



# A NEW PLAN FOR BEE PATHOGENS IN MARCHE REGION, ITALY

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In Italy the development of beekeeping has been strongly affected by bee pathogens: since the diffusion of *Varroa destructor* in the '80, to the recent introduction of *Vespa velutina* in Liguria (2013) and *Aethina tumida* in Calabria (2014), to the wide endemics of *Nosema ceranae*. All this pathogens causes damage of hives and less productivity with significant loss income. Nowadays, with the implementation of the National Registry, the consistency of hives in bee-keeping farms, their location, as well as others useful information are available. All this data permits the Veterinary and Agricultural Regional Services to propose epidemiological investigation and strategic approaches to endemic pathogens.

This surveillance plan has been developed for the Marche Region, by Istituto Zooprofilattico Sperimentale Umbria e Marche in collaboration with the Regional Authority and the Bee Keepers Associations for the mentioned pathogens, thanks to the financial assistance of the European Union (Reg.UE 1308/2013). The plan, which will start in March 2019, has the following aims: a) assess the seasonal infestation (in March-April) in healthy hives by *Varroa destructor* and *Nosema ceranae*, using standard quantitative diagnostic methods (OIE, Manual of Diagnostic Tests); b) realize a rapid detection network against the introduction of *Vespa velutina* and *Aethina tumida* (from April to November), by using specific traps in selected farms. The sampling has been designed, not only by a statistical approach, but also by a geographic distribution of samples, in order to investigate the relationship between Varroasis, climate and environmental parameters, and also to establish a wide surveillance network for the invasive species. The whole region will be divided into squares (10x10kilometers); a sentinel farm will be chosen in each square, within those with a experienced management. In addition, the plan will assure a veterinary assistance for the farms signed in the National Registry, in order to ensure standardized laboratory diagnosis for bee diseases. Moreover this plan, implemented by environmental monitoring, wants to improve the awareness of beekeepers and their associations for bee health protection, endemic diseases control and invasive species.

