

# Sustainability in Action

## – Achieving the Balance



**Jan Mostert**  
Head of Biorational Projects  
at Certis Belchim

“Sustainability” remains the challenge of the moment in the industry, influenced by climate emergency demands and European Union (EU) environmental policies such as the European Green Deal and Farm to Fork. Among their objectives to make production more sustainable by 2030 are an increase in organic production to 25% of farmland area and a 50% reduction in the use of the most dangerous chemical pesticides.

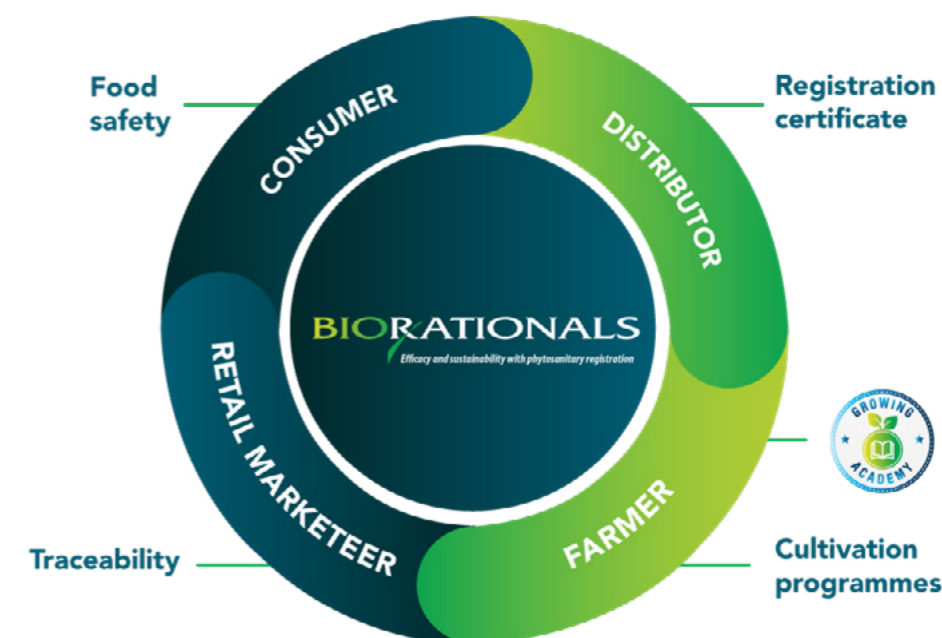
Crop protection is an important element and contributor to sustainable agricultural production: maximising yields and reducing crop wastage resulting from pest and disease pressure favours the best use of agricultural land while supporting the production of high-quality food products at affordable cost. An Integrated Crop Management approach has formed the basis of modern crop protection and remains at the heart of our business at Certis Belchim B.V. We are committed, through our product portfolio and the innovative solutions we develop in our work with producers, to enabling a sustainable future in agriculture and the production of safe food, making a significant positive contribution to the entire agriculture value chain.

Our collaborative project, **Growing for the Future (G4TF)**, initiated in Almería in 2012, has been developed successfully to reduce dependency on conventional/synthetic crop protection products in a variety of crops. The objectives encompass effective control of the main pests and diseases in greenhouse and open field crops; reduction in the use of chemical compounds and increase in use of biorationals; production of crops with minimal or even no residues; reduction of environmental impact; and increase in growers' profitability. We also aim to address soil management, improving the soil microbiome, and to transfer knowledge to the entire value chain through the Growing Academy as part of our unique and innovative project.

In cooperation with major producer cooperatives, Certis Belchim's team in Spain developed Integrated Pest Management programs with a target of growing residue-free produce to meet demands of European retailers and consumers. Supermarket chains are particularly demanding in their requirements for clean crops with extremely low residues, now sometimes calling for them to be 33-50% lower than the legally permitted Maximum Residue Levels in produce (depending on the supermarket's requirements), with residues of no more than three to five products (again, depending on their standards). Over the years we have developed complete crop program solutions through the use of our Biorational



**Pedro Juan**  
Head of Food Chain  
Management at Certis Belchim



product range in conjunction with reduced usage of conventional products, beneficial insects in greenhouse production and mating disruption pheromones in open field situations.

Our portfolio of Biorationals includes natural fungicides, bactericides, insecticides, nematocides, acaricides, biostimulants and mating disruption pheromones. Today Certis Belchim has more than 20 such products registered in Spain, for example. These natural products are evaluated at EU and country level and are registered as Plant Protection Products that are safe for humans and the environment. They do not have measurable residues so by replacing some of the conventional products with Biorationals, there are less or even no residues in the produce and the extra needs of the supermarkets and consumers are fulfilled. They can also be used in organic production.

