

A close-up photograph of a person's hands, wearing a blue denim shirt, gently holding a cluster of bright yellow flowers. The background is a blurred field of similar yellow flowers under natural light.

Integral Pro

A tool within an integrated pest
management

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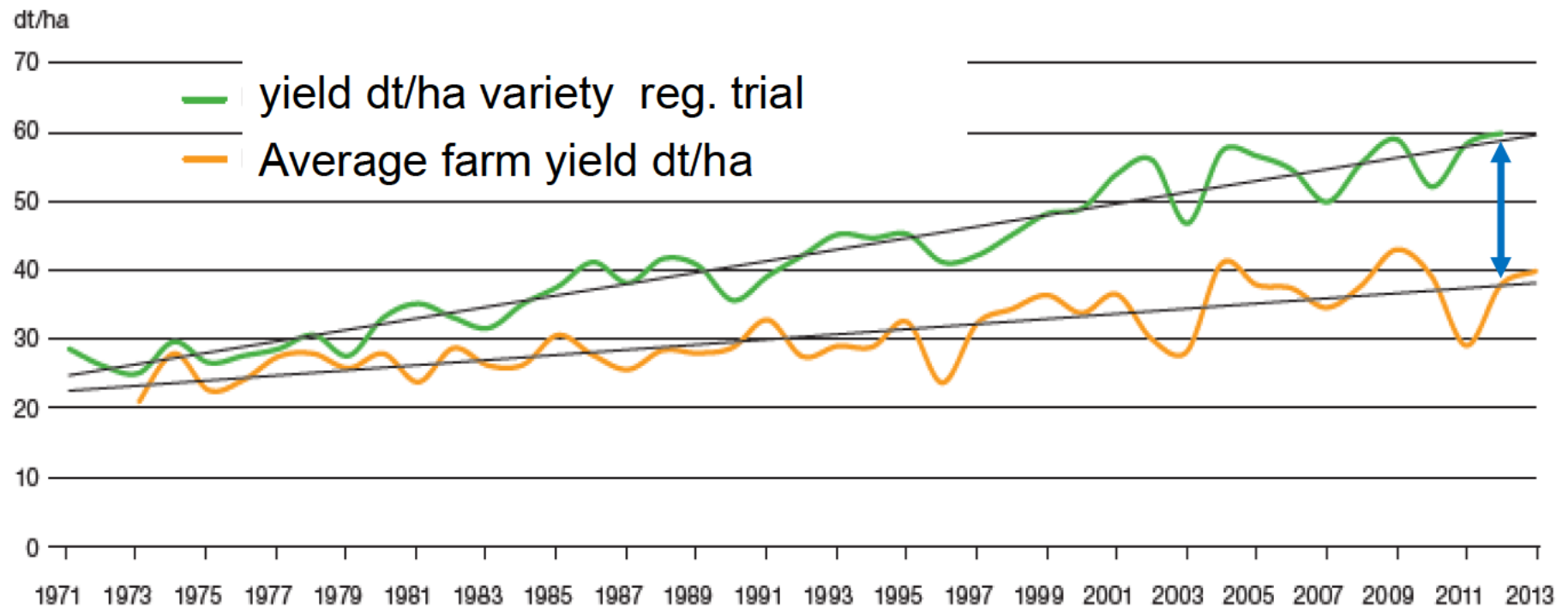
- Challenges in OSR
- Difference between “biologicals” & chemical active ingredients
- What is Integral Pro?
- Summary
- Registration timeline

150 years

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Extract the yield potential of oilseed rape

OSR yield evolution – (Growers vs. Official variety reg. trials (DE))



Source: official variety registration-trial results report WP2/§ 1971-2013 – farm yield, Stat. Bundesamt

How can different measures stabilize the OSR yield on farm scale

Wir ♥ Raps

150 years

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Multiple factors limiting the yield potential

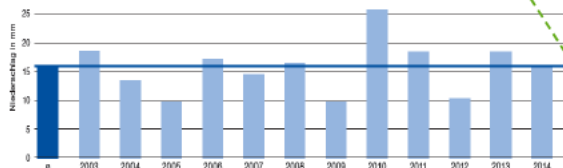


weather



Weather is not predictable

Trockenheit bei der Herbizidanwendung
Mittelwert der Niederschlagsmengen in mm je Woche (Median) im Zeitraum 22. August bis 14. September, 2003 bis 2014



