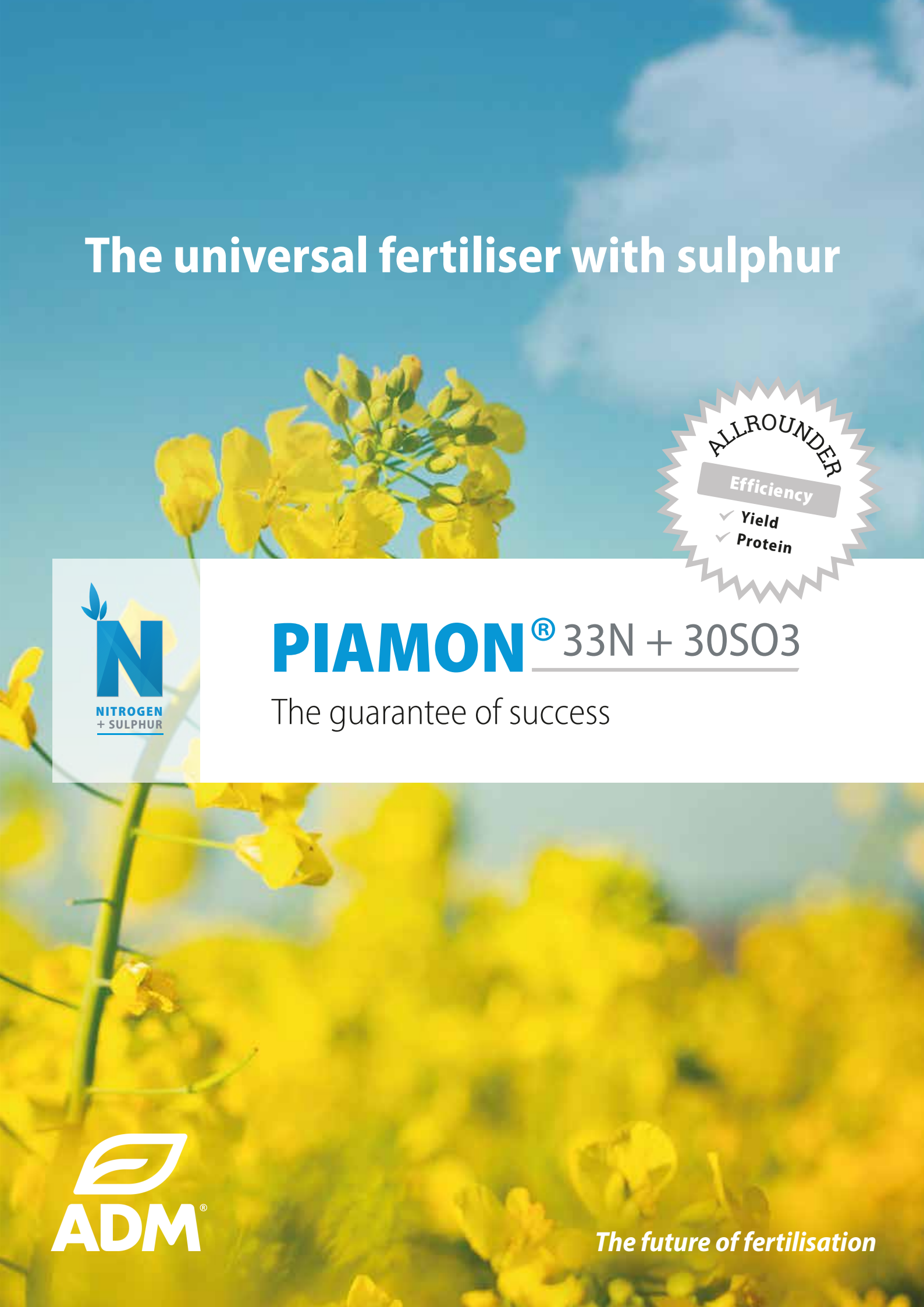
# The universal fertiliser with sulphur




## PIAMON® 33N + 30SO3

The guarantee of success

ADM®

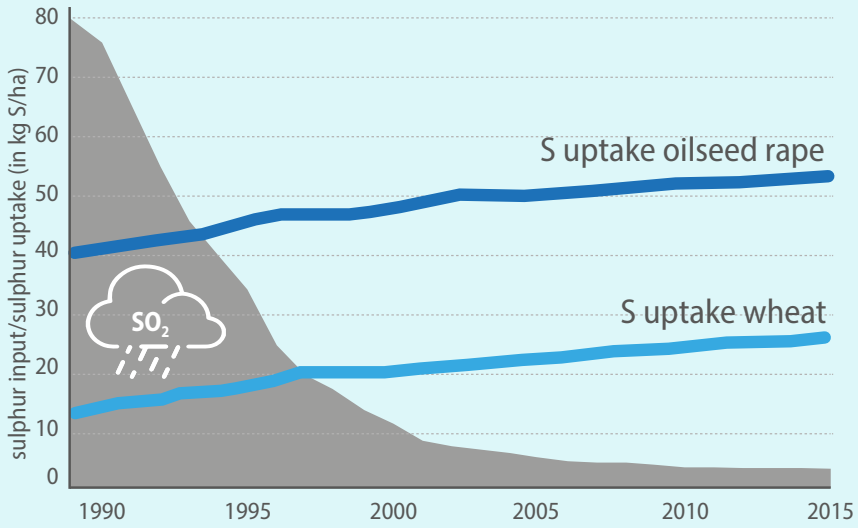
*The future of fertilisation*

# PIAMON® 33N + 30SO3 – 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 2015 (status 02/2017)

## Prevention of sulphur deficiency

The sulphur requirement of most agricultural crops is 75 kg SO3/ha* 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.

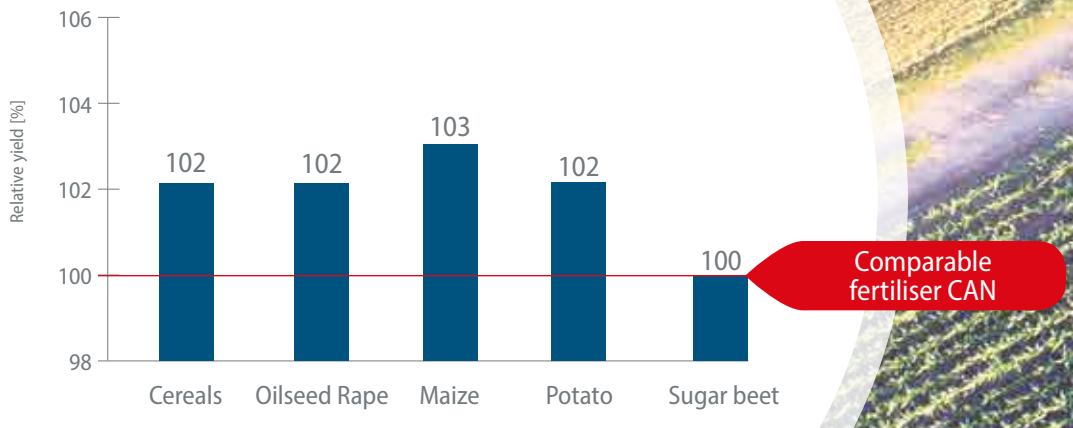
* Source: Nutrient Management Guide (RB209)

