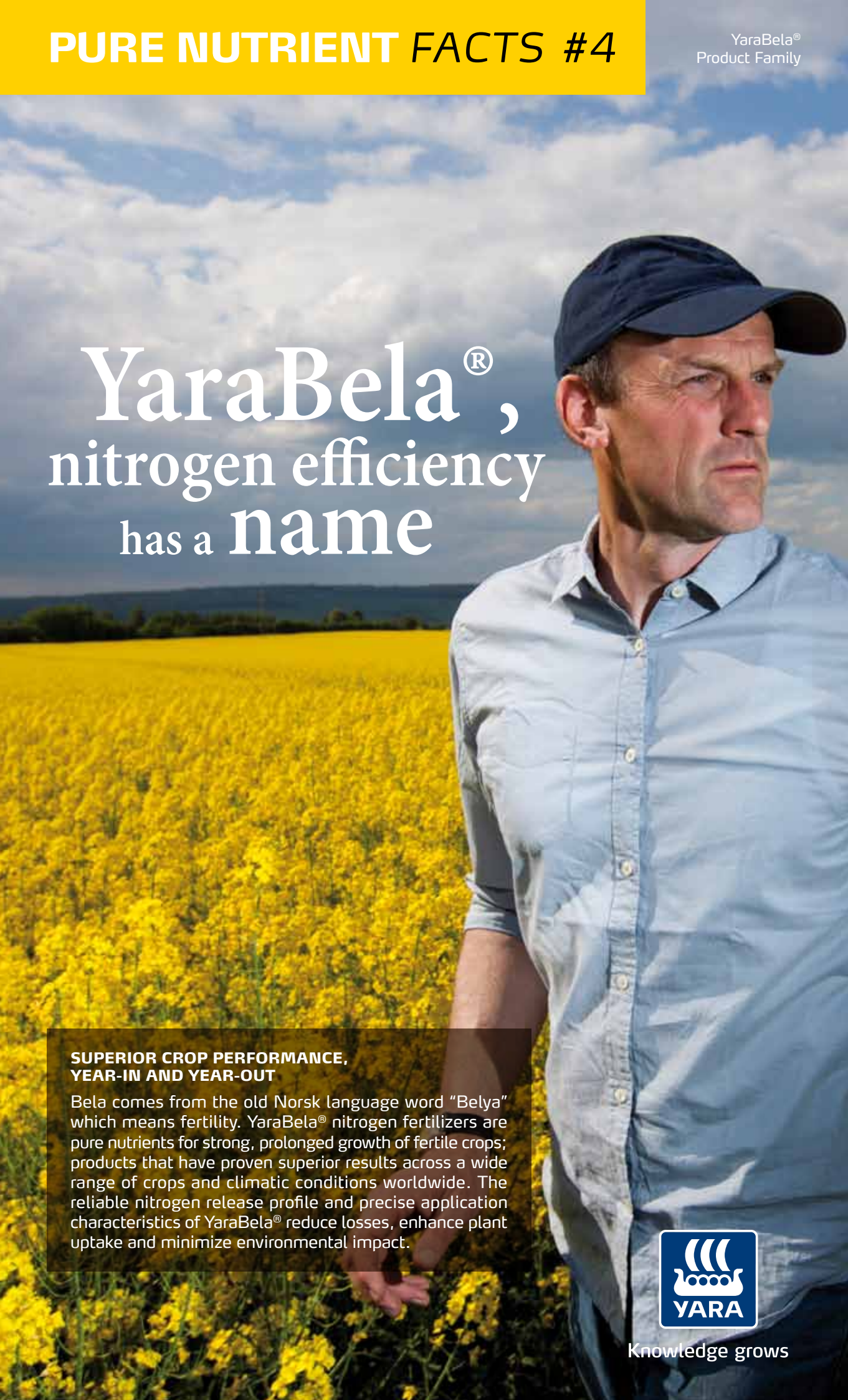
PURE NUTRIENT *FACTS #4*

YaraBela®
Product Family



YaraBela®, nitrogen efficiency has a name

SUPERIOR CROP PERFORMANCE, YEAR-IN AND YEAR-OUT

Bela comes from the old Norsk language word "Belya" which means fertility. YaraBela® nitrogen fertilizers are pure nutrients for strong, prolonged growth of fertile crops; products that have proven superior results across a wide range of crops and climatic conditions worldwide. The reliable nitrogen release profile and precise application characteristics of YaraBela® reduce losses, enhance plant uptake and minimize environmental impact.

YARA

Knowledge grows

Vital ingredients

The need for secondary nutrients such as sulphur and magnesium is often underestimated. Both minerals are essential for plant health and growth, some plants requiring high amounts of these nutrients. YaraBela® offers efficient formulations to ensure balanced fertilization without additional workload.

SULPHUR

Sulphur plays an important role in plant metabolism and nitrogen uptake. Sulphur participates in the production of proteins and chlorophyll as well as enzymes, coenzymes and vitamins. Sulphur also impacts sugar quality. While all crops need sulphur for healthy growth, certain crops, such as oil seed rape and grassland, need high amounts of it.

In former decades, sulphur depositions from the air have contributed to satisfy plant needs. Today, the generally improved air quality has significantly reduced such atmospherically depositions. Sulphur fertilization therefore becomes indispensable, especially for oil seed rape and grassland.

The synergy of sulphur and nitrogen offers balanced nutrition with each granule and saves precious spreading time.

MAGNESIUM

Magnesium is the central atom in chlorophyll and plays an important role in photosynthesis. Lack of magnesium inhibits photosynthesis and plant metabolism. Magnesium is needed for optimum uptake of other nutrients as well as synthesis of proteins, fats and sugar.

