

Detection using dogs

Excellent progress has been made on the use of dogs to detect red palm weevil in palms in quarantine. At the recent Palm Protect meeting in Montpellier, Dr. Pompeo Suma from the University of Catania (Italy) presented data and a video of the dog training activities belonging to the WP3 coordinated by Prof. Victoria Soroker from the Volcani center of Tel Aviv (Israel). In the framework of the tasks 3.1 “*Development of detection protocols for individual palm trees in quarantine*” after the first phase aimed at establish a cooperation with a certified professional dog trainer, the second step was devoted to the selection of the dogs (in terms of breed and peculiarities, see tab. 1) to be employed for the detection of the infested palm trees.

Table 1: Characteristics of the selected dogs

| Dog's name | Dog's breed | Initial age | Current age | Breed peculiarities | Subject's peculiarities |
|--------------|--------------------|-------------|-------------|--|--|
| Lalla | Labrador Retriever | 8 mos. | 15 mos. | - strong olfactory ability - hardy breed - remarkable docility | - strong commitment to the proposed work - lively and sociality disposition - lightly intolerance to transportation |
| Fiona | German Shepherd | 2 Mos | 11 mos. | - good sense of right and wrong - strong predation - strong ductility - Innate docility | - hyperactivity predatory (negative) - mild indocility |
| Lola | Golden Retriever | 2 Mos | 5 mos. | - strong olfactory ability - hardy breed - remarkable docility - strong ability and high resistance to work | - hyperactivity (positive) - strong predation - highly docile - predisposition to physical activity - strong sociability |

The next step was about the development of training protocol of detection of the target pests that involved four stages: 1. Mental activation aimed at stimulate and improve the dog's senses achieved by means practical exercises (problem solving, trailing and coordination) (fig. a & b); 2. Obedience evaluation tests; 3. Training olfactory detection capability.

The last step of the protocol (currently in progress) foresees the efficiency evaluation of the dog e.g. in terms of number of positives responses, of persistence, working ability/working conditions and precision in the detection of the early infestations.

Based on the current data accumulated, the trained dogs can locate Canary Island date palms containing an odour emission of the weevil. This tool can represent a new approach to be taken into consideration between the RPW inspection methods for the detection of this pest.