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A KNOWLEDGE MANAGEMENT APPROACH COUPLED WITH THE INFORMAL PPAF NETWORK: FIRST STEPS TOWARDS A GLOBAL STRATEGY FOR PLANT USES IN AFRICA UNDER THE ONE HEALTH INITIATIVE

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Reducing the use of synthetic pesticides in crop protection, and antibiotics in livestock farming, is a challenge. A project funded in 2017-2018 by the INRA-CIRAD Glofoods meta-programme explored plant biodiversity with a view to conserving it more effectively and putting it to optimum use, by compiling its uses in the Knomana knowledge base.

The project was developed in light of the expertise acquired in East Africa by the University of Greenwich and Kew Royal Botanic Gardens (ADAPPT and OPTIONS projects). The organic farming supply chains keenly subscribe to the approach adopted. In addition to managing already established pests, some invasive alien species (e.g. the insects *Spodoptera frugiperda* and *Tuta absoluta*) are already being considered. The inventory of plant extract uses, either under experimental conditions or in current practice, was based on publications provided by researchers affiliated to the PPAf (*Plantes Pesticides d'Afrique*) informal network, launched in Cameroon and Burkina Faso. After extending the search to other geographical areas (Africa, then Asia), Knomana holds 46,300 descriptions as of April 2022, each representing a use for plant health, public health (insect vectors of diseases), animal health (including fish farming) and human health (pathogens only). The descriptions are based on 71 items of information, including the plants used, target organisms, and the protected crops and animals. In all, 2,540 plant species are listed, covering 717 species of target organisms.

The base is described using an ontology and analysed by constructing conceptual classifications to highlight new knowledge (e.g. the repellent effect of a species that can be used in a push-pull strategy), and to identify gaps that need to be filled, such as effects on non-target organisms. An extension of Knomana is planned to include the plurality of services offered by these species.

***Keywords**: Knowledge management, pesticidal plants, Spodoptera frugiperda, sub-Saharan Africa, Tuta absoluta*