

Interview: The development of biologicals and precision ag will go hand in hand

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Sanjiv Rana talks with Japanese company Mitsui & Co's European agrochemical distribution subsidiary Certis Europe's head of biorationals innovation team, Jan Mostert, to discuss its strategy for expansion within the biologicals sector.

Sanjiv Rana (SR): *What are some commercialisation challenges specific to biological products that make them easier or harder to bring to market compared with chemical actives?*

Jan Mostert (JM): Regarding what makes it easier to bring biological products to market:

- Growth of organic farming production.
- Emergence of new certifications and labels encouraging the reduction of conventional products.
- New requirements from the food chain to reduce the use of conventional products.
- EU and country policies like Ecophyto and Farm to Fork, with objectives to reduce the use of conventional products. Some microbial biorationals also have an Induced Systemic Resistance (ISR) type mode of action, which helps to reduce the need for conventional products.
- Very often, better compatibility with beneficial insects (short lasting effect, important selectivity).

Challenges making biological products harder to bring to market:

- Weaker and less reliable under different cropping/climatological conditions.
- Less long lasting.
- Not many being rain fast.
- Most biorationals have only a contact mode of action, which requires very good application technique to make them really effective. In most large acre, mainly arable crops, this is not yet optimised for biorational products.

SR: *What are the expected growth and trends in the biopesticides market compared with chemical actives?*

JM: It will become increasingly difficult to find more effective, differently performing microbial products, as there are already many registered. New natural extracts will still be found. These are also better patentable, easier to formulate and mostly more economic to produce. Such extracts are also often more stable in performance under different conditions, which make these more economical to develop and register, and probably more price competitive with conventional products. Many market surveys claim a CAGR of close to 15% for biorationals, although complex registration procedures and the registration of new modern conventional products, in my opinion, makes such growth rather optimistic.



SR: *The crop protection industry has gone through two phases of acquisitions over the last decade. They were about larger companies acquiring biopesticide businesses during the first half of the previous decade. The second half focused on a realignment of the larger players through M&As. Is there a possibility of another round of acquisition of niche biological companies? Or, is Certis focusing on organic growth?*

JM: Acquisitions of companies are indeed an option, as well as making alliances with them for exclusive development and distribution of certain biorational products.

SR: *Limited shelf life and costlier transportation have often been cited as factors against widespread use of biological products. Have there been recent formulation advancements to overcome these?*

JM: Most biorational products do have a shelf life of at least two years nowadays. So, that doesn't seem to me a big issue, and transportation should also become less of an issue. Maybe the formulation should be done within a continent closer to the main markets, instead of having this centralised somewhere in the world (close by the inventors) being far distant from the main markets.

SR: *Has the commitment to biopesticides and speeding up of approvals in the EU's Farm to Fork strategy had any impact on the processes or the market in the EU?*

JM: So far, a lot more EU subsidised research projects have started within quite a few countries. But I very much doubt that this will lead to many new useful or better performing biorational products coming to market in the next five years, as there is no quicker/ easier registration process yet. If it were easy to find and register new, unique, better performing and safe biorational actives/products, then this would probably have been done already by existing players, as the market potential was and is still out there. But of course, it helps to widen up the search for new biorational actives by innovative players and institutes. For sure some innovative products will also make it to a final registration, but it will help if the registration process is quicker.

SR: *Most biopesticides have been either insecticides or fungicides or nematocides, to some extent. Do you see a market for bioherbicides?*

JM: Strong bioherbicides require more or less systemic activity, preferably having a long-lasting effect. All big crop protection companies have their own R&D focus on herbicides, and this leads to frequent discovery of new actives, which fit the modern registration requirements, while being very economic up to the grower level. For biorationals, it is very challenging to compete on performance and price/ha, so I do not see this as a realistic growth area for biorational herbicides in the short term.

SR: *Where does precision ag fall in the scheme of things so far as expansion in biologicals is concerned?*

JM: It may help to get more efficient use of biorationals, but still rainfastness and optimal application techniques need to be sorted out first, to make biorational products perform.

SR: *In which of the recently launched biological products do you see the most potential for success?*

JM: That's my point mentioned above. Which biorational compounds have been launched that will drive the predicted 15% CAGR? In Europe, I cannot detect any registration of such major breakthrough biorational products, driving this tremendous sales growth. So far, new products registered are still more suitable for the high value crop types such as vegetables, fruits and vines. They are starting, in fact, to compete with biorational products already available instead of widening the scope of use into the large acre arable crops.

SR: *Which are some promising biological products about to be launched or in the registration pipeline?*

JM: Neudosan, which is based on fatty acids for the control of a range of insects and mites, is being rolled out across Europe in the coming year(s). BLAD (Banda de Lupinus albus doce) polypeptide-based biofungicide, Problad, is planned to be registered in European countries from 2022 onwards. Problad is an aqueous extract from germinated seeds of sweet *Lupinus albus*, a bio-fungicide for the control of a range of diseases such as powdery mildew and *Botrytis* spp.

Analyst Contact Details: Sanjiv Rana