

Security with nitrogen and sulfur!

SUSTAINABILITY

Unerringly

- ✓ Quality
- ✓ Yield



ALZON[®] liquid-S 25/6

The all-rounder

skw.
PIESTERITZ

The future of fertilisation.

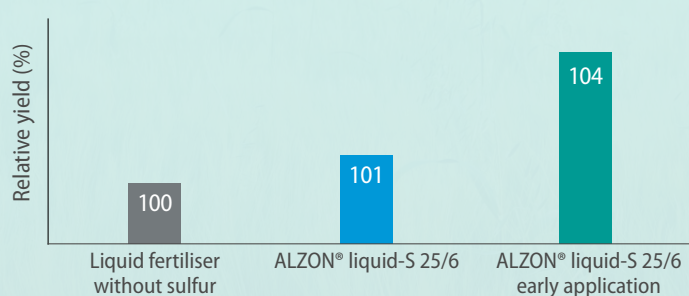
Security with nitrogen and sulfur.

The unique combination of stabilised nitrogen with sulfur which is effective both immediately and sustainably provides clear added efficiency.

Use the advantages of nitrogen stabilisation

Considerable advantages are gained through the stabilisation of the nitrogen: Fewer part applications are required, application dates can be organised with more variety and nitrogen losses are minimized. If nothing else, the yields and qualities are improved noticeably when compared to conventional fertilisers. The N-efficiency, a significant parameter of the Fertilisation Ordinance, is increased.

Increase in yield through a combination of stabilization and weather-adapted deployment strategy



Comparison of conventional and stabilized systems in a practical field test from 2018 to 2020 (n = 7)

Sustainable supply of sulfur

The sulfur requirement for agricultural crops varies. Sulfur deficiency can result in problems with the nitrogen uptake. Nitrate cannot be converted as there is a deficiency in the sulfur-containing enzyme nitrate reductase. The nitrogen incorporation in amino acids is thus disturbed and protein formation is inhibited. One kilogram of deficiency in sulfur per hectare can block the uptake of 10 to 15 kg of nitrogen.

The nitrogen-sulfur ratios of various crops

Crops	N/S ratio	S-fertiliser quantity kg S/ha
Oilseed rape	5:1	30 – 50
Grassland	8 to 12:1	20 – 40
Cereals/Sugar beet/Potatoes/Maize	10:1	10 – 25

The nitrogen-sulfur ratio in the respective crop, the prospective yield and the soil stock determine the sulfur requirement and the amount of sulfur fertilisation (source DLG: Arranging sulfur fertilisation efficiently, DLG-memorandum 373, 2012).



Economy and ecology in harmony.

ALZON® liquid-S 25/6 combines the advantages of nitrogen stabilisation with the advantages of high nutrient contents with an optimal N/S ratio. ALZON® liquid-S 25/6 has very good plant compatibility thanks to its high surface tension and a pH value in the neutral range. As well as supplying nutrients in line with requirements, nutrient losses are reduced and the environment is spared. The greater flexibility and integration of fertiliser doses relieve workload peaks. ALZON® liquid-S 25/6 can be used universally in all crops.

- ✓ Supply of nitrogen and sulfur in line with requirements for high yields and high quality
- ✓ Reduction in applications and great flexibility during application
- ✓ High nitrogen efficiency in combination with fertilisation right up to the edge

ALZON® liquid-S 25/6 is heavier than water

ALZON® liquid-S 25/6 has a density of 1.31 g/cm^3 . This should be taken into consideration for the fertiliser calculation, transport and storage.

It is easy to calculate:

100 kg of ALZON® liquid-S 25/6 are equivalent to 76 l and they contain 25 kg N and 6 kg S.

The conversion factor of kg N to kg ALZON® liquid-S 25/6 is 4.0.

