

Flowering strips to support desert agriculture and biodiversity conservation
Center for Arid Socio-Ecology

Flowering strips consisting of wildflowers in agricultural areas have been proven to enhance crop pollination by wild pollinators like bees, wasps, butterflies, and flies. They can also enhance bio-pest control provided by predatory or parasitoid insects as well as birds and bats in agricultural settings by providing needed resources like nectar and pollen and habitat structures like roosting and hiding areas.

A lot of research has been done in Europe about flowering strips, but little is known for arid areas. The Southern Arava is in one of the most arid areas in the world (hyper arid desert climate). Despite the challenges, this harsh environment is used for intensive desert agriculture, producing crops like dates, melon, pumpkin, watermelon, onion and more. In winter, the area experiences flash flood events which produce extensive plant growth in flooded areas a few weeks after the flood, which will peak in a bloom season of a couple of weeks. In previous research we found that these flowers are attractive for several wild insects that may have the potential to pollinate crops and provide pest control services.

The internship will be part of a bigger research project about Ecosystem Services in agriculture including bio-pest control and wild pollination. The aim of the project is to enhance ecosystem services provided to agriculture and how to enhance agriculture for biodiversity protection and nature conservation.

The internship project will concentrate on the flowering strip part of the project, creating a seed bank. The student will be integrated into the research team consisting of experts in the mentioned fields. The student will oversee growing the chosen selection of plants under ideal circumstances, maintain and monitor the plant development until seeds are ripe and then harvest the seeds to create a seed bank. In addition, they will do literature research about how to grow the chosen plants in the best feasible way.

The data and results collected by the student will support the final expected outcome of the bigger project, a seeding and monitoring protocol for farmers of the area to include flowering strips into their growing protocols and enhance pollination and bio-pest control.

The internship would ideally stretch over two semesters.