Pre harvest management



Soil preparation



nitrogen management

Sowing



Diverse sowing practices



Straw / residues from previous crop

Pest & Insects control

Weed control

Cabbage root fly



broad-spectrum



cruciferous



Problematic weeds



Grass weeds

Wir ♥ Raps

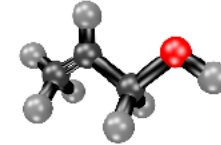
Seed Treatment: “Biologicals” vs “Chemicals”

Biologicals



- Multiple sources of biological active substances such as bacteria, seaweed extracts, etc.
- Multiple but more broadly unknown modes of action
- Living organisms with diverse behaviour depending on various factors:
 - Wheather
 - Microbiological soil activity
 - Soil properties
 - Crop rotation (etc.)

Chemicals



- Generally well known chemical active ingredients
- Well-known mode of action and clear classification
- Chemical synthesized active ingredients easier to study and understand

Opportunities for innovation, new generation products and addition value for the seeds

What is INTEGRAL PRO ?

Product profile



Integral Pro	
Active ingredients	<i>Bacillus amyloliquefaciens</i>
Mode of action	Multiple MoA
Formulation	FS Formulation, Uncolored formulation min $2,2 \times 10^{10}$ cfu/ml
Crops	OilSeed Rape
Claims	<ul style="list-style-type: none">• Fungicide effects/Damping off - <i>Phoma lingam</i> (<i>Leptosphaeria maculans</i>)• Plant strengthening:<ul style="list-style-type: none">○ improved plant establishment○ flea beetle reduction
Application rate	160 ml/ 100 kg seeds
Compatibility	Large range of chemical seed treatments (Thiram based formulations)
On-Seed Survival (OSS)	Internal Studies indicates OSS > 15 months (ongoing study)

What is INTEGRAL PRO ?

Pathways of biologically induced resistance in plants

Mode of Action MBI 600 (DRAFT)

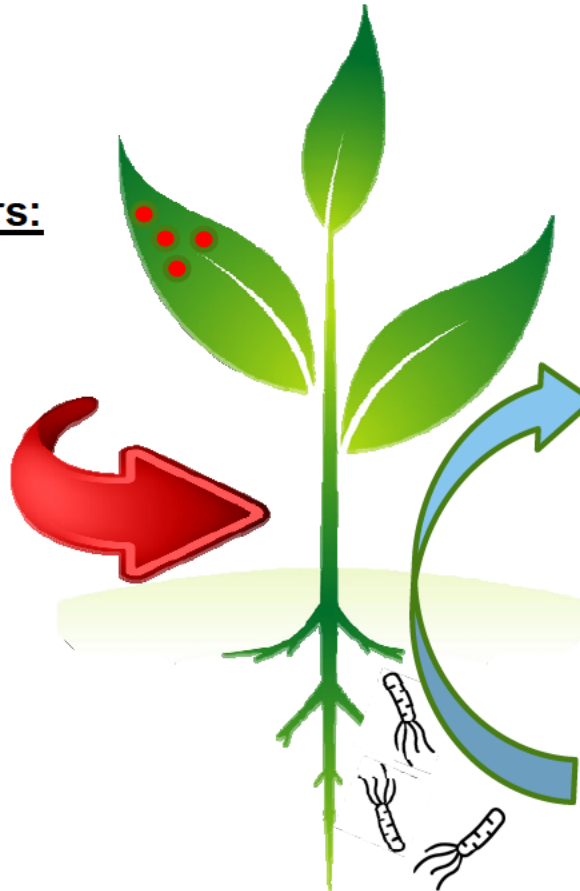


Plant strengthening activated by „stress“ factors:

- Disease attack
- Pest Attack
- Hot / Cold weather
- Etc.



Natural gene activation



Plant strengthening activated by „Inductors“:

- Plant growth promoters
- Non-pathogenic microorganisms
- Etc.



