

Ticks Resistance to Ixodocides

To prevent tick resistance to ixodocides, it is important to carry out a good management and application of the products based on a diagnosis of susceptibility and resistance to the chemical families authorized by Agriculture.

By definition, resistance is the ability of a parasite population - in this case ticks, to tolerate doses of toxicants that would be lethal to most individuals in a normal (susceptible) population of the same species.

When an ixodocide or tickicide is used intensively, it causes a strong selection pressure that eliminates susceptible individuals.

Eighty percent of ixodocide resistance problems are due to poor product management.

Prevention of resistance = Rational management of pesticides.
This concept should consider the following:

- Use of tick pesticides when really necessary, i.e. when the infestation is such that the condition and health of the animals is affected.
- Identify the pest to be combated and choose the correct strategy.

- Do not use homemade mixtures or agricultural pesticides, resort to rotation programs when necessary.
- Strictly follow the manufacturer's instructions and recommendations.
- Change chemical family only after a resistance diagnosis.

In order to carry out a comprehensive management of ticks, an option is to establish strategies to control ticks of the genus *Boophilus* spp. For instance, application of vaccine with recombinant antigen Bm86 of *Boophilus microplus*, in farms in the states of Michoacán, Nayarit, Puebla, Quintana Roo, Tabasco, Tamaulipas, Veracruz, and Yucatán. In addition, in areas where resistance to ticks is a reality, the integrated management and application of treatments based on macrocyclic lactones, inhibitors of tick development in their larval phase, have been indicated.