

In a world affected by climate change, RAPOOL-RING partners with researchers to ensure growers can retain and even bolster yields

Climate change brings new challenges to growers' doorsteps, not least among them rising temperatures which bring new pest and disease threats to their fields. Government has also responded with new regulations concerning fertilizer that puts restrictions on how much fertilizer growers can use.

Key to solving this challenge, as RAPOOL-RING has discovered, is partnerships. That's just what Artur Kozera, now a product manager for RAPOOL Polska, did when he recruited his university mate, Dr. Witold Szczepaniak, to devise the best fertilization systems for individual oilseed rape varieties.

Szczepaniak is a professor in the Department of Agricultural Chemistry and Environmental Biogeochemistry at the University of Life Sciences in Poznań.

"More environmental protection legislation can be expected in many European countries in the near future. This will result in both the withdrawal of some crop protection products (active substances) and limitation of the level of nitrogen and phosphorus fertilization, the nutrients which constitute the biggest burden for the environment," says Szczepaniak.

Thankfully, companies like RAPOOL-RING are thinking ahead and partnering to breed new rapeseed varieties with climate change in mind. Enter researchers like Szczepaniak, who has worked with the RAPOOL-RING team for more than 20 years.

During that time, they have organized a number of seminars, training sessions and field workshops for oilseed rape producers, showing growers how to not only select the right varieties, but also how to properly prepare their fields and also design their fertilizer and crop protection schedule.

In plot trials conducted by RAPOOL-RING and their research partners in the academic world, it was observed that RAPOOL-RING's new oilseed rape varieties are hardier, resistant to disease and better converted nitrogen



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absorbed from soil into high yield — just what farmers want.

“We are constantly searching for genetics that have resistance to disease, as well as tolerance to environmental stress factors caused by a changing climate,” says Kozera.

Importance of Research

Oilseed rape, like other crops, needs access to plenty of key nutrients to reach its yield potential. Nitrogen is primary among those nutrients, notes Szczepaniak. Researchers have discovered over the years that while each plant needs nitrogen to thrive, nitrogen is also a substance which constitutes the biggest threat to the natural environment.

Growers help protect the environment and also save money when they use less fertilizer. They also make their life easier by not having to worry as much about constantly changing regulations around the use of fertilizer products.

“Our research work accelerates not only breeding progress but also broadly defined oilseed rape agronomics. As a result of this — despite variable weather conditions and a resulting rise in disease and pest pressure — it’s possible to retain or even increase oilseed rape yields,” adds Szczepaniak.

Using the Right Variety

The key to success, of course, is using a rapeseed variety that will thrive and yield well when less fertilizer is used.

RAPOOL’s rapeseed varieties are very efficient at using nitrogen already present in the soil, notes Szczepaniak.

“Only plants properly provided with nutrients are able to develop normally and give high yield. It’s not only important to plan and implement fertilization, but also to correctly match varieties to farming conditions,” he says.

The right variety should not only have high yielding potential but also high tolerance to abiotic stress factors (low and high temperatures, periodical droughts) and biotic ones (pest and diseases), he adds.

“That is why RAPOOL-RING breeders should continue their work on varieties with new resistance to pathogens, and also on introducing varieties which would be very flexible in adjusting to variable weather



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conditions, which in consequence will increase the efficiency of both managing nitrogen and other nutrients.”

Kozera adds that RAPOOL-RING stands out among other breeders as it constantly searches for such varieties which will have resistance to fungal, viral diseases or tolerance towards environmental stress factors caused by the changing climate.

“As a result of our works on trial plots, we see that new varieties more efficiently convert nitrogen absorbed from soil into yield. Such varieties include TEMPTATION and JUREK. These varieties result from long-term work of our breeders,” Kozera says.

“Farmers need to optimize production costs. We should remember that oilseed rape stays in the field for 11 months. During this time, it is exposed to diseases and pests and also abiotic stresses. Only the best, healthiest and best-yielding varieties may face such a challenge.”