

"This presentation covers a snapshot of the crop protection industry view of new biologicals developments and how R&D investments are contributing to these achievements. In this context the presenter also gives an overview of the latest farmers experience feedback accessing these new technologies and mindset change of key industry stakeholders' in the direction of development of more sustainable solutions. The fast ramp up of the launch and penetration of the seed treatment biological offers demonstrate the successful outcome across Europe."



Future industry innovations towards more sustainable solutions

March 28th 2022

Corteva Agriscience Global Scale and Market Presence

One Company, One Culture, One Focus: Enabling Farmers to Meet Record Demand



We provide the right mix of seeds, crop protection, and digital solutions to maximize yield and improve profitability, ensuring an abundant food supply for a growing global population

Public



I. Operating EBITDA is defined as earnings (i.e., income from continuing operations before income taxes) before interest, depreciation, anonzization, non-operating benefits, net and foreign exchange gains (losses), excluding the impact of ingrinfcant items (including goodwill impairment herages). Non-operating benefits, net and site of non-operating benefits net and site of the applications and other post-employment benefit (DFE) credits, tax indemnification adjustiments, environmental remediation and distances, as a result of the application of the terms of the Tax Matters Agreement, between Dartewand Dow and/or DuPont that are recorded by the company as pre-tax income or expense.

REGIONAL PROFILE: Europe





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Integrated Solutions for European farmers







Applied Technologies

Giving your crops

A HEAD START

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		Biologicals		
	Biocontrol			Biostimulants
Bi	ochemicals	Pheromones	Microbials	Biostimulants
fer	g., plant extracts, mentation-based atural substances		e.g., bacteria, fungi, viruses	Fertilizers



Our commitment

The Challenge:

- Exactly how biologicals work is complex. The mode of action for some biologicals is not always fully known or understood.
- The biologicals industry continues to evolve with greater attention paid to verifying product efficacy, safety and ensuring composition is consistent with labeling and registration.

Our Commitment:

• Corteva will test all products with the same scientific rigor as with conventional crop protection products to confirm their modes of action, reliability, safety and efficacy.





R&D Investiment over 3 years

GROWTH NUTRITION SEED TREATMENT





Biologicals Portfolio





Treated plants have thicker root neck, larger and stronger main root, more lateral roots, taller stem and higher biomass.

Lumidapt

GROWTH NUTRITION SEED TREATMENT



Treated plants have stronger root system in autumn = better winter survival.



Treated plants have longer roots and advanced nodal root growth.

Standard treatment

Standard Treatment + Lumidapt



Greater root development for better soil exploration





Lumidapt[®]

- Root = storage organ of plant
- Root biological decomposition:
 - Source of carbon and nutrients for soil microorganisms
 - Base element of soil organic matter

*Root dry biomass in % of control at BBCH14-17 – avg of 11 Europe locations





YMPACT SEED TREATMENT PROMOTES SEED GERMINATION

Increased germination % in field conditions





Average of 6 locations in France (4), Romania and Estonia, 2020 Average of w.wheat (2), w. barley (2) and s. barley (2) trials Control in 5 loc = difenoconazole + fludioxonil Ympact in 5 loc = difenoconazole + fludioxonil + Ympact Control in 1 loc = sedaxane, fludioxonil, triticonazole Ympact in 1 loc = sedaxane, fludioxonil, triticonazole + Ympact



Ympact improves root development for better access to nutrients



Ympact improves root system development and leads to better:

- Deep soil exploration
- Acquisition of water and mineral nutrients (mobile and non mobile)



Lumidapt

GROWTH NUTRITION SEED TREATMENT



Biological growth nutrition seed treatment for hybrid crops, as corn, sunflower and rapeseed (Lumidapt) and cereals (Ympact)

- Based on a byproduct of paper production from Nordic Conifer trees
- Optimize plant's metabolic activity, physiology and stress durability
- Stimulating root growth to increase the rate of nutrient uptake and improve the drought tolerance of the plant





KEEP GROWING.



We are keeping discovering and developing novel actives for new options



Discovery begins by understanding what farmers need, drawing on a century of experience in seed.



The Corteva Agriscience pipeline provides access to a range of actives and options.



We actively nurture partnerships across the industry to identify new seed treatment product possibilities.





Thank You Any Questions?





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