

## The better together combination

Local chemistry delivers world first for farmers.

While farmers and spray contractors keep a close watch on this season's Winter crops for early signs of weeds and diseases, people behind the scenes like Ari Panayi are working hard from Nufarm's Centre of Excellence Laboratory in Melbourne, to ensure our products deliver every use.

A specialist chemist who works in our formulation team, Ari was responsible for developing Amicide® Advance 700 in a three-year project involving thousands of experiments and lots of patience.

Nevertheless, his perseverance has helped create a world first – a fully patented, 700 g/L 2,4-D formulation which performs under the most extreme conditions. Which is important for this dry season.

It's a coup for Australian farmers who are benefiting from a better, more stable formulation which controls broadleaf weeds in both in-crop and fallow situations.

Even better, Amicide Advance 700 is compatible with a wide range of Nufarm product formulations, bringing peace of mind and valuable time savings for you when you are tank-mixing products.

Importantly for this time of the season, and with variability in crops becoming a bigger consideration across the regions, we know that peace of mind and time savings are at the front of your planning. This is why the combination of Amicide Advance 700, mixed with Tazer Xpert makes them better together.

Tazer Xpert enables you the flexibility to use just one cereal foliar fungicide product for all key fungal pathogens across the growing season. When time is short, adding Amicide Advance 700 and Tazer Xpert into the tank not only gives superior control of broadleaf weeds, it controls a broad range of diseases to ensure you get a higher yield. This compatibility allows you to do a single pass.

Another benefit is the trust and peace of mind of 2,4-D.

Ari explained that farmers have been using 2,4-D for decades and it still ranks as one of the most widely used herbicides for controlling broadleaf weeds in cereals, pastures, fallows, sugar cane and bananas.

For more information, contact your local Nufarm Territory Manager.

While we have been a leading supplier of 2,4-D brands such as Amine 625 and Cobber® 475 for years, the development of this latest Amicide Advance 700 formulation has required three years in the laboratory and another three years of glasshouse and field trials.

'It's a big investment by Nufarm in local R&D and manufacturing to create this unique product for the Australian market," Ari said.

When Ari was first approached to explore ways of improving the 625 g/L formulation several years ago as a result of our customers feedback, the wish list included a stable product that could withstand temperatures as low as 0°C without crystallising and breaking down.

And so began three years of laboratory investigations, involving experiments with many different mixtures and combinations to identify a unique formulation which met all the specified requirements that Australian farmers need.

This required a lot of compatibility testing in the laboratory to come up with the right formulation.







"The higher loading – 700 g/L of active ingredient instead of 625 g/L – means less packaging and less storage space in the store and the shed, so Amicide Advance 700 is better for the environment"

Aristos (Ari) Panayi Specialist Chemist, Formulation Development – Portfolio Solutions BASc; MASc; GC Agribusiness; MRACI CChem.

"It also means farmers can obtain fallow and in-crop weed control with this one formulation which can be mixed with a wide range of other Nufarm products."

Once the formulation improvements were made, Ari handed over to other members of Nufarm's R&D team for glasshouse and field testing involving more than 80 field trials over another three years.

"Farmers and agronomists can be confident that any claims made on Nufarm product labels have been fully tested in the company's laboratories, glasshouses and field trials, so we know they perform in Australian conditions," Ari said.

He explained that different types of chemical formulations contain a range of surfactants, dispersion agents and emulsifiers which are not all compatible.

As a general rule, the surfactants generally used in suspension concentrates (SC) are not compatible with those in soluble liquids (SL) and emulsifiable concentrates (EC).

"Even though Tazer Xpert is a suspension concentrate and Amicide Advance 700 is a soluble liquid, the compatibility of these two products has been exhaustively tested in both the laboratory and the field, so our customers can be confident about tank mixing them," Ari said. Following more than 20 years with Nufarm, the release of Amicide Advance 700 has been a career highlight for Ari, as the patented product is a world-first which is about to be sold in North America and Latin America.

"It's the journey of discovery, from concept to development, that I find so rewarding about chemistry," he said.

After years of fielding product formulation enquiries at Nufarm, Ari has two pieces of advice for farmers and spray contractors.

"We always advise growers to put 70% of the water volume in the spray tank before adding any products and then follow any mixing order instructions, like those on the Amicide Advance 700 label.



Ari Panayi, who's in charge of developing better product formulations at Nufarm, says Amicide Advance 700 has been rigorously tested to make sure it is compatible with a wide range of Nufarm formulations including Tazer Xpert fungicide.



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For more information, contact your local Nufarm Territory Manager. **nufarm.com.au**