PP-577 [Pollination and Bee Flora]
There is a bee in my coffee!

Cristiano Menezes, Geraldo Stachetti Rodrigues
Embrapa Environment

The objective of this work was to consolidate a set of sustainable practices and develop an agroecosystem management tool for farmers to transform their farms into pollinator-friendly environments, aiming to maximize the provision of pollination services and their associated benefits. The environmental impact assessment technology for rural activities, APOIA-NovoRural, served as a model for the creation of a new module, APOIA-Polinização. Initially, coffee was the model crop, as it benefits from animal pollination and is economically significant for Brazil. The actions were structured around four key pillars that form an integrated pollination management approach: (1) Landscape management, which involves the strategic use of legally protected areas for permanent preservation and legal reserves, the restoration of degraded habitats, and the planting of bee pastures in underutilized areas of farms; (2) Pollinator management, which includes the logistics of distributing and renting bee nests, as well as establishing sustainable activities such as beekeeping and stingless beekeeping on farms; (3) Agricultural input management, which involves adopting best practices for the use of chemical pesticides, implementing compatibility protocols, optimizing application methods and timing, encouraging the use of biological inputs, and promoting ecological pest management; and (4) Production and commercialization management, which encompasses the transfer of technologies to enhance crop productivity and quality, as well as bee product quality, the development of food safety protocols, and certification processes aimed at adding value to both pollination-dependent crops and bee-derived products like honey. The management tool, established as an indicator-based system for recording, interpreting, and communicating field-observed attributes, allow farmers to: (i) diagnose the current state of integrated pollination management within their farms; (ii) develop an implementation plan for management improvements and recommendations to enhance pollination services based on farm-specific technical criteria; and (iii) monitor and communicate the short-, medium-, and long-term impacts of these changes using clear and effective economic, social, and environmental indicators. The tool and the set of practices that comprise it was implemented as a pilot in coffee production farms for validation and improvement.