VAXXON® COCCIVET R

- **Broad protection - 7 species, 8 strains**
- **Eye-drop, oral and spray application**
- **Combined administration with live vaccines**

vaxxinova®

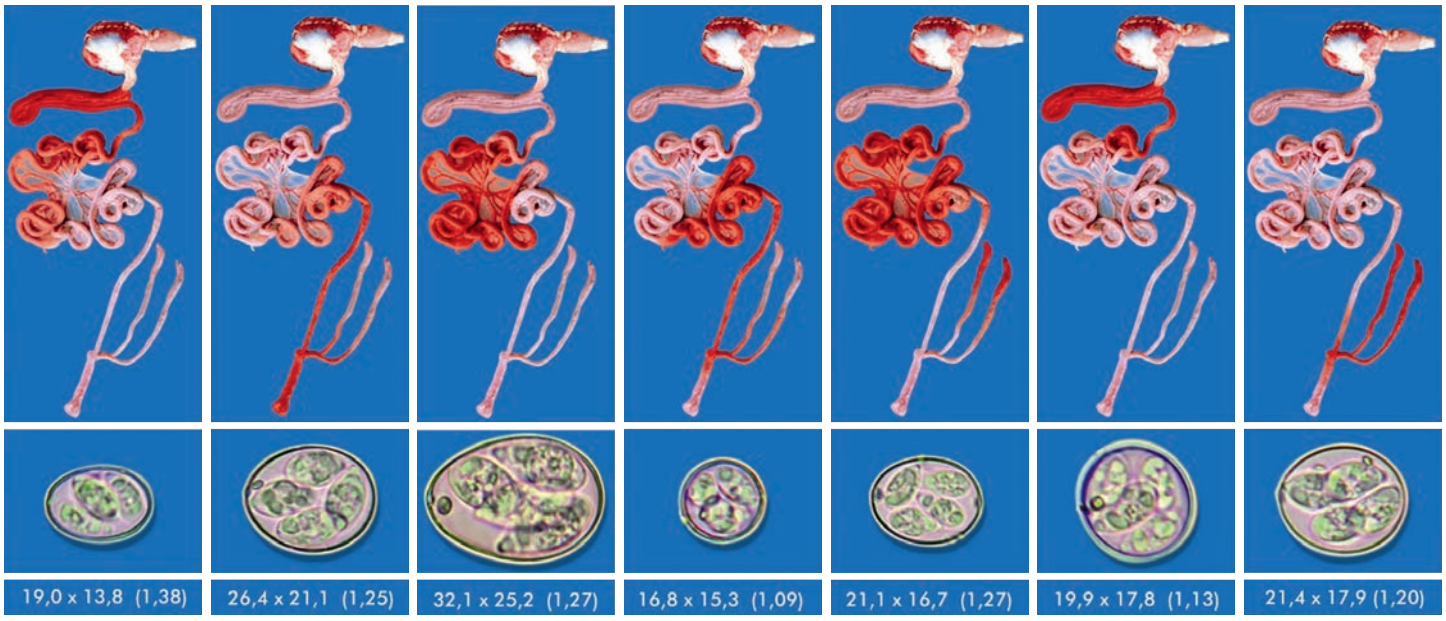
Avian Coccidiosis - The Disease

Fighting avian coccidiosis is still a challenge in the modern poultry industry.

Avian coccidiosis is an intestinal disease caused by a protozoa of the *Eimeria* genus.

The disease manifests itself through clinical and sub clinical symptoms and is a major cause for poor performance and lost productivity in domestic livestock. The annual financial loss to the poultry industry as a result of coccidiosis has been estimated at over GB£ 10 billion globally.[1]

Seven *Eimeria* species have been identified globally, all with individual biological characteristics.



E. acervulina *E. brunetti* *E. maxima* *E. mitis* *E. necatrix* *E. praecox* *E. tenella*

Image courtesy of Dr. Arthur Gruber, University of São Paulo.