# PIAMON® 33N + 30SO3 – the guarantee of success

The optimal combination of water-soluble sulphur, very easily available urea nitrogen and ammoniacal nitrogen in PIAMON® 33N + 30SO3, allows plenty of plant cultivation and economic advantages to be achieved. The even distribution of both nutrients in a granule means that PIAMON® 33N + 30SO3 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® 33N + 30SO3 in main crops**




LAF Cunnersdorf: Average from 135 trials from 1999 to 2016

# Intelligent fertilisation systems with PIAMON® 33N + 30SO3

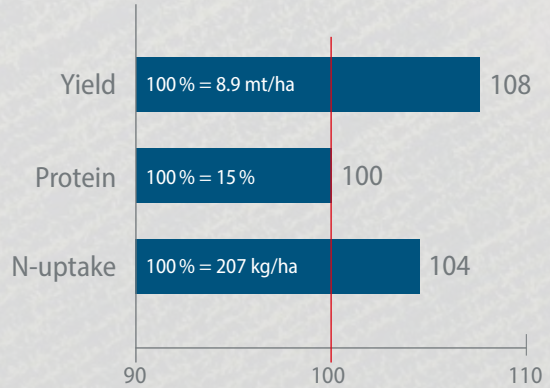
The use of PIAMON® 33N + 30SO3 is particularly economical. The simultaneous fertilisation of nitrogen and sulphur in one grain reduces fertiliser part applications.

