inspired by nature

for the natural stimulation of plant growth

rootac® – trial results cereals and corn

rootac® is a plant fortifier that strengthens resistance to abiotic stress factors and can thus improve crop yields. It activates the plant's own defence mechanisms, similar to a protective vaccination.

At the same time, **rootac®** sustainably promotes the activity of microorganisms in the soil, so that subsequent crops also benefit.

The application is very simple: **rootac®** is dissolved in water and applied with the field sprayer in combination with crop protection treatments or liquid fertiliser. It can also be applied via the sprinkler system.

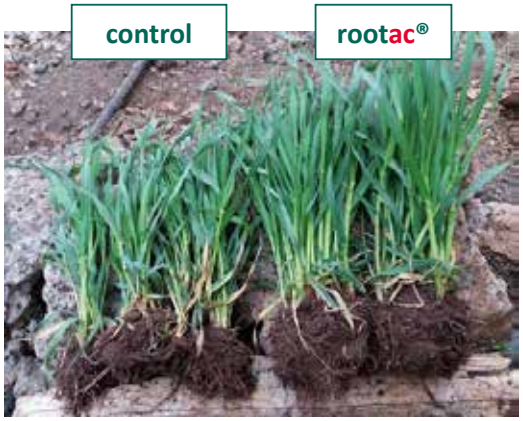
As a plant strengthening agent, **rootac®** does not underlie the Fertiliser Ordinance and can be used without hesitation. Moreover, it is listed on the FiBL list and can therefore also be used on organic farms.

rootac® has been successfully used in practice for more than 30 years and is scientifically accompanied. Different research results show the effects:

Barley

Two weeks after **rootac®** was applied in barley, the difference in root mass and plant size can already be clearly seen:

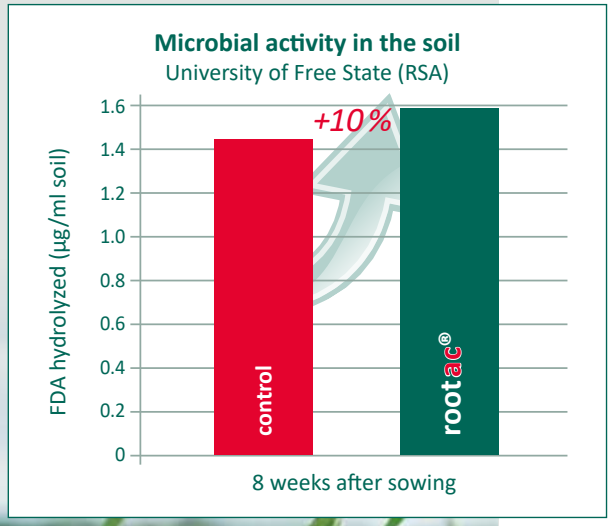
The barley treated with **rootac®** has developed better and it produced more root mass.

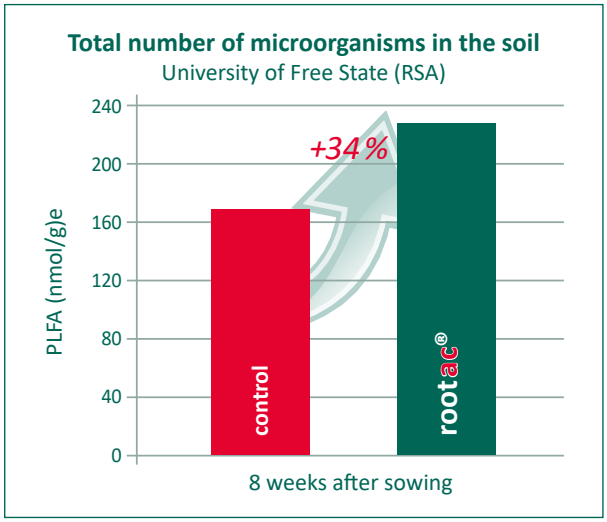


Wheat

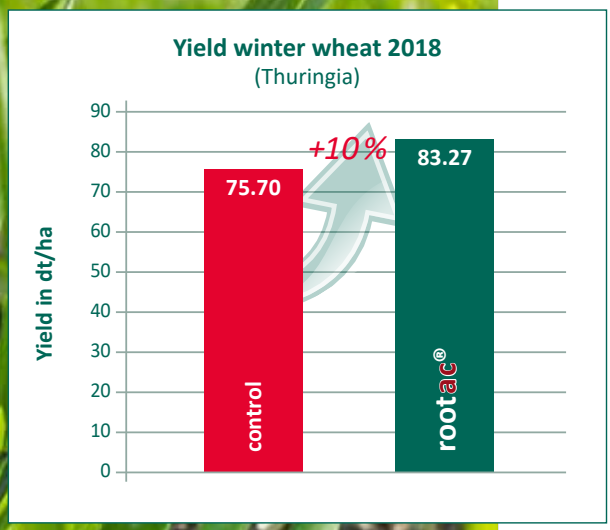
In this wheat trial at the University of Free State, Republic of South Africa, **rootac®** was applied via sprinkler system.

After 8 weeks, the number of soil bacteria and their microbial activity was examined. The higher this activity, the better the plant can be supplied with nutrients. With **rootac®** the measurable activity increased by 10 %.





The total number of microorganisms increased significantly by more than 30 % with **rootac®**. This signifies more life in the soil. It also has a lasting positive effect on the following crop.



Winter wheat (Germany)

On a farm in Thuringia **rootac®** was applied in winter wheat. The field had a total size of 48 ha and 4 trial strips with a total size of 6.8 ha were established, which were treated with **rootac®**.

rootac® was applied twice at intervals of 6 weeks. The first time with a growth regulator and the second time with a fungicide.