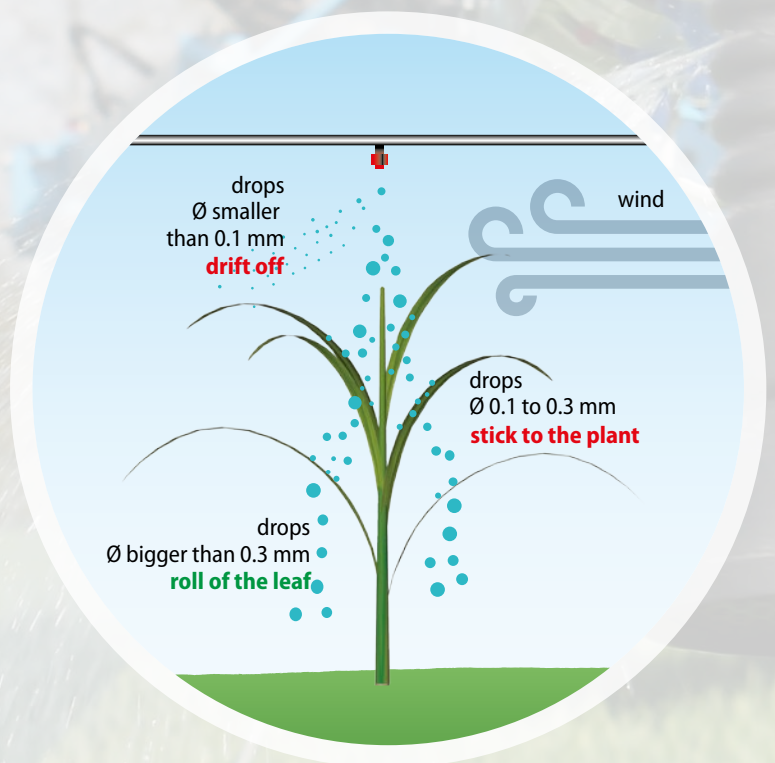
100 liters of ALZON® liquid-S 25/6 contain 32.75 kg N and 7.9 kg S.

Quality makes the difference.

ALZON® liquid-S 25/6 is the combination of stabilised nitrogen with two forms of sulfur. The sulfate sulfur from the ammonium sulfate can be utilised by the plants immediately. The sulfur from the ammonium thiosulfate on the other hand is converted in the soil in several stages and absorbed by the plants as sulfate sulfur in line with their requirements. Ammonium thiosulfate acts as a pure source of nutrients and it does not have any nitrogen stabilising effect. With a very high surface tension of 60 – 80 mN/m and a pH value of between 6 and 8, ALZON® liquid-S 25/6 has very high plant compatibility.

It depends on the drop size

The creation of coarse drops succeeds thanks to the use of anti-drift nozzles (ADN) with a low spray pressure (approx. 2 bar). A coarse drop spectrum is thus achieved. Special liquid fertiliser- (LF) or multi-hole nozzles should preferably be used under critical conditions in order to apply the liquid fertiliser in a "rain" formation even in large quantities.



The nozzle selection is decisive

ALZON® liquid-S 25/6 can be applied evenly, with precise dosage and right up to the edge with customary plant protection technology. All nozzles are well suited for the start of spring growth or at sowing. The following applies for fertilisation in crop formations: The drops should be greater for more sensitive plants and the spray pressure should be lower. The choice of nozzle can have a decisive effect on the plant compatibility. We recommend anti-drift or multi-hole nozzles from the second application in cereals or oilseed rape.

