



CANADIAN VETERINARY  
MEDICAL ASSOCIATION  
L'ASSOCIATION CANADIENNE  
DES MÉDECINS VÉTÉRINAIRES

## VETERINARY OVERSIGHT OF ANTIMICROBIAL USE – A PAN-CANADIAN FRAMEWORK OF PROFESSIONAL STANDARDS FOR VETERINARIANS

### **Sub Section:**

Providing Veterinary Oversight of Antimicrobial Treatment of Agricultural Bee Populations





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## BACKGROUND

Apiculture, to produce honey, as well as for pollination services, is a significant component of Canadian agricultural production. A fact that is often overlooked is that honey bees are a food producing animal. In 2015 there were 8,500 recorded honey producers in Canada. This represents over 720,000 colonies of bees. Canada produced 95 million pounds (43.2 metric tonnes) of honey with a market value of 250 million Canadian dollars.

At that time, sixty eight percent of the Canadian production was in Alberta, Saskatchewan and Manitoba with 41% coming from Alberta. Ontario had the largest number of producers, 2562.

Generally, bee keepers will have a number of apiaries, each consisting of a series of colonies/ hives with a number of boxes or supers in each hive, containing frames, where the honey is produced. The distribution of the industry is quite diverse, including; some very large commercial producers with many thousands of colonies placed in several apiaries, part time producers with a few tens of colonies and many hobbyists with as little as one hive. Honey production occurs in remote rural areas, suburban settings and even in some urban environments.

The industry is well organized with producer organizations in all provinces and a national Canadian Honey Council. This is supported by Apiary Acts and Regulations in most provinces and Federal regulation under Agriculture and Agri-food Canada (AAFC) and the Canadian Food Inspection Agency (CFIA). Professional support is available in the form of Provincial apiculturists and other provincial staff as well as tech transfer teams and federal specialists with AAFC and CFIA.

Like any livestock production system, bees are afflicted by a number of disease threats, including bacteria, fungi, viruses and parasites. These health situations have historically been managed by beekeepers with guidance from provincial and federal employees engaged in the field. The engagement of private veterinarians has been minimal.

American Foulbrood (AFB) is a reportable bacterial disease with significant impact on the industry. It is wide spread with as many as 25% of colonies showing the presence of spores in some areas. The prevalence varies widely across Canada. In areas of high incidence, AFB is preventively treated with tetracycline fed to the colony in fall and spring (most of the time, it is mixed with sugar and placed as a dust on top of the frames), even in unaffected colonies. Normally, the antibiotics work on the vegetative stage but not on the spore forming stage. Consequently, it hides the presence of the disease and AFB cannot be eliminated by antibiotic treatment (because the spore forming stage is not affected). As a result of this systematic



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preventive use, tetracycline resistance has developed and management is further complicated. Tylosin is also registered in Canada for AFB therapy and is only recommended when AFB has been confirmed and tetracycline resistance has been documented. In these situations, tylosin is used in the fall. In addition to the risk of developing resistance, both products are problematic in that there is a risk of contamination of commercial honey with antibiotics. Consequently, their use must be carefully controlled and limited to a time frame when commercial honey is not being produced.

## CHANGING ENVIRONMENT

Health Canada has directed that the use of Medically Important Antimicrobials (MIA) in food producing animals shall be under veterinary oversight. This will be achieved by moving all MIA to the prescription only drug list, to be fully implemented by the end of 2018.

This change will have a significant impact on the apiculture industry. To access tetracycline, tylosin or any other medically important antimicrobial for use in their operation, a veterinary prescription must now be provided in all Canadian jurisdictions.

It is necessary that Canadian veterinarians become familiar with apiculture and the specific treatment requirements of bees. This is essential in order to develop legitimate Veterinarian Client Patient Relationships (VCPR), establish evidence based medical need and subsequently prescribe and dispense antimicrobial treatment for patients presented by this industry.

This document is presented to assist Provincial/Territorial Veterinary Statutory Bodies in Canada to develop a common set of guidelines guiding the behavior of Registered Veterinarians when working with bee keepers and honey producers and prescribing treatment for bees. This is necessary to ensure legitimate Veterinary Oversight in the interest of protection of the public. At the same time, it is hoped to facilitate engagement of veterinary professionals with the apiculture industry and support sustainability of this industry.

