



BOTSTIBER INSTITUTE
FOR WILDLIFE FERTILITY CONTROL

FACT SHEET

OVISTOP®

Brand name: Ovistop® 0.08 g nicarbazin / 100 g, granules for oral use

Active Ingredient: nicarbazin

Indications for use: reduction of the fertility of feral pigeon eggs

Registered: in Italy in 2002 by National Procedure n.103570014

Registered: in Belgium as R-12 in 2015 by National Procedure n. BE-V498444

Manufacturer: ACME Drugs S.r.l. via Portella della Ginestra, 9 Zona Industriale Corte Tegge, 42025 Cavriago (Re) Italy

Regulatory Status: veterinary medicinal product, subject to veterinary prescription

Website: www.acmedrugs.eu

General Description

Ovistop® is an avian oral contraceptive formulated by adding nicarbazin (0.08 g for 100 g) to corn kernels, each coated with excipients to protect it from degradation.

Nicarbazin is a drug normally used by the poultry industry to treat a parasitic disease called coccidiosis. As a side effect, nicarbazin reduces or completely inhibits the fertility of eggs, depending on the dose administered. Fertility returns to normal about 10 days after the treatment has been suspended.^{4,5}

Chemically, nicarbazin is a complex of 4,4'-dinitrocarbanilide (DNC) and 2-hydroxy-4,6 dimethyl pyrimidine (HDP). After ingestion, nicarbazin dissociates rapidly into its two components, DNC and HDP. DNC, which is the biologically active part of the complex, must be bound to HDP to be absorbed and to reach a plasma level that affects reproduction. Once dissociated, DNC and HDP are not able to re-combine.^{6,8}

Dosage and Administration

Ovistop® is administered to pigeons by spreading the kernels on the ground, early in the morning, during the reproductive period. The recommended dose is 10 g/per pigeon/per day. A consumption of 10g a day for at least 5 days a week totally inhibits eggs hatchability in treated pigeons.

Administration may be carried out manually or by an automatic feeder.

Ovistop® should be distributed in clearly defined areas. Total consumption by pigeons should be monitored, and any leftover should be removed after every distribution.

Efficacy

Ovistop® inhibits the fertility of feral pigeons' eggs. At the recommended dose, treated birds may not lay eggs or may lay eggs that do not hatch.

Several studies^{1,2,3} found that the treatment of a pigeon colony reduces numbers by 30% every year for up to 4 consecutive years, leading to a decrease of circa 70% of the initial number. Once this population reduction is achieved, the low density in the treated areas remains stable, provided that Ovistop is still employed.

Using Ovistop® in conjunction with other methods of pigeon population control improves the overall efficacy of bird management. These methods include limiting birds' access to attics, and to buildings' cavities, and reducing the availability of supplementary food source especially during Ovistop® distribution periods.

Toxicity and Side Effects

The acute toxicity (LD50) of nicarbazin is greater than 25,000 and 10,000mg/kg body weight, respectively in mice and rats. No adverse effects, apart from the impact on eggs production and hatchability, have been found in birds.⁶ The World Health Organization indicates that non-target mammals (including humans) would have to consume prohibitively large amounts of the product to produce any toxic effects. Based on the rat acute oral LD50 toxicology data, an acute single ingestion for a child (15kg or 33lbs) would have to exceed 60 kilograms (132 pounds) of bait and for a dog (10kg or 23lb.) this would exceed 40kg (88lbs) of bait to cause lethal effects in 50% of the population.⁸

The chemistry of the active ingredient minimizes the risks of any secondary effects on birds of prey. When ingested, nicarbazin rapidly turns into a biologically inactive form, and its residues are excreted from the body shortly after treatment. Any amount ingested through secondary intake is below the established no-effect level.^{6,8}

When Ovistop® is used as described on the label, it is safe and well tolerated by feral pigeons and it does not present risks for other animal species, for the food chain or for the environment.

The recommended method for Ovistop® administration, the formulation of the bait (relatively large, made by corn kernels, suitable for a pigeon but not for the smaller songbirds) and the behavior of pigeons,⁷ that tend to consume all the treated bait at bait stations, minimize bait consumption by non-target species.

The reproduction of other bird species might be affected if these animals fed on treated bait on a regular basis, but these effects will be reversible.

Leaching of nicarbazin from the bait is minimized by its formulation and by the administration method. The risk for environmental contamination by pigeon excrement is negligible and well below the limits indicated by the European Medicines Agency. Ecotoxicity data indicate Ovistop® has a very low toxicity to aquatic organisms.^{6,8,9}

The bait is fed sparingly in the proximity of roosting sites (i.e., rooftops). Experience shows that once the pigeons are habituated to feed, the bait is consumed in a few minutes, leaving little opportunity for consumption by non-target species.⁷

Raptors don't eat corn kernels, and the probability that a bird of prey is affected by undigested Ovistop® present in a treated pigeon's alimentary tract is extremely low.

Ovistop® has no effect on mammals, reptiles, and on other animals that might consume the bait.^{6,8}

Learn More

For more information, please write to info@ovistop.it

References

1. Albonez, P., A. Marletta, I. Repetto., and E.Sasso 2015. *Efficacy of nicarbazin (Ovistop®) in the containment and reduction of the populations of feral pigeons (Columba livia var. domestica) in the city of Genoa, Italy: a retrospective evaluation.* Veterinaria Italiana 2015, 51 (1) 63-72.
2. Crespo, C. G., and S. Lavin, 2022. *Use of Fertility Control (Nicarbazin) in Barcelona: An Effective yet Respectful Method towards Animal Welfare for the Management of Conflictive Feral Pigeon Colonies.* Animals 2022, 12, 856.
3. Ferri, M., M. Ferraresi, A. Gelati, G. Zanneetti, A. Domenichini, L. Ravizza, and R. Cadignani. 2011. *Control of the urban pigeon Columba livia population and the preservation of common swift Apus apus and bats Chiroptera during the restoration of the Ghirlandina tower in the city of Modena (Italy).* Julius-Kühn-Archiv 2011, Iss 432, Pp 133-135
4. Leeson, S., Caston, L.J. and Summers, J.D., 1989. *The effect of graded levels of nicarbazin on reproductive performance of laying hens.* Canadian Journal of Animal Science, 69(3), pp.757-764.
5. Luck M.R., 1979. *The adverse effect of Nicarbazin on reproductive activity in the hens.* Broiler Poultry Science Journal, 20: 605-607 (1979)
6. Hazardous Substances Data Bank (HSDB). *Nicarbazin.* Information was generated from the Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system (<http://toxnet.nlm.nih.gov>) on November 9, 2012.
7. Johnston R. F. & Janiga M., 1995. *Feral Pigeons.* Oxford University Press, 1995 – 320 pp.
8. United States Environmental Protection Agency. 2005. *Pesticides - Fact Sheet for Nicarbazin.* https://www3.epa.gov/pesticides/chem_search/reg_actions/registration/fs_PC-085712_01-Nov-05.pdf accessed 20 October 2022.
9. European Medicines Agency (EMA) - Veterinary Medicines and Inspections. *Guideline on Environmental impact assessment for veterinary medicinal products Phase II.* CVMP/VICH/790/03-FINAL (2004).



BOTSTIBER INSTITUTE
FOR WILDLIFE FERTILITY CONTROL

www.wildlifefertilitycontrol.org