Beet the future; different approaches

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The effect of strip cultivation on the distribution of virus yellows [3]

In 2021 en 2022 together with Wageningen University, strip cultivation has been investigated as an alternative method to control aphids and virus yellows. Sugar beets were grown in 3-metre strips alternating with strips of barley on a clay soil in Lelystad (NL). The aim was to increase the number of natural enemies and reducing the number of harmful aphids in order to lower the level of yellowing viruses. In two years of trials, no signicifant difference in amount of aphids and virus yellows was found in comparison with the conventional system.

Figure 1: strip cultivation in Lelystad (2022)

Figure 2: Left; planting beet. Right; sown beet. (October 5, 2023)

Experience with planting sugar beets

Sugar beet seedlings are small and vulnerable for pests and diseases. Planting instead of sowing, could help to avoid this phase. In 2023, a farmer in the south-west of the Netherlands, has planted and sown beets on July 7, on two fields close to each other. The farmer made use of paperpots of a few centimeters in length. As expected, a deformation of the shape of the beet was found (figure 2). It is known that beets, grown in short paperpots, don't form the desired length (13 cm) of tap root[4]. Due to higher costs for rearing and planting of these seedlings. The costs of the beets that were planted, were much higher. The yield of these fields is not yet known.

Concluding, planting beets is not affordable in the Netherlands nowadays. If the crop protection package for sugar beets will become smaller in the future, this could be a reason to start research again.

'Green' seed treatments

Together with other partners, IRS is testing non-chemical seed treatments in a project called 'Groen op Zaad' (Green on Seed). These experiments, are carried out to test the possibilities of protection seedlings against *Pythium ultimum* (figure 3). In 2023, no significant effect was found of the treatments compared to the non treated controls. These tests in the climate room will be continued in 2024.

Figure 3: seedlings in infected soil with *P. ultimum*

References

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