



Agromaster[®]

Trial results

Potato (*Solanum tuberosum*)

Conclusions

Higher yields - up to 22% extra

With only one application, Agromaster increased the yield by 9 mt/ha when applied at 100% N rate. When applied at 80% N rate, Agromaster together with Polysulphate remarkably increased the yield by 22% - extra 11 mt/ha

Higher NUE - up by 12% and more

Agromaster provides higher nitrogen use efficiency (NUE) – an increase of 12% when compared to 100% N rate supplied with conventional fertilizers. In combination with Polysulphate, Agromaster further increased NUE

Positive ROI - extra 2300€/ha

Increase of marketable yield makes Agromaster and Polysulphate a reliable combination to fertilize soil grown crops

N	12%
P	11% P ₂ O ₅
K	18% K ₂ O
Mg	6% MgO
S	27% SO ₃





When

- Planting: May 2022
- Harvest: October 2022



Where

Slupia, Poland



Crop

Potato – table variety (*Connect*)



Soil type

Loam
pH = 6.2
P, mg/100g* = 29.5
K, mg/100g* = 22.1



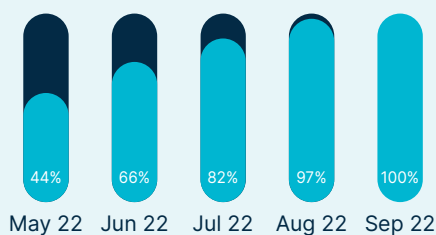
Measurements

Total yield and distribution per classes

* Egner-Riehm

Cumulative monthly release over crop cycle

Controlled release of nitrogen reduces losses by leaching, volatilization and denitrification thereby increasing its effectiveness to plants.



ICL's app – CRF Timer simulates the release of nitrogen, based on local weather conditions.

Try it yourself!



<http://icl-growingsolutions.com>

Objective

To evaluate the impact on potato yield and distribution per classes when the crop is fertilized with Agromaster, as controlled release nitrogen-based fertilizer, and Polysulphate, as unique multi-nutrient fertilizer, compared to conventional fertilizers. Both types of nitrogen fertilizers, controlled release and conventional, were tested at 2 different rates/ha - 100% and 80% of advised N rate.

Trial station and set-up

Experimental trial station - Slupia, Randomized block design with 3 repetitions

Treatments

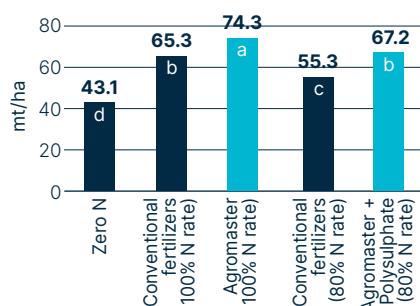
Treatments	Products	N rate, kg/ha	Timing	Total-N mineral, kg/ha
Zero N				
Conventional fertilizers (100% N rate)	Ammonium nitrate, 34-0-0	76	Before planting	110
	Ammonium nitrate, 34-0-0	34	Before flowering	
Agromaster (100% N rate)	Agromaster, 12-11-18+6MgO+27SO ₃ 63% coated N, 2-3M longevity	110	Before planting	110
Conventional fertilizers (80% N rate)	Ammonium nitrate, 34-0-0	54	Before planting	88
	Ammonium nitrate, 34-0-0	34	Before flowering	
Agromaster + Polysulphate* (80% N rate)	Agromaster, 12-11-18+6MgO+27SO ₃ 63% coated N, 2-3M longevity	88	Before planting	88

For all the other treatments where Agromaster was not used, the level of P and K was leveled by addition of TSP and SOP.

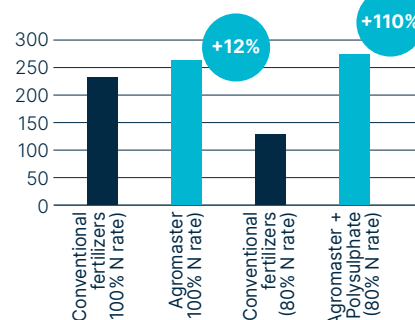
* Polysulphate was additionally added to Agromaster at 80% N rate to reach the same level of K as Conventional fertilizers at 100% N rate. Additionally it brings other valuable nutrients, like Mg, Ca and S, for balanced crop nutrition

Results

Marketable yield, 50+mm



Nutrient use efficiency, AE



Statistically significant difference, P<0.1

Economical evaluation

Differences Agromaster / Polysulphate vs Conventional fertilizers	Gross income €/ha	Extra cost of fertilization €/ha	Gross profit €/ha
at 100% N rate	1961	345.0	1616
at 80% N rate	2590	279.0	2312

Gross profit was calculated based on potato local market price of 217 euro/mt and deducting extra fertilization cost/ha. NUE, Nitrogen Use Efficiency, calculated as Agronomic Efficiency, AE = (YF-Y0)/F, yield (kg) / 1 kg of N applied