

Importance Of Pollinator Mixes As Conservation Technique

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Insect pollinators like honey bees, native bees, moths, butterflies; and some species of wasps, beetles and flies are demonstrating an alarming decline in their population and sub population across the planet in both hemispheres. Several man made and natural causes are responsible for this serious global pollinator insect decline; however, the native bees and the honey bees are worst impacted across all the planet.

The highly probable factors include uncontrolled global industrial pollution, over use of pesticides in crop production system, changes in the land usages, CCD, parasitic diseases, lack of

available suitable bee/pollinator insect foraging plants (Melliferous flora), environmental stress, poor bee nutrition, Global Warming and Climate Change to mention only a handful. The gradual decline of insect pollinators (such as native bees and honey bees) is alarming since they have direct implications on our future agricultural productivity and also on the stability of our fragile global ecosystems.

Vast majority of angiospermic plants (food and industrial crops, vegetables, forest trees, ornamental plants etc) are dependent on natural or biological pollinators (for example- numerous insect species, snails and slugs, humming birds and mammals like bats) for cross pollination. Hence, we need to conserve endangered insect pollinators to secure the future agriculture, silviculture and apiculture industries.

We propose the establishment of Pollinator Sanctuaries, Pollinator Gardens or Pollinator Habitats at suitable sites by using appropriate custom-designed Pollinator Mixes. Such Pollinator Mixes could include selected native wildflowers and grasses as well as pollinator-friendly annual/biennial/perennial forage legumes and grasses in different proportions suitable for various agro-climatic zones. Plant species selected for the mix must be flowering in sequence, one after another, to extend the pollinator (bee) foraging period; and provide them with adequate supply of nectar and pollen.



Pollinator Mixes need to be developed based on appropriate agronomic parameters of the target growing region based on local agro-climatic conditions; and keeping in mind the local pollinator diversity and their foliage preferences. Pollinator Mixes constituting of native wildflowers only, currently available commercially, are not a viable option due to their poor adaptability to local agronomic conditions, high yield fluctuations (based on locality and annual production variation), as well as high management and production cost.

Suitable Pollinator Mixes could be used to create Pollinator Sanctuaries along farm perimeters, hard to access and unused areas of a farm, forest fringes, adjoining highways, boulevards and wetlands, city and municipal parks and gardens, golf courses, unused or agronomically unsuitable areas, remediation sites, and unused available sites in both rural and urban areas. Development of suitable environment-friendly Pollinator Mixes for various agro-climatic regions could therefore have long term, low cost, low maintenance, sustainable measure for conserving endangered pollinator insects.