Natural gene activation

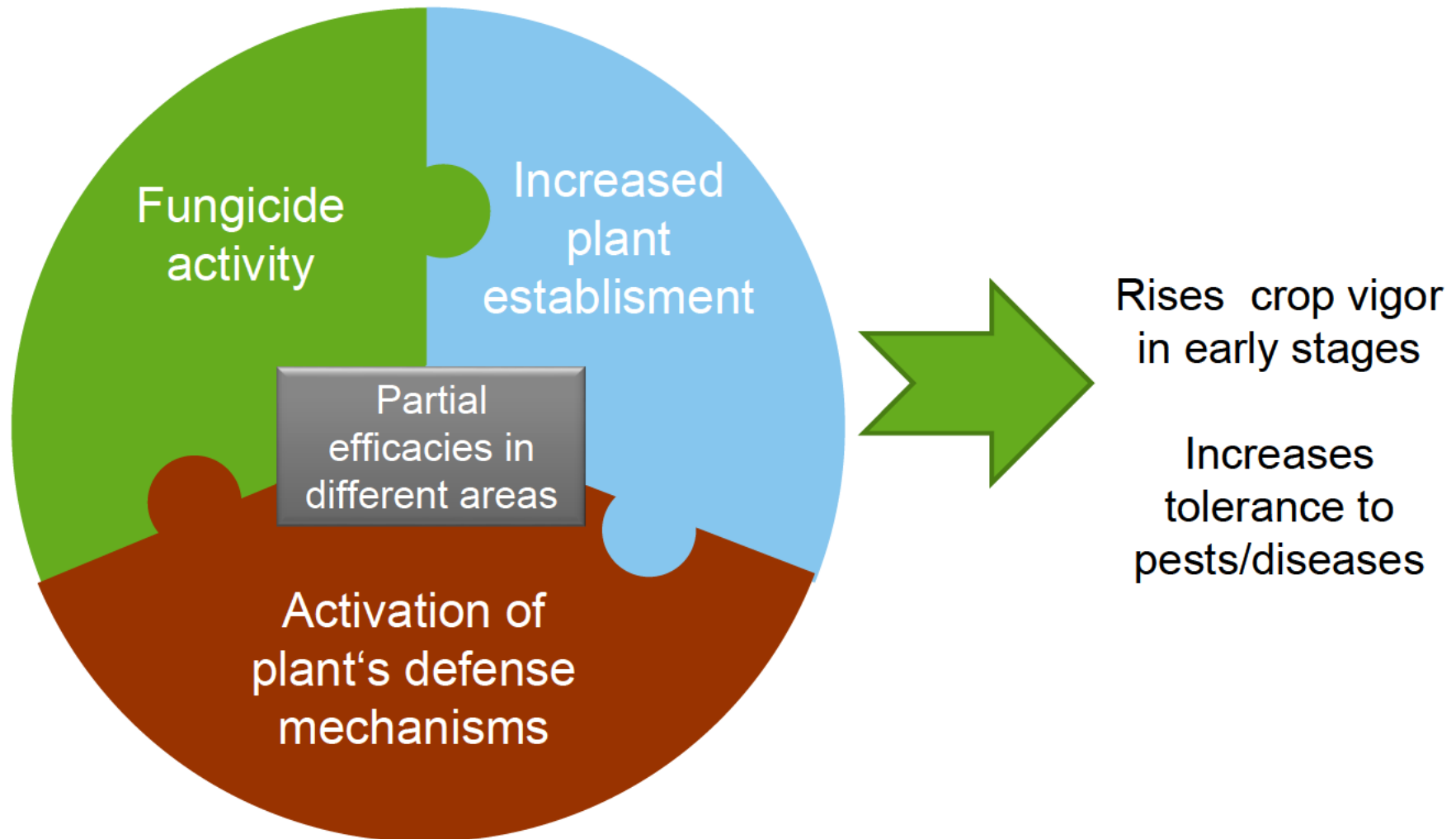


MBI-600 stimulates Plant Strengthening & Defense

Summary Integral Pro

150 years

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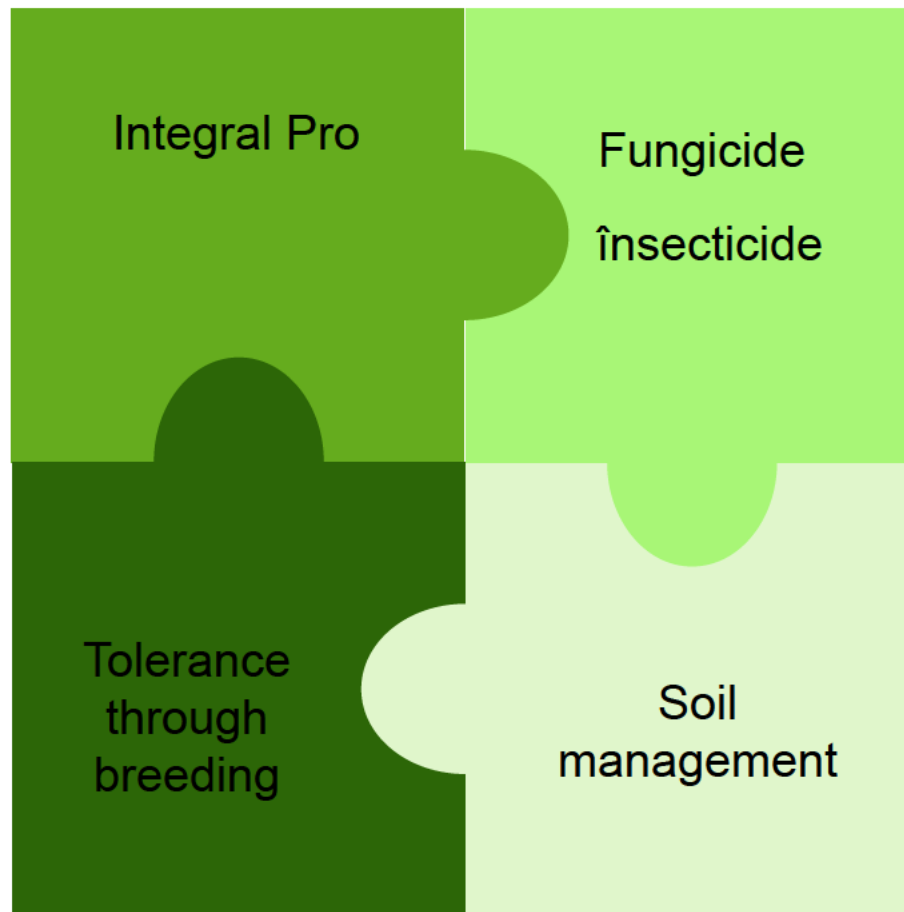


Summary

Integral Pro a tool for early protection

150 years

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Increases chances
to achieve the
potential yield