Despite the lack of rainfall in summer 2018, the treated plot looked consistently better than the untreated plot. The evaluation of the individual plots at harvest then showed a 10 % increase in yield on the **rootac®** treated area.

ROI wheat

The costs for wheat treatment with **rootac®** amount to 20.60 €/ha.
With the indicated additional yield, the return on investment* is as follows:

additional yield	producer price from farm Feed wheat (Week43, Land&Forst)	costs for **rootac® treatment** (per ha)	additional revenue through **rootac®** (per ha)	ROI (per ha)
7.57 dt/ha	190 €/t (= 19 €/dt)	20.60 €	143.83 €	1:7

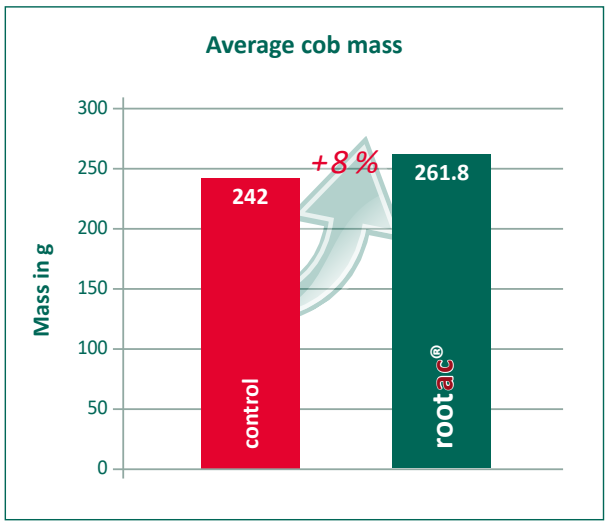
Despite the unfavourable weather, the use of **rootac®** paid off.

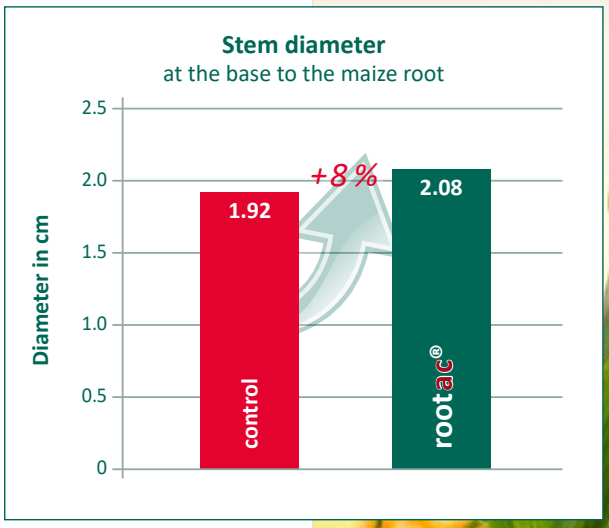
Corn (Germany)

rootac® was applied once at the 3 - 8 leaf stage together with a herbicide. One aisle (28 m) remained untreated, so that a control field was created. For evaluation, 6 x 5 plants each from the control section and from the **rootac®** treated area of the field were dug out including the roots. The individual sampling sites were about 20 m apart. After sampling, the roots were removed, cleaned and dried to determine the root mass. The rest of the plant was measured both in length and diameter and weighed. The leaves of the cobs were removed before weighing.

The cob mass of the **rootac®** treated plants was on average 8 % higher (261.8 g to 242.0 g). Overall, the cobs of the 30 sample plants from the **rootac®** area were in total a good 500 g heavier than the untreated ones. With a stand density of 8 plants/m², this results in a calculated additional yield of approx. 1.33 t of energy-rich cob mass per ha.

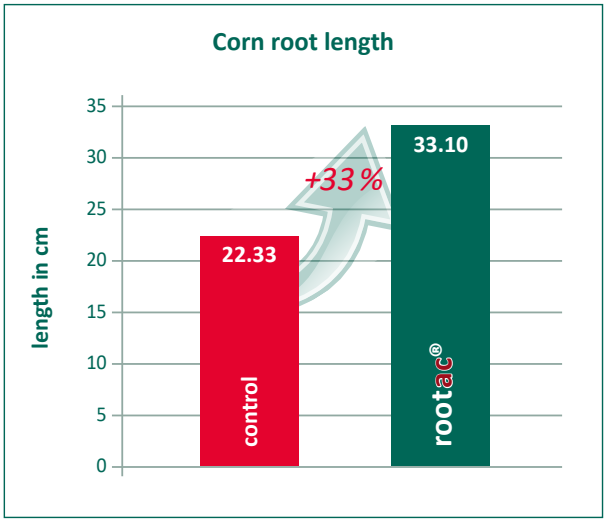
The stem diameter at the root base was on average 8 % larger in the treated plants. A plus for the stability.





Moreover, the treated roots were significantly longer.

Result: The plants are more deeply established and can absorb water and nutrients better. A great advantage in times of scarce rainfall.



rootac® has a positive effect on soil and plant development regardless of the type of crop and is extremely easy to use.

ROI corn

The cost of a **rootac®** treatment is 5.15 €/ha. With the additional yield calculated above and a stand density of 8 plants/m², the return on investment* is as follows:

Plants per m²	additional yield	producer price from farm corn silage (week 43, Land&Forst)	costs for **rootac® treatment** (per ha)	additional revenue through **rootac®** (per ha)	ROI (per ha)
8	1.33 t/ha	50 €	5.15 €	66.68 €	1:12.94

The use of **rootac®** is therefore already worthwhile from a low stand density.

Experiments in other crops can be found at **www.rootac.de**

*The values listed are calculated values based on the experiment and not real numbers

www.rootac.de

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