Given the wide distribution of bee keeping operations, it might be anticipated that a considerable number of veterinarians will be approached to serve this industry. Likely this will not be confined to traditional food animal veterinary practices but will also engage companion animal practitioners in suburban and urban locations.

Veterinary oversight of all species requires the establishment of a legitimate VCPR and determination of evidence based medical need before a prescription can be issued. A prescription from a Registered Veterinarian is required before any medically important antimicrobial is dispensed.



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The following guidance will assist the Registered Veterinarian in meeting this obligation as well as helping the Veterinary Statutory Body in their role of maintaining compliance to this principal considering the species under discussion.

## VETERINARIAN-CLIENT-PATIENT RELATIONSHIP (VCPR)

Veterinarian-Client-Patient Relationship (VCPR) - A VCPR exists for the purpose of prescribing, when all the following conditions have been met:

1. The veterinarian has assumed the responsibility for making clinical assessments and recommendations regarding the health of the animal(s) and the need for medical treatment,
2. The veterinarian has sufficient knowledge of the animal(s) on which to base the assessment, diagnosis and treatment of the medical condition of the animal(s). This means that the veterinarian has recently seen and is personally acquainted with the keeping and care of the animal(s) by virtue of an examination of the animal(s) or by medically appropriate and timely visits to the premises where the animal(s) are kept.
3. The client has agreed to follow the veterinarian's recommendations and prescription.
4. The veterinarian is available or has arranged for follow-up evaluation, especially in the event of adverse reactions or failure of the treatment regimen.

While the traditional VCPR requires animal examination and site visits (*#2 above*), the nature of bee keeping may make this impractical and even unnecessary. Building upon the definitions and policies outlined in the Pan Canadian Framework document, this sub-section aims to provide clarity in respect to the unique needs of this specific species and industry.

## SPECIFIC REQUIREMENTS:

### **Veterinarian:**

- Express a willingness to engage with this species and has assumed the responsibility for making clinical assessments and recommendations regarding the health of the animal(s) and the need for medical treatment,
- Have access to resources regarding industry and health management
- Engage in continuing education regarding the species
- Access and review disease surveillance information relevant to their region, province and across Canada.
- Be knowledgeable about provincial and federal legislation as it relates to bee keeping and the production of honey.



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### **Veterinarian-Bee Keeper Relationship:**

The veterinarian has assumed the responsibility for making clinical assessments and recommendations regarding the health of the animal(s) and the need for medical treatment. The veterinarian and bee keeper must develop a relationship and the veterinarian must document:

- Producer name
- Address and location of production sites
- Confirmation of registration of operation with the province where this is required by legislation
- Premises identification number (where applicable)
- Number of apiaries
- Number of colonies or hives
- Annual production
- Reasonableness of access to production units by veterinarian
- Evidence of in person consultation either by actual visits to production sites or consultation by real time video communication
- History of health management practices of the operation

### **Veterinarian-Bees Relationship:**

The following represents the information upon which the veterinarian establishes the relationship with the honey bee patients and which may provide sufficient knowledge of the animal(s) on which to base the assessment, diagnosis and treatment of the medical condition of the animal(s).

The some or all the following pieces of information may be used by the veterinarian to establish the evidence based medical need for a prescription.

- Records of colony health
- Previous disease history
- Treatment history for all diseases
- Documentation of site visits by provincial apiculturists or other experts, including report and recommendations
- Clinical evidence of disease based on visual inspection by the veterinarian or qualified provincial apiculturist
- Laboratory reports from all submitted samples, confirming the presence of disease/spores.
- Culture results regarding resistance to antimicrobials
- Results of antibiotic residue testing



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## FOLLOW UP

As with all VCPR and prescriptions, the veterinarian must be available or have arranged for follow-up evaluation, especially in the event of adverse reactions or failure of the treatment regimen.

## SUMMARY

In all cases where the registered veterinarian is asked to provide oversight of the use of antimicrobials and issue a prescription for treating bees, the registered veterinarian is required to:

1. Establish and meet conditions of a valid Veterinarian Client Patient Relationship (VCPR) regarding the bee keeper and the bees,
2. Make an evidence-based determination of medical need,
3. Complete appropriate documentation in the medical record, and
4. Provide oversight of use and follow up.