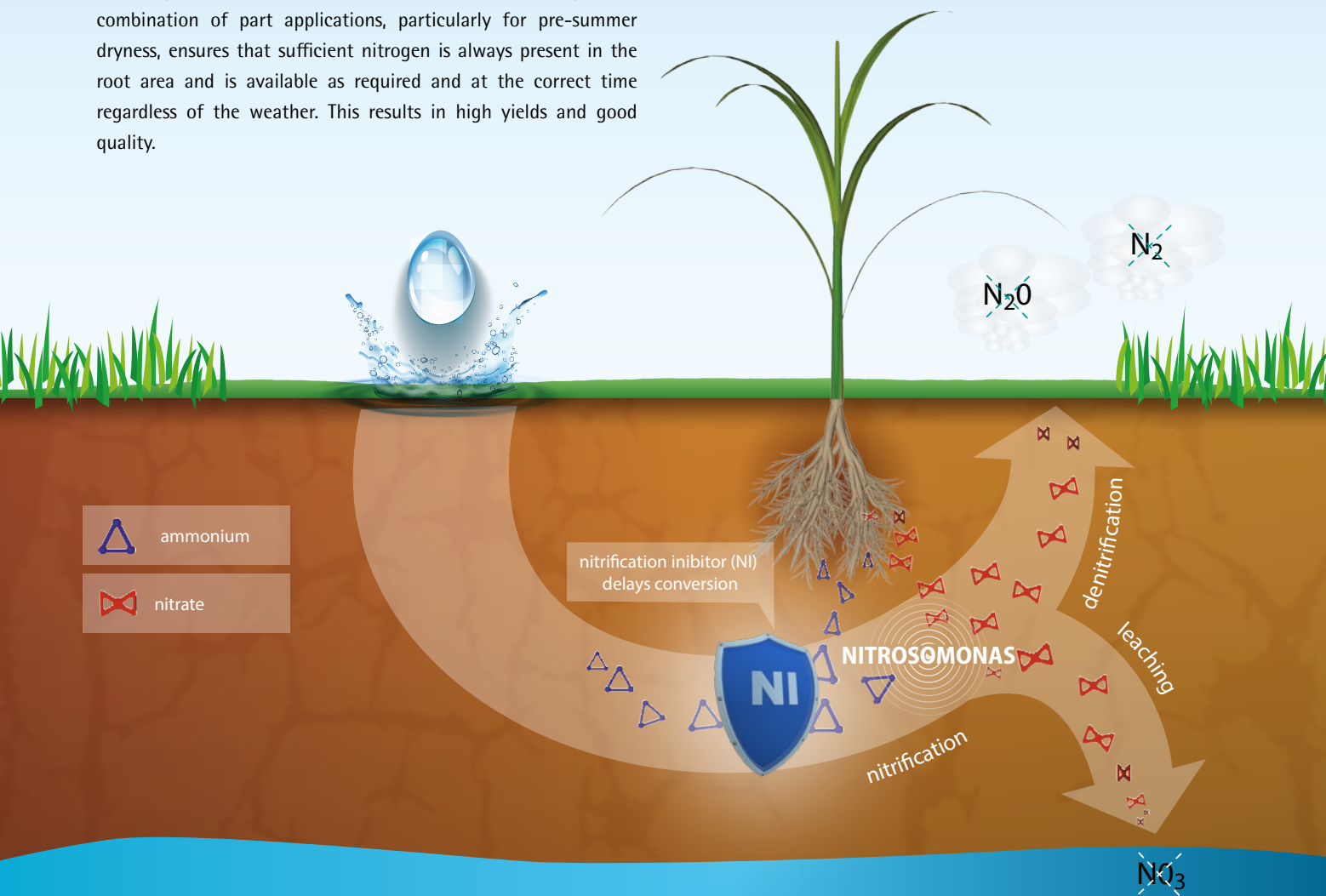
The use of drag hoses or pipes is recommended for later application and generally following ear emergence, for unfavorable weather conditions or in sensitive crops. The choice of nozzle must ensure the effectiveness of the combination partners for the combined use of ALZON® liquid-S 25/6, with plant protection agents in particular. Anti-drift nozzles will preferably be considered here while taking heed of legal requirements.

Nitrogen stabilises.

This is how it works.

The stabilisation of the nitrogen leads to particularly sustainable and efficient plant nutrition. The highly efficient nitrification inhibitors in ALZON® liquid-S 25/6 thereby delay the conversion of the nitrogen from stable ammonium into the mobile nitrate form for two to four times by six to ten weeks. The stabilised nitrogen remains in the top soil area and is available to the plants in ammonium form at all times and protected against leaching into deeper soil layers. Earlier fertilisation dates and the possible combination of part applications, particularly for pre-summer dryness, ensures that sufficient nitrogen is always present in the root area and is available as required and at the correct time regardless of the weather. This results in high yields and good quality.

In the sense of the Fertilisation Ordinance, ALZON® liquid-S 25/6 helps to reduce the risk of nitrate displacement and washout and also nitrous oxide emissions in the event of heavier precipitations. The nitrate displacement can be reduced by up to 50 %. Nitrous oxide emissions are even reduced by up to 75 %.



Advantages of the ALZON® liquid-S 25/6 application

- ✓ Consistent supply with nitrogen and sulfur in line with requirements
- ✓ Average yield increase of 4 % when compared to UAN
- ✓ Increase in N-uptake of an average of 2 % when compared to UAN
- ✓ Improvement in N-efficiency and easing of N-balances
- ✓ Combination of fertiliser applications
- ✓ Greater flexibility and relief of workload peaks
- ✓ N-quantity reduction for root crops, maize and rye possible



Application in combination

An application of ALZON® liquid-S 25/6 together with plant protection agents, growth regulators or micro nutrients is in principle possible. Manufacturer instructions should be followed carefully in this case.



