

MANGANESE DEFICIENCY CAUSES YIELD SHORTAGE WITH ALL THE PLANTS

Nowadays we notice a tremendous manganese (Mn) deficiency on plantations of soya. You can see **illustration 1** and **illustration 2** that show lack of Mn on the field. One can notice green stripes due to the tractors' passes. That means that the plant "engine" is working longer and we can expect the yield increase.



illustration 1



illustration 2

Contrary "yellow parts" of the field lack Mn so the "engine" decreases the power. Moreover, Mn is not mobile in the plant, so we need to "feed" the plant with every spraying pass to prevent Mn deficiency. Yellow parts of the field are closer to the harvest period, but the yield could be raised if the plant has enough nutrition and stays green few weeks more. It can provide up to 1 ton higher yield and quite often even more!

EFFICIENCY OF MANGANESE AGENTS WORK

It is highly important not only to "feed" the plant during the vegetation period but also to focus on the absorption of the product. We should focus on manganese salt of the agent if we look for efficiency as they have significance.

Scientist Pai Pedas from the Faculty of Natural and Life Sciences at the University of Copenhagen tells:

"The experiments show that manganese sulphate and manganese nitrate have a higher efficiency than manganese carbonate. However, manganese nitrate causes scald damage even in low concentrations. That's why we recommend manganese sulphate, which is also the cheapest."

Manganese sulfate insures best absorption of the product by leaves and we should remember that Mn is not transported around the plant, so we have to use Mn every time to protect new leaves and prevent deficiency. Remember that manganese carbonate requires a higher dose per application, but it does not work better than manganese sulfate or nitrate. One should use concentration of manganese carbonate 4-10 times higher than manganese sulfate but still it will not lead to efficient nutrition of the plant.

Be especially careful with using manganese powder as it can be toxic because of inhalation and skin contact and cause problems with human nervous system, especially symptoms similar to Parkinson disease, such as tremors.

SPREAD ADHESIVE



The importance of spread adhesive for manganese absorption was also tested in the experiments. And the conclusion is clear:

“Spread adhesives are the most important factor for effective manganese spraying. It is more important for the effect that you have a spreading adhesive with you than which type of manganese you choose and which dose” says Pai Pedas.

Spreading adhesive reduces surface tension and increases contact with the leaf surface so that the liquid is better absorbed.

WE HIGHLY RECOMMEND TO LOOK FOR MORE BENEFITS AND PREVENT MANGANESE DEFICIENCY AS IT IS COMMON FOR ANY KIND OF PLANT

BioNutria managers can assist and provide detailed application plan to secure strong and healthy plant.

Bio Mangan 180 NS is a sulfate-based solution that contains spread adhesives and makes the application easy to go, best absorbed and at the same time saves time and costs.

Actual losses due to Manganese deficiency are much higher than costs for product application during every driving pass.

Informative leaflet based on CU scientist Pai Pedas report in LandbrugsAvisen e-newspaper.

<https://landbrugsavisen.dk/avis/stor-forskel-p%C3%A5-manganmidlers-virkning>