

São Paulo Declaration on Pollinators plus 5 Forum

Group 3. Bees' Management for Pollination Purposes

Protocol

Aim: the establishment of standard methodologies for managing native bees (solitary and social) as well as Africanized honeybees as pollinators of economically and local important agricultural crops.



Objectives

- To assess the biodiversity of local bees important for pollination and to evaluate their status
- To define the basic procedures to be developed for rearing bees in a scale to allow their use as pollinators in Agriculture
- To improve capacity building and training, in all levels.

Expected Product:

- A list of recommendations for study cases during PDF B project in Brazil.
- A manual of standard methodologies for rearing native and Africanized bees for pollination purposes.
- A guide of sanitary care of migratory activities (transportation of bees from one area to another) for pollination purposes.

Organization for Discussions

The group will be divided in up to three subgroups, according to the number of attendants.

- Subgroup 1: Africanized bees rearing and management to be used as pollinators.
- Subgroup 2: Stingless bees rearing and management to be used as pollinators.
- Subgroup 3: Solitary and bumble bees rearing and management to be used as pollinators

The whole group will discuss together at the end of each session, for one hour.

- Each subgroup should be composed by, at least:
 - One person familiar with the crop.
 - One person familiar with pollination biology.
 - One person familiar with bee survey.

Discussion Section 1 – October 29th 2003 Morning

State of Art:

- Are we ready to manage our native and exotic fauna?
- Perspectives of the use of native and Africanized bees for pollination purposes

Expected product

Up-dated report on the knowledge about native and Africanized bees and their use as pollinators.

Methods:

Personal information

Review of literature

Working subgroups

(stingless bees, Africanized bees, bumblebees and solitary bees: *Xylocopa*, *Centris*, *Megachile*)

Exchange group members with Survey and Assessment groups when necessary.

Questions:

- Which are the native bee species that pollinate Brazilian crops?
- Are there species usually being used as crop pollinators?
- What are the main constrains for the use of native and Africanized bees as pollinators? How to overcome these problems?

Discussion Section 1 - October 29th 2003 Afternoon

Rearing and managing bees in large scale for pollination purposes

1. Colony production in large scale
2. Best practices in migratory apiculture and meliponiculture for pollination purposes

Expected product: Manual of protocols, according to the species, for rearing and managing native and Africanized bee species for greenhouse and field pollination

Methods:

- Use of standard colonies
- Trap-nests

- Mass rearing
- Monitoring bee-flower activity
- Disposable colonies (Bumble bees)

Questions:

- How to measure the efficiency of each method for multiply colonies in large scale?
- Which species are included in this methodology?
- What are the solutions for the problems of rearing bees in greenhouses?
- How to measure the result of using bees in greenhouses?
- Do we know how to manage native and Africanized honey bees for pollination?
- What are the main difficulties with managing native bees and Africanized bees for pollination?
- Is it possible to standardize breeding and managing methods for solitary and stingless bees?
- Is it possible to overcome parasitism problem in rearing bees on the tropics?
- Can we already provide plant growers with native bees for pollination?
- How should bee people involved in breeding solitary and stingless bees for agricultural use?
- Is it necessary to change established cropping practices for the sustainable use of bees as pollinators?
- What are the conservation measures necessary to keep a stable population of native bees in crop areas?

Discussion Section 3 – October 30th 2003 Morning

Study Cases

Stingless Bees	Bumble Bees	Solitary Bees	Africanized Bees
Strawberry		Passion fruit	Cucurbitaceae
Tomato (<i>Melipona</i>)	Tomato (<i>Bombus</i>)	Cashew	<i>Eucalyptus</i>
Melon		Cotton	Melon
Umbu- <i>Spondias</i>		Acerola	Coffee

Expected product:

Protocols for using native and Africanized bees to pollinate crops defined for study cases.

Methods

Discussion, exchange experiences and detailing case studies.

Questions:

- What and how detailed should be these protocols?
- Is it possible to expand these protocols to other crops/bees?
- Are there other interesting plants species to be included in the study cases?
- How to build awareness on crop growers about the role of native and Africanized bees as pollinators?
- How to involve government institutions with bees as pollinators?
- Is it possible to build government policy on the use of native and Africanized bees as pollinators?
- What is necessary to turn feasible native and Africanized bee pollination in Brazil?