

Snake oil? Are biologicals used by farmers to treat diseases, fend off pests and enhance soil health effective?



The aim of the *European Seed* series on Myths, Fake News, Misinformation and Disinformation is to dive deeper, taking a closer look at a variety of seed related topics. This article looks at the myths surrounding biologicals.

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Myth: Biologicals are 'snake oil'

Fact: This is a huge misconception that customers and companies had, which stems from the misunderstanding of biological products as a whole. It should not be forgotten that biological products typically are live organisms. And back in the day, such products didn't have the best genetics. On top of that, the delivery method that was used for biologicals were quite old-fashioned. Such delivery methods were not friendly to keeping the biological product alive. And so, 20-30 years ago, this led to inconsistent performances. Over the last 20 years, the biological treatment sector has vastly improved. Not only have delivery methods become better, but baseline genetics and our understanding of genetics has greatly improved.

Myth: Biologicals need to be applied multiple times

Fact: The notion that biologicals must be used repeatedly during the growing season to achieve optimal performance is a common fallacy. Do I need to apply my biological on the seed, in the furrow, and then continue to do so again over the top? is an often-asked question.

It is incorrect to believe that biologicals need to be applied multiple times. Numerous organisms in the field are endophytic, meaning they reside inside the plant. Additionally, when you use those organisms as a seed treatment, they successfully colonize both inside and outside of the plant. Long term, this implies that the farmer will receive a season-long reaction to that biological.

The fact that many of these species are endophytic has also allowed scientists to pinpoint the genetics as being host specific. By having an organism that lives inside the plant, environmental elements like soil type, pH, and the availability of nutrients in the soil are actually eliminated from consideration. It makes no difference whether the produce was grown in Country A or Country B. You get a more consistent result from year to year since the organisms are inside the plant.

Consistency and dependability are the key concepts throughout. While it may not have been a given 30 years ago, this is today a feature shared by many biological treatments. Let's start by educating people to refute the idea that biological sciences are unreliable.

Marcel Bruins is the Editorial Director of European Seed. Find Marcel on Twitter [@mbruins123](#)

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