Thanks to balanced plant nutrition, PIAMON® 33N + 30SO3 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.

### Using synergy effects

As organic fertilisers only contain little sulphur which is available to plants, the combination with PIAMON® 33N + 30SO3 is recommended in order to guarantee an adequate supply of sulphur as well as nitrogen.

**Blended ALZON® Mplus and PIAMON®33N + 30SO3 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 (2016); cereals-power = 58 % ALZON® M-plus and 42 % PIAMON® 33N + 30SO3

**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 SO3/ha |
|---|---|---|
| Rapeseed | 5:1 | 75 – 125 |
| Grassland | 8 to 12:1 | 50 – 100 |
| Cereal/Sugar Beet/Potatoes/Maize | 10:1 | 25 – 65 |

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® 33N + 30SO3 – solid yields – high quality

With PIAMON® 33N + 30SO3 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® 33N + 30SO3 at www.adm-agri.co.uk and it is also available via your ADM Agriculture farm trader or the fertiliser department.

## Recommendation for application:

| Crop | Application date | kg/ha N | kg/ha SO3 | PIAMON® 33 + 30 (kg/ha) |
|---|---|---|---|---|
| **RAPESEED** | | | | |
| 1st application | End of February, start of March | 79 – 119 | 72 – 108 | 240 – 360 |
| 2nd application | Green bud | 59 – 99 | 54 – 90 | 180 – 300 |
| **WINTER CEREALS** | | | | |
| 1st application | Start of spring growth | 59 – 99 | 54 – 90 | 180 – 300 |
| 2nd application | GS 30 | 20 – 59 | 18 – 54 | 60 – 180 |
| 3rd application | GS 32 | 50 – 59 | 45 – 54 | 150 – 180 |
| 4th application (quality wheat) | GS 39 | up to 50 | up to 45 | up to 150 |
| **SPRING CEREALS** | | | | |
| 1st application | At sowing | 40 – 99 | 36 – 90 | 120 – 300 |
| 2nd application | GS 30 - 31 | 20 – 59 | 18 – 54 | 60 – 180 |
| **MALTING BARLEY** | | | | |
| 1st application | At sowing | 20 – 99 | 18 – 90 | 60 – 300 |
| **MAIZE** | | | | |
| 1st application | At sowing | 50 – 99 | 45 – 90 | 150 – 300 |
| 2nd application | Emergence | 20 – 50 | 18 – 45 | 60 – 150 |
| **POTATO** | | | | |
| 1st application | For planting | 59 – 99 | 54 – 108 | 180 – 360 |
| 2nd application | Before closing rows | 40 – 59 | 36 – 54 | 120 – 180 |
| **SUGAR BEET** | | | | |
| 1st application | At sowing | 59 – 99 | 54 – 90 | 180 – 300 |
| 2nd application | Up to May 20 | up to 20 | up to 18 | up to 60 |
| **GRASS LAND** | | | | |
| 1st application | Start of spring growth | 79 – 99 | 72 – 90 | 240 – 300 |
| Re-fertilisation | After every cut | 40 – 59 | 36 – 54 | 120 – 180 |
| **COVER/CATCH CROPS** | | | | |
| | At sowing | up to 59 | up to 54 | up to 180 |
| **VEGETABLES (HIGH CONSUMPTION)** | | | | |
| 1st application | At sowing/planting | up to 20 | up to 18 | up to 60 |
| Additional applications | Re-fertilisations | up to 36 | up to 33 | up to 110 |

**Rounded to the nearest whole number*

## Product characteristics of PIAMON® 33N + 30SO3

**EC FERTILISER**

**Fertiliser type**

Urea ammonium sulphate 33/30
33 % N total nitrogen
- 22.6 % N ureic nitrogen
- 10.4 % N ammoniacal nitrogen

12 % S water-soluble sulphur

**Typical values**

Granule size (95 % of the product) 1.6 – 5.6 mm
Average granule diameter: approx. 3.5 mm
Bulk density: approx. 800 kg/m³
Biuret content: max. 0.9 %

PIAMON®
33N + 30SO3

Further information is available on the Internet:
**www.adm-agri.co.uk**

Any questions?
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**01427 421200**

ADM®