PIAMON® 33-S

EU Fertiliser Product:

PFCI (c)(l)(a)(i): Solid inorganic simple-macronutrient fertiliser, N-S 33-12

33 % N total nitrogen
 22.6 % N ureic nitrogen
 10.4 % N ammoniacal nitrogen
 12 % S water-soluble sulphur

ingredients: urea (CAS: 57-13-6)*
 ammonium sulphate (CAS 7783-20-2)*

*Substances and mixtures of unprocessed raw materials

Typical values

Granule size (95 % of the product): ____ 1.6 – 5.6 mm
 Average granule diameter: ____ approx. 3.5 mm
 Bulk density: ____ approx. 740 kg/m³
 Biuret content: ____ max. 0.9 %



Further information is available on:
www.piamon.de/en
www.skwp.de

Any questions?
fertilizer@skwp.de
 +49 (0) 3491 68-3000