Magnesium is easily washed out and is often lacking on light and sandy soils. All crops need magnesium, but sugar beets and potatoes are specifically demanding.

AN EFFICIENT FORMULATION

Sulphur and magnesium occur in many combinations, but not all have the same agronomic efficiency. YaraBela® contains sulphur as calcium sulphate, and magnesium as magnesium sulphate. Both are highly soluble and reach plant roots quickly.

In addition, calcium sulphate, unlike ammonium sulphate, does not reduce the amount of available nitrate in the formulation.

Pure Performance

YaraBela® nitrogen fertilizers supply a balanced source of nitrogen as a mix of ammonium and nitrate. YaraBela® fertilizers are available as different formulations, including secondary nutrients. Each formulation offers highest mechanical and chemical quality for reliable performance.

YARABELA® PRODUCT RANGE

YaraBela® Product	Nutrients %			
	Nitrate	Ammonium	Sulphur	Magnesium
 YaraBela® EXTRAN™ 33,5	16,75	16,75	0	0
YaraBela® EXTRAN™ 27	13,5	13,5	0	4
YaraBela® EXTRAN™ 26	13	13	0	0
 YaraBela® SULFAN® 31+5	15,5	15,5	5	0
YaraBela® SULFAN® 30+7	15	15	7	0
YaraBela® SULFAN® 29+9	14,5	14,5	9	0
YaraBela® SULFAN® 25+20	12,5	12,5	20	0
YaraBela® SULFAN® 24+18	12	12	18	0
YaraBela® SULFAN® 24+15	12	12	15	0
 YaraBela® OPTIMAG® 27+12+5	13,5	13,5	12	5
YaraBela® OPTIMAG® 24+20+5	12	12	20	5
YaraBela® OPTIMAG® 24+17+4	12	12	17	4

Proven benefits

YaraBela® fertilizers are based on highly efficient ammonium nitrate. Exclusively produced in Yara's European factories, YaraBela® fertilizers offer unrivalled performance and returns. YaraBela® is the natural choice for farmers who care for both, yield and the environment.

High quality ingredients

1 PRECISE AMMONIUM NITRATE

The main active ingredient of YaraBela® is ammonium nitrate, ensuring fast nitrogen uptake and precise nitrogen supply.

2 ACTIVE MAGNESIUM

YaraBela® OPTIMAG contains active magnesium as Kieserit, the noblest form of this essential mineral.

3 EFFICIENT SULPHUR

YaraBela® SULFAN is enriched by highly soluble calcium sulphate. The sulphur in YaraBela® does not alter the 50 / 50 % balance of nitrate and ammonium.

4 ALL IN ONE

The combination of essential nutrients in each single granule provides optimum nutrition synergy.

Agronomic efficiency

5 HIGH NITROGEN EFFICIENCY

Ammonium nitrate fertilizers, such as YaraBela®, reduce losses and offer the highest nitrogen use efficiency of all fertilizer types. Urea based fertilizers require 7,5 – 18 % extra nitrogen to maintain yield [1,2,3].

6 EVEN SPREADING

Homogeneous mechanical quality of YaraBela® and high bulk density ensure optimum conditions for even spreading and optimum nutrient supply.

7 HIGH YIELD

At identical nitrogen application rates, YaraBela® offers 2 – 5% higher yield than urea based fertilizers [1,2,3].

8 HIGH PROTEIN CONTENT

YaraBela® fertilizers enhance protein content by 0,3 – 0,9 % compared to urea based fertilizers [1,2,3].

9 LOW ACIDIFYING

YaraBela® EXTRAN contains dolomite, reducing acidification and the need for liming.

Environmental benefits

10 LOW LIFECYCLE CARBON FOOTPRINT

The life cycle carbon footprint of YaraBela® is 12,5 % lower than for urea [7].

11 LOW VOLATILIZATION LOSSES

Volatilization losses of ammonium nitrate, and thus YaraBela®, are 1 – 3 %, compared with up to 27 % with urea [4,5,6].

12 REDUCED LEACHING

High nitrogen efficiency, fast uptake and lower dosage offer best control over residual nitrogen and leaching.

13 LOW ENVIRONMENTAL INDEX

The overall environmental index of YaraBela® is 46,6 % lower than for urea [8]

Quality first

The Viking ship has become a symbol of quality and reliability. Yara supplies premium quality fertilizers to farmers around the globe. Close control over the entire production process, highly trained employees, the latest technology and a century of experience ensure that we set and meet the highest standards. YaraBela® fertilizers are produced in our European plants which are amongst the most efficient worldwide.

CLEAN PRODUCTION

New technologies developed by Yara, such as catalyst cleaning of N_2O, reduced the carbon footprint of Yara's production sites by 45% since 2004. Yara has shared catalyst technology with other producers, thus contributing to a reduced carbon footprint of fertilizer production globally. Yara's total energy consumption per ton of finished product also continues to decrease.

CERTIFIED FACTORIES

Yara is committed to produce and sell highest quality products with plants operating under best practices. All our plants are certified ISO 9001 and 14001. We intend to lead the sector in adopting and communicating common high standards. Our constant pledge for safety is reflected by our rate of incidents, which is half the average of European fertilizer producers.

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For further information about nitrate fertilizers, get the complete nitrate fertilizer brochure from www.yara.com

ABOUT YARA

Yara International ASA is an international company headquartered in Oslo, Norway. As the world's largest supplier of mineral fertilizers for more than a century, we help to provide food and renewable energy for a growing world population.

Yara provides quality products, knowledge and advice to farmers. Please do not hesitate to contact one of our local agronomists for further information.

LITERATURE

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