ALZON® liquid-S 25/6 – ideal N/S-combination.

With ALZON® liquid-S 25/6 you can supply all crops with nitrogen and sulfur evenly. You can also take advantage of stabilised fertilisation and save on crossings. The following fertilisation recommendation is based on the results of our applied research and practical experience. You should adapt these to the local conditions and the plant requirement established in line with the Fertilisation Ordinance. Make sure that you select the correct nozzle for the application. For

intensive cereal and oilseed rape cultivation you can use the same quantities as with conventional nitrogen fertilisers. With sugar beet and maize for example it is possible to reduce the quantity of nitrogen by 5 % to a maximum of 10 % without any loss of yield.

If you have any questions concerning the appropriate use of ALZON® liquid-S 25/6 you can contact our specialist advisers at any time or consult www.duengerfuchs.de.

Recommendation for application:

Crops	Application	Application date	kg/ha N	kg/ha S	ALZON® liquid-S 25/6	
					dt/ha	l/ha
RAPESEED						
Single application strategy	ADN/LF	From start of February until start of spring growth	125 – 180	30 – 43	5.0 – 7.2	385 – 550
QUALITY WHEAT						
1st application	ADN/LF	Start of spring growth	80 – 120	19 – 29	3.2 – 4.8	245 – 365
2nd application	ADN/LF/DH	GS 35 – 37	80 – 120	19 – 29	3.2 – 4.8	245 – 365
FEED WHEAT, WINTER BARLEY, WINTER RYE, TRITICALE						
Single application strategy	ADN/LF	Start of spring growth	80 – 160	19 – 38	3.2 – 6.4	245 – 490
or alternatively for fertiliser quantity > 160 kg/ha N						
1st application	ADN/LF	Start of spring growth	80 – 100	19 – 24	3.2 – 4.0	245 – 305
2nd application	ADN/LF/DH	GS 32 – 37	70 – 90	17 – 22	2.8 – 3.6	215 – 275
SUMMER GRAIN						
Single application strategy	ADN/LF	at sowing	70 – 150	17 – 36	2.8 – 6.0	215 – 460
BREWING BARLEY						
Single application strategy	ADN/LF	at sowing	50 – 100	12 – 24	2.0 – 4.0	155 – 305
MAIZE						
Single application strategy	ADN/LF	at sowing	80 – 160	19 – 38	3.2 – 6.4	245 – 490
POTATO						
Single application strategy	ADN/LF	at planting	80 – 160	19 – 38	3.2 – 6.4	245 – 490
SUGAR BEET						
Single application strategy	ADN/LF	at sowing	80 – 160	19 – 38	3.2 – 6.4	245 – 490
VEGETABLES (HIGHLY CONSUMPTIVE)						
1st application	ADN/LF	at sowing/planting	120 – 250	29 – 60	4.8 – 10.0	365 – 765
additional applications*	DH	Re-fertilisation: Applications combined	80 – 100	19 – 24	3.2 – 4.0	245 – 305
VEGETABLES (SLIGHTLY CONSUMPTIVE)						
1st application	ADN/LF	at sowing/planting	80 – 160	19 – 38	3.2 – 6.4	245 – 490

ADN = anti-drift nozzles, LF = liquid fertiliser including multi-hole nozzle, DH = drag hose or pipe
If the drag hose is used for application, direct plant contact must be avoided.

ALZON® liquid-S 25/6 product characteristics

EC FERTILISER

Fertiliser type

Nitrogen fertiliser solution with nitrification inhibitor ((N-((3(5)-Methyl-1H-pyrazol-1-yl)methyl)acetamid)) and sulfur 25 (+6)

25 % N total nitrogen

11 % N urea nitrogen

5 % N nitrate nitrogen

9 % N ammonium nitrogen

6 % S water soluble sulfur

Characteristic values

Density (at 20 °C): _____ 1.31 g/cm³

pH value: _____ 6 – 8

Start of crystallization: _____ -15 °C

Colour: _____ Green

Dynamic viscosity (at 20 °C): _____ 5.42 mPas



Further information is available on the Internet:
www.alzon-fluessig-s25-6.de
www.skwp.de

Do you have any questions?

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skw.
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