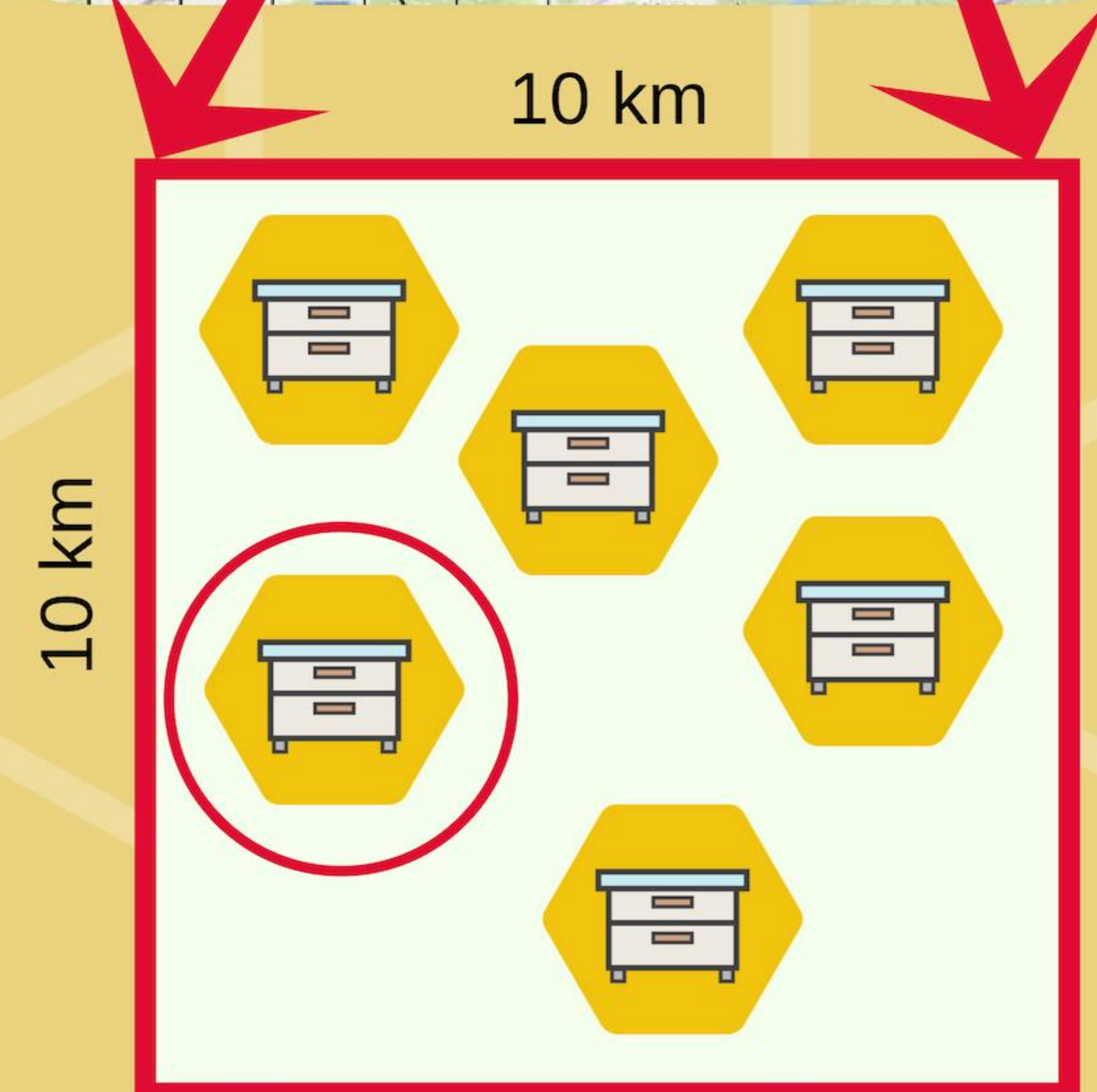
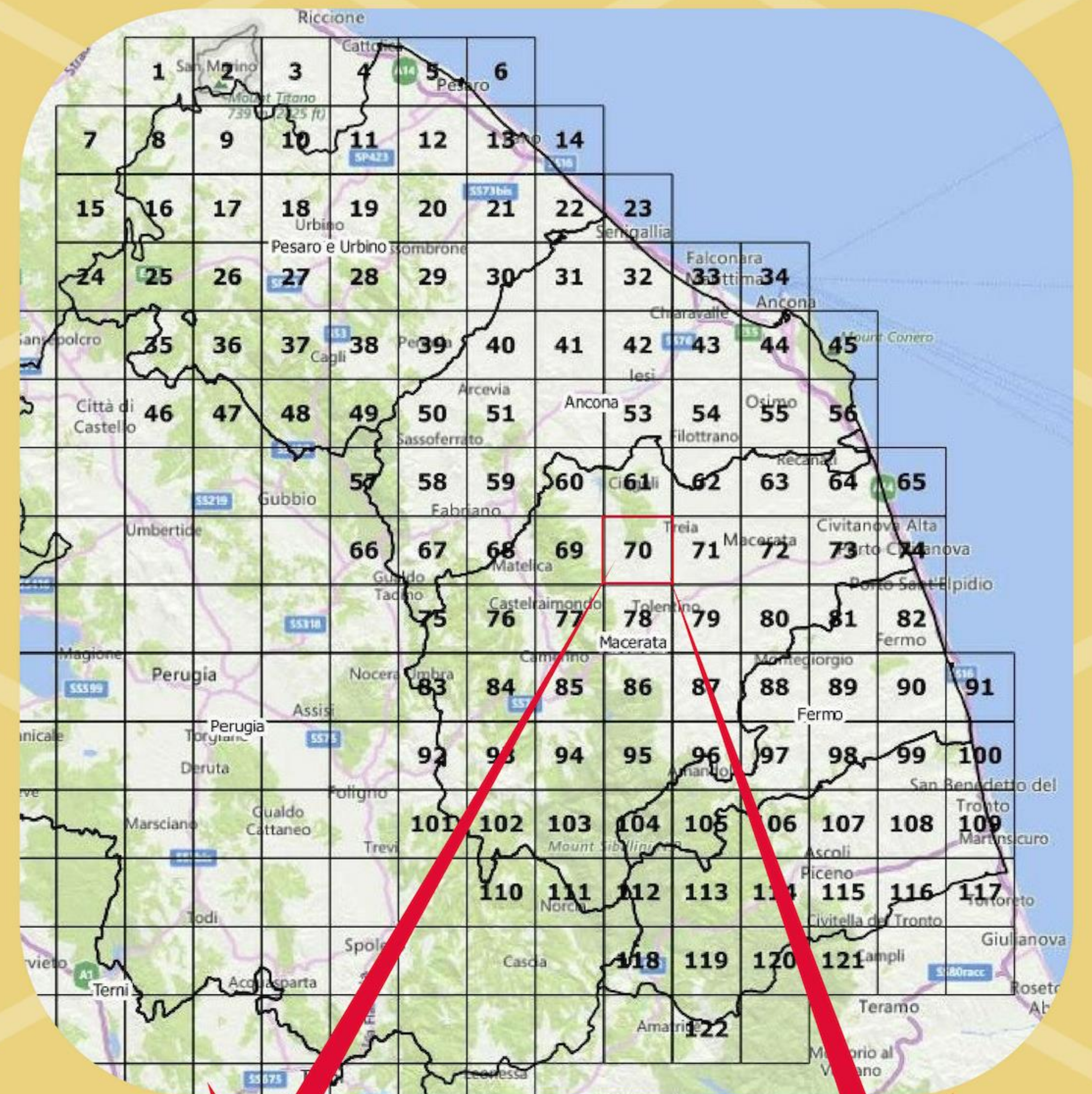


Fig.1 The Marche region divided into 122 squares (10x10 kilometers). In the square a sentinel is chosen.

