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Background/purpose. Galicia has a remarkable tradition in beekeeping activity. The existence of a large, forested area and diverse melliferous flora favored this activity providing a source of income for farmers in rural areas. The aim of this project was to find out the current situation of beekeeping in Galicia and to propose management alternatives for apiaries. **Problem description.** Galician beekeeping is facing different challenges, such as climate change, the presence of the invasive species *Vespa velutina nigrithorax*, resistance to disease control treatments and the introduction of non-native honey bees not adapted to the territory. To achieve the survival of honey bee colonies, it is necessary to innovate in the methodology of colony management, allowing beekeepers to face the current and future challenges of the sector.

Methodology. 77 apiaries were selected, distributed throughout Galicia, with a total of 245 beehives selected. Each of the selected beekeepers was surveyed about their beehive management and the characteristics of their honey bees. Sanitary, morphometric and genetic analyses were carried out on the selected hives. Different types of precision beekeeping systems were used.

Results and conclusion. Continuous records of internal and external data were obtained from the apiaries and the main disadvantages, including the difficulty of interpreting the data, and advantages such as obtaining data in real time, were identified. An overview of the morphometric and molecular variability of bees in Galicia was compiled together with behavioral data. In conclusion, the description of current Galician beekeeping highlighted the variability of management among beekeepers, the concern of beekeepers about *Vespa velutina* and *Varroa* mite and the introduction of other subspecies of honey bees in Galician territory.

Practical implications for beekeepers. Good practice guidelines for the use of new technologies and other key factors in beekeeping management were elaborated.