

Swabian inventors reinvent iron fertilizers

Iron fertilizers - a very hot topic for farmers and hobby gardeners. The reason: Many cultivated plants, perennials, flowers and lawns need sufficient amounts of this trace element. Existing products have disadvantages, no truly good product exists. Iron sulfate fertilizers, e.g., are highly toxic. Protective clothing should be worn when spreading it, as iron sulfate fertilizers contain iron II sulfate as the active ingredient. Skin contact causes burns and can also affect the respiratory tract, since such iron fertilizers release dangerous sulfuric acid when wet (rain, dew).

Other conventional iron fertilizers that are frequently used have further disadvantages: applications have to be made at certain pH-values, otherwise the product will not work. In addition, foliar applications are usually impossible due to severe burns that may occur. In many outdoor crops such as vineyards, pome fruits, stone fruit and berries, time-consuming applications using a spray wand are required.

The absorption of iron (assimilability) by the plants is usually insufficient, which necessitates the application of large amounts of product. The disadvantage: where water is recycled, certain iron chelates interfere with the technical systems.

For this reason, the company B + H Solutions GmbH (its solution concept for "sustainable plant cultivation" received a patent from the European Patent Office in 2019) in Remshalden, near Stuttgart, developed a universal iron fertilizer that can be optimally assimilated by the plants and that is also inexpensive. Funded by the Federal Ministry of Economics, B + H Solutions achieved the breakthrough with the help of dendrimer technology, and at the same time, avoided substances such as acidic chelates or sulfates.

"We called our new product AgroFerrum®", explains Managing Director Prof. Dr.-Ing. Martin Heinisch. "AgroFerrum® is free of dangerous marking, contains no poison, is pH-neutral, and no protective clothing needs to be worn when using it. AgroFerrum® can be applied either by foliar applications or by irrigation. Due to its ideal structure, it is optimally absorbed by the plants and ensures optimal photosynthesis. "

Elmar Buder, the second head behind the company's technology, refers to sustainability: "The ultra-tiny iron particles are stored in the plants as a depot. The particles can thus continuously produce the iron ions that the plant needs."

Official studies have shown that plants supplied with AgroFerrum® had more iron in their leaves in every growth phase unlike conventional iron fertilizers.

What makes farmers and hobby gardeners happy: the newly developed iron fertilizer is much cheaper to use than the iron fertilizers previously offered. The next patent will probably be a matter of time for the inventors in Remshalden.

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