

Quality is a matter of honor!



**PIAGRAN**<sup>®</sup> pro //

The protein booster



*The future of fertilisation.*

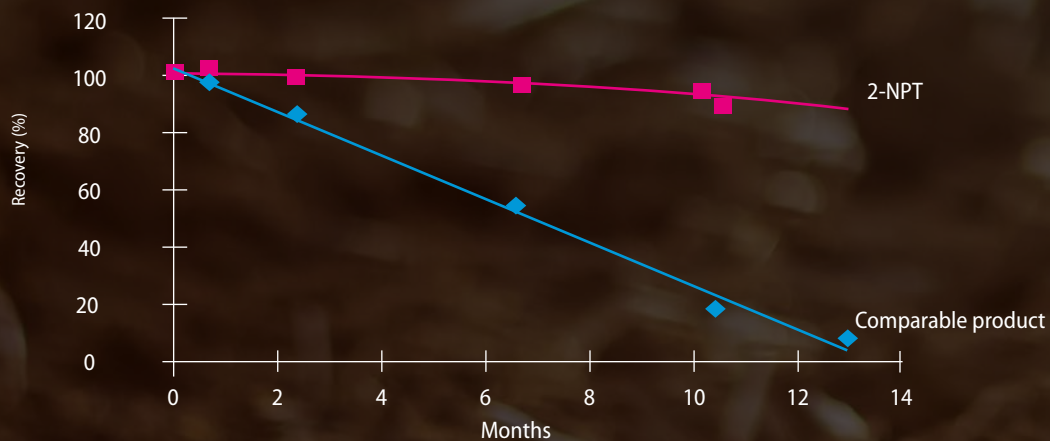
# Brand quality for professionals.

PIAGRAN® pro is the urea for problem conditions, which reduces the risk of ammonia emissions almost completely. PIAGRAN® pro optimizes nitrogen efficiency and guarantees high yields and quality.

## Quality for even more security:

The urease inhibitor 2-NPT in PIAGRAN® pro stands out in comparison with other urease inhibitors thanks to a high stability of the optimal agent concentration. This distinguishes the finished product from other products with an NBPT based urease inhibitor very clearly. PIAGRAN® pro guarantees unlimited effectiveness and flexibility for storage and application. Its excellent grain properties enable PIAGRAN® pro to demonstrate an excellent spread pattern even when the working areas are large.

## PIAGRAN® pro has an excellent effect



The high stability of the 2-NPT active agent on the fertilizer granules ensures a high level of effectiveness even after storage times above 12 months.



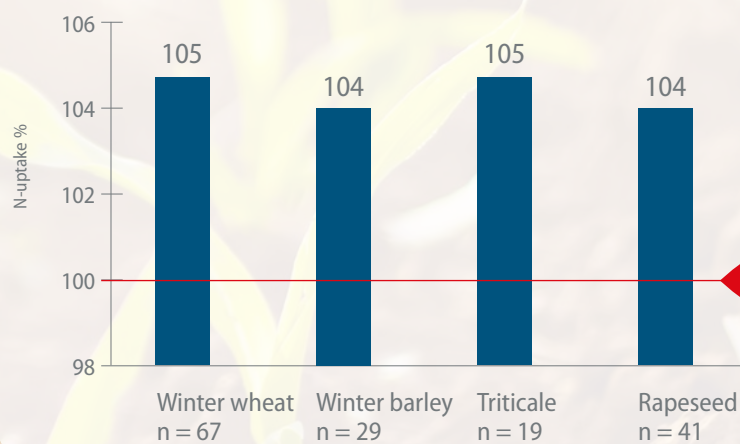
# Overcome challenges – in relation to all crops.

PIAGRAN® pro protects against ammonia losses. This means that yield, quality and profit can be assured at a high level in all crops. PIAGRAN® pro is particularly effective if urease activity in the soil is high or the binding capacity of the soil in relation to ammonium is low.

This applies for use under the following conditions:

- ✓ Reduces ammonia losses in drought and high temperatures
- ✓ Improves the N availability in the root space especially when the water supply is limited
- ✓ Successful on grassland and soils with poor sorption with high pH values (> 7.5)
- ✓ The perfect component to ensure quality with the late delivery

PIAGRAN® pro provides greater efficiency in all crops



LAF Cunnersdorf: tests 2010 – 2020



# The protein booster.

Stabilisation with urease inhibitors – an important component for higher nitrogen efficiency and more environmental protection in agriculture.