IPM Strategie

Summary

Integral Pro a tool for early protection

150 years



Integral Pro

Fungicide

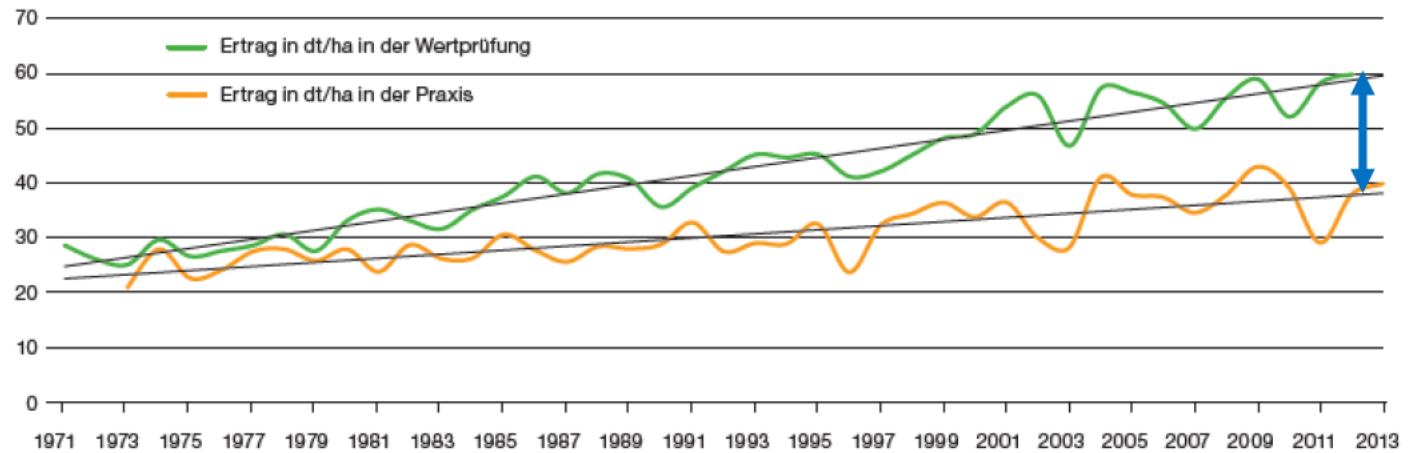


Increases chances to achieve the potential yield

Tolerance through breeding

Winterraps-Ertrag – Praxis vs. Wertprüfung

dt/ha



Quelle: Wertprüfung, Jahresberichte WP2/3 – ab 2012 WP2 1971-2013 – Praxiserträge, Stat. Bundesamt, Datenbank der DSV