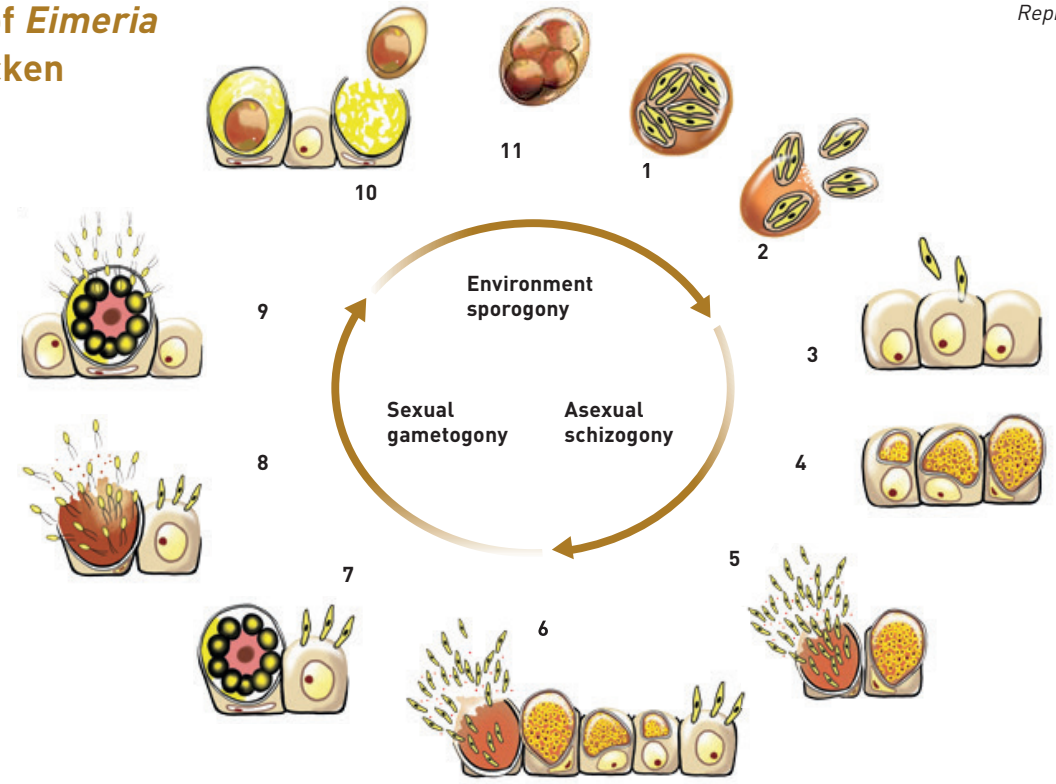
What do all the chicken *Eimeria* species have in common?

- Faecal-oral transmission.
- Endogenous and exogenous life cycle.
- Huge reproductive capacity.
- Infection *Eimeria* species-specific.
- No cross-protection between species.
- Specific lesion sites on the gut.
- Easy movement from one shed to another.
- Resistant to extreme conditions.

[1] *Damer P. Blake et al, 2020*

Life cycle of *Eimeria* spp. in chicken

Reproductive cycle of the sporulated oocyst



1. Sporulated oocyst
2. Oocyst wall rupture and sporocyst release
3. Release of sporozoites and penetration into intestinal epithelial cells
4. Development of a first generation schizont (schizogony)
5. Schizont maturation, rupture and release of merozoites.
6. Penetration of merozoites in cells of the intestinal epithelium, formation of a second generation schizont and release of second generation merozoites.
7. Penetration of merozoites in intestinal cells and differentiation into macrogametocytes
8. Penetration of merozoites in intestinal cells and differentiation in microgametocytes. Cell disruption and release of microgametes
9. Fertilization of macrogametes by biflagellated microgametes (gametogonia)
10. Formation of the oocyst, rupture of the intestinal cells and release of the mature oocyst
11. Sporulation of the oocyst in the environment (sporogony)

The parasites have an oral-faecal life cycle involving three phases: sporogony (exogenous), schizogony and gametogony (endogenous).

Diagnostics

There are several methods to identify and isolate the various *Eimeria* species:

- Faecal examination - flotation: determine the size and morphology of the oocysts.
- Determination in the pre-patent period.
- Post-Mortem examination: determine local lesions, *Eimeria* type and evolutive forms.
- Molecular biological assays (PCR).

Species	Pre-Patent Period (Hours)	Minimum time of Sporulation (Hours)
E. praecox	83	12
E. mitis	93	15
E. acervulina	97	17
E. brunetti	120	18
E. maxima	121	30
E. tenella	132	18
E. necatrix	138	18

Differentiation of Eimeria species in the pre-patent period and sporulation time.

