

POLLINATORS BOOST SEED PRODUCTION MOST

Pollinators such as bumblebees are the most important production factor in the cultivation of leek seed, not fertilizer or water. This finding comes from PhD candidate Thijs Fijen. Growers therefore need to make sure their farmland attracts wild pollinators.

Fijen did research in fields used by vegetable seed producer BASF in France and Italy, where contract farmers grow leek seed. BASF wanted to know how important pollinators were for seed production. In 36 commercial leek fields, Fijen studied the land management (fertilizer

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ingredients and irrigation), and the number of bumblebees, solitary wild bees, hoverflies and honey bees. He also measured seed yields for five varieties of leek.

His conclusion: pollination was as important to seed yields as all the other factors combined. The outcomes when Fijen halved the production factors of fertilizer, water and pollinators were even more striking. Halving pollination — by putting

a net over the leek plants every other day — led to a drop of 40 per cent in leek seed production on average. Halving the water reduced the seed by 10 per cent and halving the fertilizers had no effect or increased yields.

‘The outcomes are interesting because the farmers are busy all year with irrigation and fertilizer,’ says Fijen. ‘They don’t seem to appreciate the importance of wild pollinators. It can be worthwhile investing in that too.’

Another striking finding of the study is that bumblebees, solitary bees and hoverflies were responsible for pollination but honey bees did very little. The attempts by BASF to make up for a lack of pollinators by bringing in beekeepers with honey bees were not very effective. ‘Seed companies and farmers are better off investing in a production environment that is attractive to wild pollinators,’ says Fijen.

Fijen thinks his findings are not just relevant for the production of leek seed. Pollination is essential for all hybrid vegetable seed. ‘Now that biodiversity is deteriorating so fast, we know the agricultural system needs to change. I think the research into pollinators is a really nice way for ecologists and farmers to collaborate on improving both production and biodiversity.’ **BS**



▲ A buff-tailed bumblebee on a leek plant.