

Pollinator sanctuaries

September 12, 2019

Dear Editor,

Insect pollinators like bees, moths, butterflies and certain species of flies and beetles are responsible for cross-pollination of over 80% of globally important crops. They serve three primary industries with pollination services such as agriculture, apiculture and forestry; thereby integrating ecology with our economy. Unfortunately, a large number of insect pollinators, particularly honey bees and native bees, are showing an alarming decline in their numbers due to a number of anthropogenic factors such as industrial agriculture, pollution, climate change, various parasitic diseases, lack of suitable foraging plants to collect adequate nectar and pollen for their survival and change in land use patterns to name a handful.

Recently, Farming Smarter, an applied research organization from Southern Alberta, Canada funded by the Alberta provincial grant entitled Canadian Agricultural Partnership (CAP) has started a new experiment in the conservation of insect pollinators with special emphasis to honey bees and native bees. By using a combination of local grown annual and perennial crops and wildflowers with varying flowering periods, they have been experimenting to establish small plot Pollinator Sanctuaries to attract insect pollinators in large numbers.

The experiment has been demonstrating excellent results in terms of the rich biodiversity of local insect pollinators captured in Farming Smarter plots that not tilled with zero irrigation, fertilizer, pesticide, herbicide or any insecticide applications. The results from this Pollinator Sanctuary experiment has demonstrated that mixture of annual and perennial crops with varying flowering periods could extend the bee foraging cycles beyond the conventional season and help insect pollinators including native bees and honey bees to forage for an extended period with an adequate supply of nectar and pollen through a significant part of the year.

Furthermore, such multiple crop-based Pollinator Sanctuaries can help establish small local ecosystems, conserve insect pollinators and enrich biodiversity, serve as grazing pastures or cover crops and also help in soil reclamation and prevent soil erosion. This low cost, high efficiency and easy to manage technology is attractive to crop producers and farmers and could serve as a model for South and South East Asian countries with rich biodiversity as a low-cost conservation effort.

**Sincerely,
Saikat Kumar Basu
Canada**