VAXXON® COCCIVET R

- A polyvalent live vaccine for the control of Avian Coccidiosis in long-life-cycle birds: pedigree stock, great grandparent stock, grandparent stock, parent stock, commercial layers, heavy broilers (bio).
- Contains 7 *Eimeria* species, 8 strains, incl. *E. maxima* 47 and 52, for broad protection.
- Administration by eye-drop, oral or spray.
- Innovative, easy to use and practical: the only cocci vaccine in the world to combine as single dose with live vaccines, within normal vaccination handling of the birds.
- Low pathogenicity and high immunogenicity.
- Induces immune response in the first few days after vaccination.
- VAXXON® COCCIVET R does not interfere with the immune response of other vaccines.
- Vacinated flocks are more healthy, uniform and pigmented.
- Provides greater effectiveness without resistance problem.
- Revitalizes the sensitivity of *Eimeria's* to drugs.
- No residue in meat: meets the most demanding residue control legislation in the world.
- **Proven efficacy in the field: Latin America, Middle East and Asia: Over 1 billion broiler breeders vaccinated!**

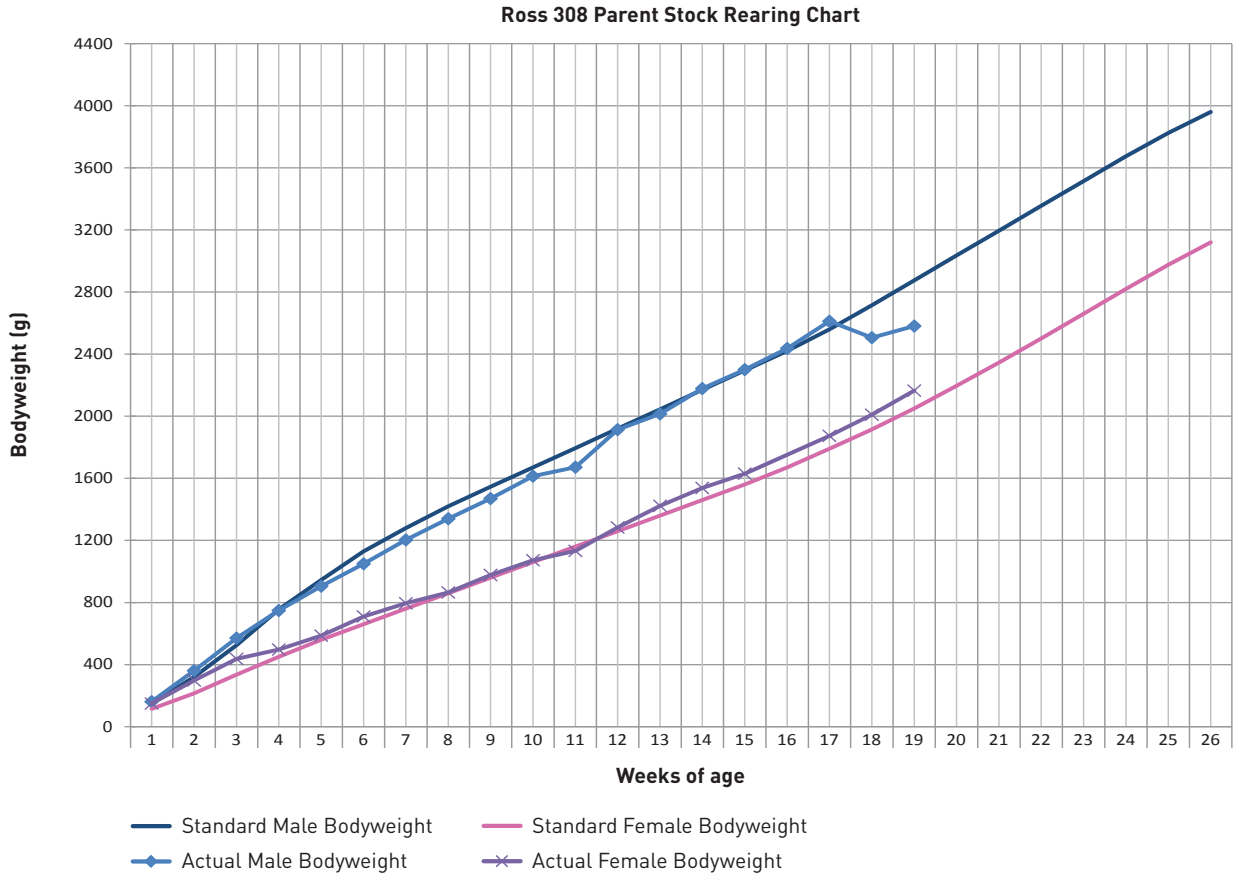
Vaxxinova has a modern and strict quality control for **VAXXON® COCCIVET R**

This control includes the evaluation of the biological and biomolecular features of each *Eimeria* specie, including the multiplex PCR test. Procedures that ensure the purity, safety and identity of each *Eimeria* strain.