With more than 10 years of experience and development, the programs have now been extended successfully to cover a wide range of

crops, both protected and outdoor, including vegetables (tomatoes, peppers, cucumber, aubergine, melon, watermelon), fruit trees (stone and pome), soft fruits (strawberries, berries), vineyards and table grapes, citrus and olive groves. We are working with growers in Spain, Portugal, Italy, France and Belgium and our project has been presented in strawberry and lettuces to more than 2,000 customers from all over the world at our Trial Field Days in Londerzeel (Belgium) and in stone fruits, vineyard and strawberry at our research centre in Fronton, France.

Overall, growers wish to reduce their use of conventional products and move to more environmentally friendly products, as long as they can see positive results and profitable output. Working in a controlled environment in a greenhouse is an ideal situation and great success has been achieved with G4TF, especially in Southern Europe. Results there have shown up to 9% increase in grower profitability alongside over 75% reduction in usage of chemical

products, with zero residues. Progress in broadacre crops in the EU is slower and, whilst our biorational ferric phosphate-based slug pellets (Sluxx HP) are widely used across Europe, biocontrol in some field crops is more prevalent elsewhere in the world, but mostly in very different conditions and under different regulatory systems. Unfortunately, regulatory issues and delays in the EU limit the number of new registered biological products coming to market so, whilst there are a number in development, we do not expect major progress in broadacre crops such as corn, cereals, oilseed rape and potatoes in Europe by 2030. Even so, we anticipate some increase in the use of biorationals in row crops – including rice – in the next 10 years.

Biorational products do have some limitations. Conventional crop protection products are, by formulation, technology, mode of action or active ingredients, generally more robust and longer lasting than biorationals. Few, if any, biorationals are rainfast so, in an outdoor situation, a shower of



rain can mean failure of the product. Indeed, climate can make a major difference: for example, where humidity is higher, disease is likely to be a greater problem and there are few alternatives among bio-products to control this. So far, the efficacy of a biorational is shorter-lived than with a conventional systemic product. Appropriate application techniques are much more critical for biorationals in order to achieve maximum efficacy by good coverage of all the plant surfaces.

On the other hand, there are also positives: Biorationals such as many of those in the Certis Belchim portfolio, that operate with a different mode of action, give a clear advantage over chemicals, both now and in the future. Biostimulants together with Biorationals can also provide further innovative solutions in G4TF projects to enhance root development, combat abiotic stress, encourage plant growth and improve yield and quality in different crops, thus supporting the profitability of growers.

At the same time, it should be remembered that modern

conventional products are only able to reach the market, if they are proved to present minimal risk to human health and the environment. The industry continues to be innovative in conventional, as well as biological products and, though it is increasingly difficult to discover good new chemical compounds, they are still being found and developed. Those that come through the EU registration process are approved, because they fit all the modern standards and requirements imposed by the regulatory authorities. As long as they are used and applied correctly, respecting the label, the risk of harmful residues is non-existent. We may have to accept that safe conventional products will still be needed in some crops and situations, for example against certain diseases that are impossible to control with biologicals.

G4TF combines Biorationals with new modern conventional products, beneficial insects, pollinator attractant plants and good agriculture practices in its programs in such a way as to reduce the use of chemical products and improve sustainability

and biodiversity. The important thing is to achieve a balance. Certis Belchim has a large portfolio and is committed to continual investment and development of the Biorationals portfolio for the future. The company hopes to bring other biocontrol products to the market by 2030 to help achieve the Farm To Fork goals in Europe but also worldwide. The team is constantly working to expand the use of its products and programs across more crops to get effective pest and disease control and to help growers produce crops in line with the demands of supermarkets and consumers. By offering a range of solutions, growers can also be equipped with the tools they need to diversify their crop rotations and increase the range of biodiversity in their farming systems, supporting their sustainability endeavours.

The crop protection industry has long been under pressure to reduce the use of chemical/conventional crop protection products and continues to be under the microscope. However, it has survived and is always sufficiently innovative to adjust and to keep new products coming to deliver to requirements. Over the last 30 years we have seen immense improvement with much safer products. It seems that there are still more innovations to come and Biorationals used in combination with safe, modern conventional products will help to achieve the balance needed for safe and sustainable food production. <sup>AP</sup>



**Sustainable agriculture based on food security, it is possible.**



**Sustainable agriculture**

**Food safety for consumer**

**Biorationals leadership**

**Committed to producers**