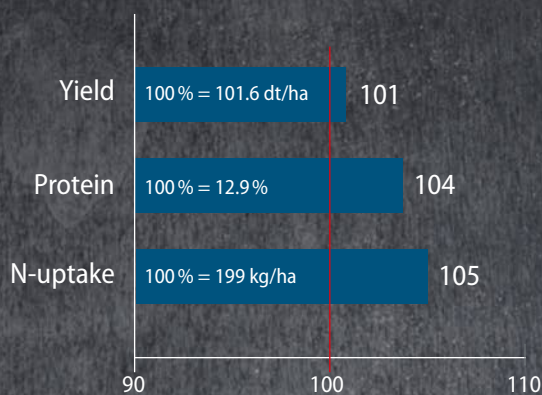
Tests with winter wheat show that PIAGRAN® pro is extremely suitable for late fertilisation of the crop. In years when the crop matures quickly, the use of PIAGRAN® pro can increase the raw protein content of wheat considerably. Protection against potential ammonia losses following quality fertilisation is not the only thing which takes effect here.

The stabilising effect of the urease inhibitor 2-NPT in PIAGRAN® pro encourages the efficient rearrangement of nitrogen from the leaves into the ear. This results in high protein contents and excellent baking qualities.

Higher yields and better raw protein contents lead to higher N-uptake. PIAGRAN® pro stands out under critical conditions in particular due to a higher level of N-efficiency and it also helps to meet the objectives of the fertilization ordinance more easily.



## PIAGRAN® pro provides more protein



Added efficiency in % compared with alternative fertilizer (100%); LAF Cunnersdorf: Average values for 28 tests with winter wheat (2010 – 2020)







## The urease inhibitor (2-NPT)

The urease inhibitor (2-NPT) slows down the conversion of urea to ammonium by one to two weeks. The ammonium which is formed can therefore be bound to soil particles more easily. The risk of ammonia losses is ruled out almost completely.

## Protection for urea.

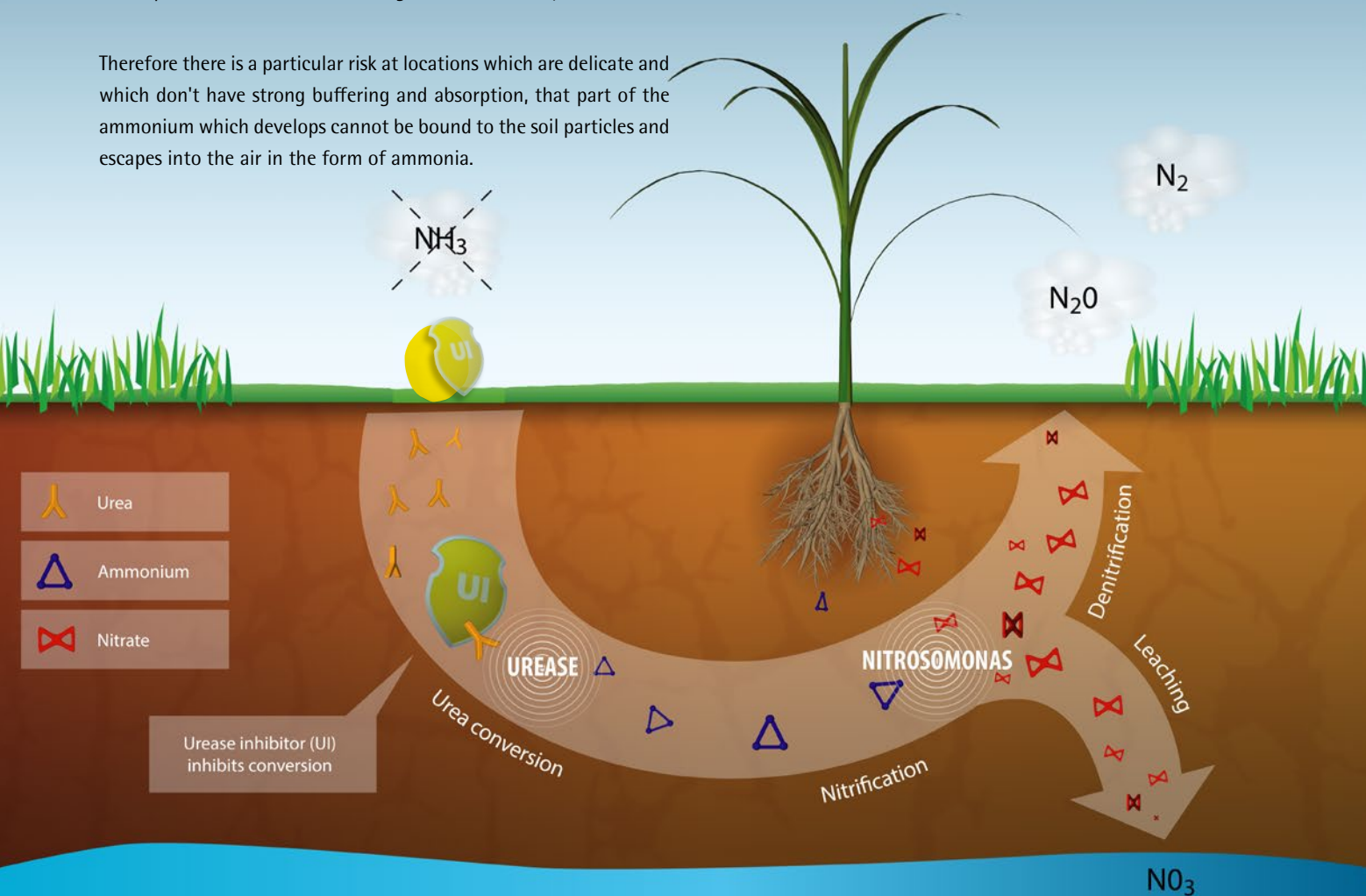
Ammonia losses after urea fertilisation can occur during higher temperatures and marked periods of dryness and this is the case with more delicate locations or soils with a high pH value. These weather conditions are becoming more and more frequent. Our urease inhibitor 2-NPT delays urea hydrolysis and thereby prevents the release of ammonia into the air. This enables a high level of N-efficiency to be achieved even under critical conditions.