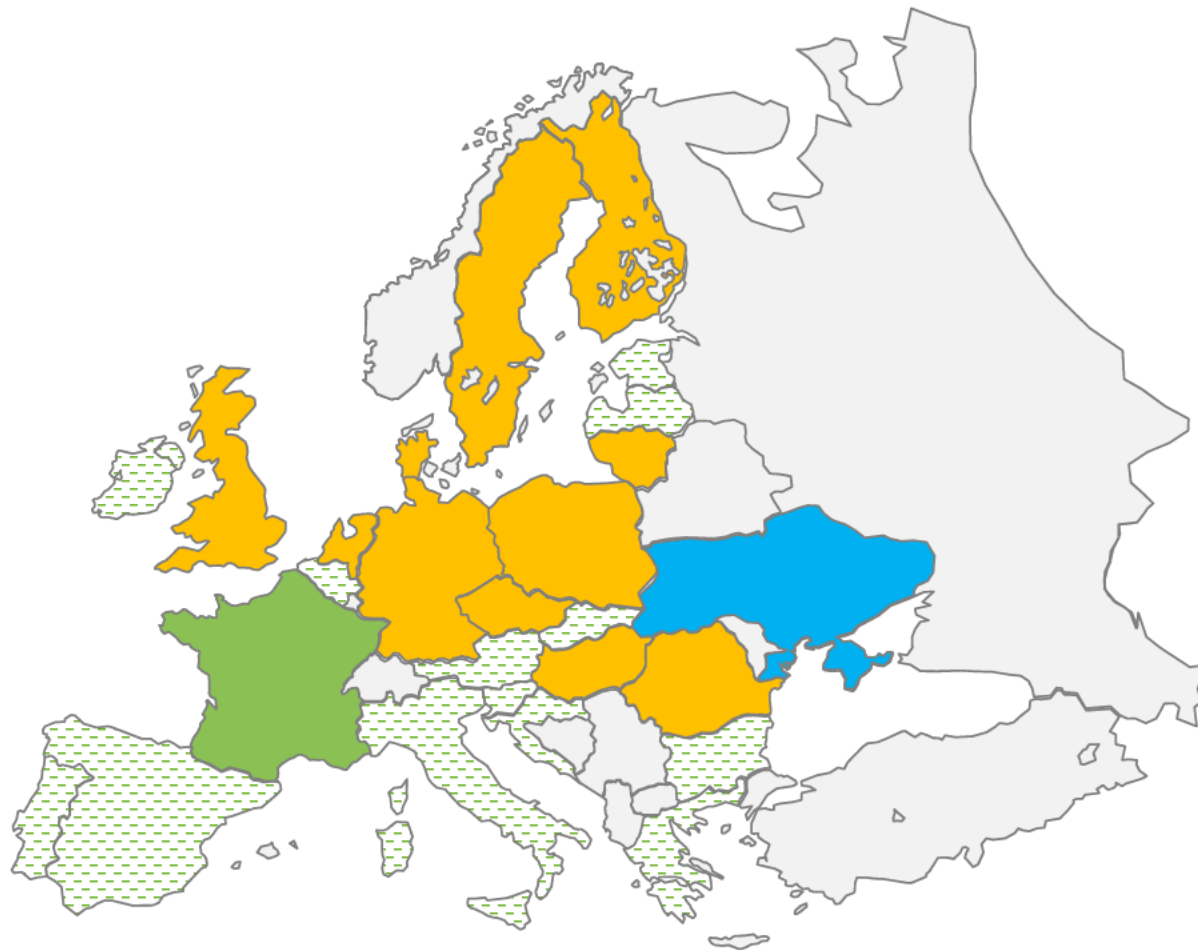
IPM Strategie





INTEGRAL PRO

Expected Registration timelines



Status in June 2017



	Already Registered
Expected Registration Countries where ST will be allowed	
	2017 (Q4)
	2018 (Q1/Q2)
	Circulation of treated seeds (export)
Expected Countries where treated seeds can circulate in the future:	
CZ, DE, DK, FI, FR, HU, LT, NL, PL, RO, SE, UK	

Expected registration in Q4 2017. Launch in 2018 (Q1/Q2).

Thank you for your attention

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Integral Pro®

Multi-protection and strength
Right from the start



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