

Api-Bioxal

VARROA
TREATMENT



TREATING WITH OXALIC ACID THE SAFE WAY



PHARMACEUTICAL GRADE OXALIC ACID
HEAVY-METAL CONTROLLED



FOR SUBLIMATION, DRIBBLING
OR SPRAYING ON PACKAGE BEES



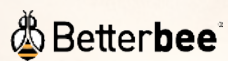
AVAILABLE IN 3 SIZES TO FIT
ALL TYPES OF OPERATIONS



Api-bioxal is the only
oxalic product
approved for use in
beehives by the E.P.A.

AVAILABLE FROM YOUR
FAVORITE RETAILERS

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WE KNOW BEES
An Employee Owned Company



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API-BIOXAL, YOUR REGISTERED OPTION FOR OXALIC ACID TREATMENTS

Api-bioxal is an oxalic-based mite knock-down treatment developed specifically for honey bees. It is officially registered by the USDA and approved by the EPA.

This means that the formulation has been developed to guarantee:

- The safety of beekeepers handling Api-bioxal,
- Good tolerance of the treatment by the bees,
- High standards for hive product consumer protection.

Treating against varroa is necessary to keep honey bee colonies healthy and strong. But, making sure that treatments will not harm consumers of the hive products or the environment is just as important.

“ We wanted to give the American beekeepers a safe and legal solution to treat their colonies with oxalic acid. ”

Marcele Barthelemy, General Manager

Oxalic acid: a natural option for brood-free colonies

The high efficacy of oxalic acid against *Varroa destructor* in brood-free honey bee colonies (*Apis mellifera*) has been demonstrated repeatedly in extensive research over the past decades.¹⁻² The emphasis is on “brood-free”, because oxalic acid targets phoretic mites, but does not work against varroa inside the capped brood.¹ Thus, optimal efficacy of single oxalic acid applications can only be achieved in brood-free or nearly brood-free condition of the colonies.


While the mode of action of oxalic acid as a miticide is not clearly understood,

it seems that the low pH of oxalic acid solutions has a deleterious effect on the mites when they get in contact with it.⁴

What makes oxalic acid interesting as a treatment against varroa mites - apart from its **high efficacy of more than 90%**¹ - is its classification as an organic treatment by EU regulations (EU Council Regulation, No. 1804/1999).³ This makes oxalic acid **especially attractive for natural beekeepers, but also for conventional operations practicing IPM** (Integrated Pest Management) with rotating treatment schedules.

SUBLIMATION, DRIBBLING OR SPRAYING? YOUR CALL!

When to use Api-Bioxal?

 We recommend using Api-Bioxal in late fall or winter, when there is little to no brood (a few weeks after the first frost).

 If you wish to use Api-Bioxal in Spring or Summer:

Be aware that brood presence will impair the final efficacy: ideally, halt egg laying by the queen for 25 days prior to treatment (i.e., queen caging).

**5-year
shelf life**



Package Size	Dribble (nb of colonies)	Sublimation (nb of colonies)
35g	20	35
175g	100	175
350g	200	350

How to use Api-bioxal?



DRIBBLE:

Dissolve Api-bioxal in 1:1 sugar syrup.
Dribble 5ml of the solution onto the bees in each occupied bee space with a syringe or an applicator.
Maximum dose: 50ml per colony.



Api-Bioxal (35g)
(1.24oz)



Syrup (1L)
(0.26gal)

Syrup dilution:
1:1 ratio
(Sugar/Water)

SUBLIMATION:

1g of Api-Bioxal per hive.
Seal the entrance and cracks on the hives with tape.
Use the vaporizer following the manufacturer's directions.



You can also spray package bees following the label instructions.

TIPS:

- Always wear a protective mask, gloves, glasses, long sleeves, long pants, socks and shoes when mixing and applying oxalic acid.
- Oxalic acid works best on colonies with little to no brood.
If brood is present in the hive, consider removing brood combs, splitting colonies or caging the queens prior treatment.
- Treat all colonies in the apiary at the same time to avoid reinfestation.

NEWS FROM THE REGULATOR

The EPA recently established an exemption from the requirement of a tolerance for residues of oxalic acid on honey and honeycomb. This regulation eliminates the need to establish a maximum permissible level on these commodities for residues of oxalic acid.

Consequently, it is now authorized to use Api-bioxal year-round, including when honey supers are in place.

According to the tolerance exemption issued by the EPA on February 23, 2021 and the label amendment accepted on April 30, 2021.

The user must be in possession of the supplemental label Rev. 12/17/20.



A question about Api-Bioxal ?

Our Technical Advisor can answer your questions at technical@vetopharma.com

Resources:

1. Rademacher E. & Harz M. (2006). Oxalic acid for the control of varroosis in honey bee colonies – a review. *Apidologie*. 37: 98-120.
2. Nanetti A. et al. (2003). Oxalic acid treatments for varroa control (review). *Apiacta*. 38.
3. Maggi et al. (2017). The susceptibility of *Varroa destructor* against oxalic acid: a study case. *Bulletin of Insectology*. 70 (1): 39-44.

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A QUESTION? FEEL FREE TO CONTACT OUR TEAM



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