Urea is converted into ammonium within one or two days thanks to the urease enzyme. This process leads to a pH increase in the fertiliser granule environment. This process is carried out very quickly at higher temperatures above 20 °C and higher urease activity.

Therefore there is a particular risk at locations which are delicate and which don't have strong buffering and absorption, that part of the ammonium which develops cannot be bound to the soil particles and escapes into the air in the form of ammonia.

The urease inhibitor 2-NPT blocks the active center of the urease enzyme and protects the environment against ammonia losses. The conversion from urea to ammonium is extended by one to two weeks. There are adequate opportunities for binding to soil particles for the ammonium formed at lower rates.

PIAGRAN® pro does not contain a nitrification inhibitor. The conversion from ammonium to nitrate is not slowed down. It is not possible to combine two fertiliser applications as it would be for ALZON® fertilisation.



# PIAGRAN® pro – higher yield – better quality.

With PIAGRAN® pro you fertilise with the same N-quantity and distribution as you would with conventional fertilisers. You cannot combine fertilisation applications as you would with the ALZON® fertilisation strategy. You should adapt the recommendations for application below to meet the local conditions in line with

requirements while taking the results of the soil and plant analysis into consideration. You can find out further information about the appropriate use of PIAGRAN® pro at [www.duengerfuchs.de](http://www.duengerfuchs.de) and it is also available via your specialist SKW adviser at any time.

## Recommendation for application:

Culture	Application date	kg/ha N	PIAGRAN® pro (kg/ha)
<b>RAPESEED</b>			
1st application	End of February, start of March	80 – 120	170 – 260
2nd application	Small bud stage (BBCH 39/51)	60 – 100	130 – 220
<b>WINTER CROPS</b>			
1st application	Start of growing	40 – 80	90 – 170
2nd application	BBCH 30 – 32	40 – 80	90 – 170
3rd application	BBCH 39 – 51	40 – 60	90 – 130
4th application (quality wheat)	BBCH 55 – 59	Up to 60	Up to 130
<b>SUMMER GRAIN</b>			
1st application	At sowing	40 – 100	90 – 220
2nd application	BBCH 30 – 32	20 – 60	40 – 130
<b>BREWING BARLEY</b>			
1st application	At sowing	20 – 100	40 – 220
<b>MAIZE</b>			
1st application	At sowing	100 – 180	220 – 390
<b>POTATOES</b>			
1st application	For planting	60 – 120	130 – 260
2nd application	Prior to closing rows or every 10 kg/ha N dissolved to spray mixture for combating late blight.	40 – 60	90 – 130
<b>SUGAR BEET</b>			
1st application	Approx. 2 weeks before sowing	60 – 120	130 – 260
2nd application	Up to May 20	30 – 40	60 – 90
<b>PASTURE LAND</b>			
1st application	Start of growing	80 – 100	170 – 220
Re-fertilisation	After every cut	40 – 60	90 – 130

## PIAGRAN® pro product characteristics

### Fertiliser type

Urea with urease inhibitor (2-NPT) 46  
46 % N total nitrogen as ureic nitrogen

### Typical values

Grain size (95% of the product) \_\_\_\_ 1.6 – 5.0 mm  
Average granule diameter \_\_\_\_ 3.5 mm  
Bulk density \_\_\_\_ 730 kg/m<sup>3</sup>  
Colour \_\_\_\_ yellow  
Biuret content \_\_\_\_ max. 1.2 %



**PIAGRAN®**  
pro



Further information is available on the Internet:

[www.piagran-pro.de/en](http://www.piagran-pro.de/en)  
[www.skwp.de](http://www.skwp.de)

Any questions?  
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**skw.**  
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