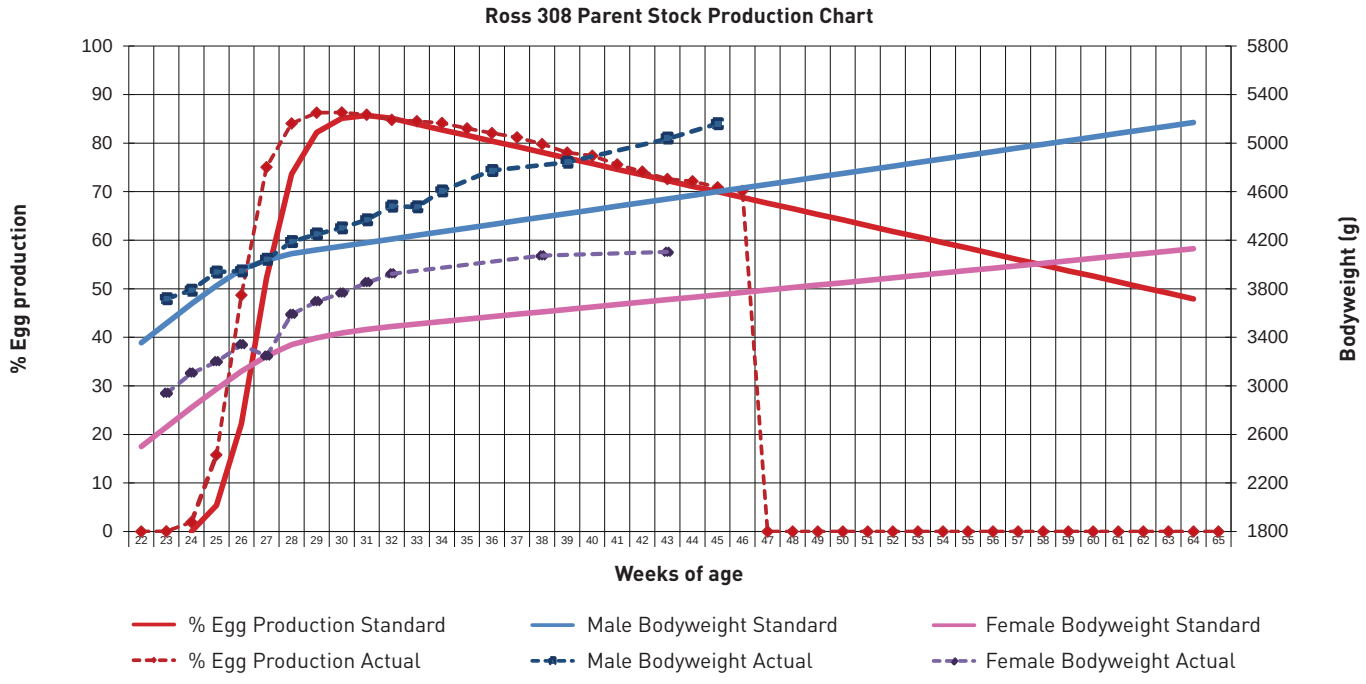
VAXXON® COCCIVET R

Vaxxinova's innovative and broad protection vaccine against Avian Coccidiosis in long-life-cycle birds.

A comparative field trial performed in 2019 in the Middle East - involving 26.500 females and 4.000 males Ross 308 parent stock. The females were vaccinated with VAXXON® COCCIVET R whereas the males were vaccinated with a live attenuated coccidiosis vaccine.



Above chart indicates the standard bodyweight development versus the actual, vaccinated, bodyweight development.
Males, vaccinated with a live attenuated coccidiosis vaccine - performing just at or below standard ADG, starting at 5 weeks of age.
Female, vaccinated with VAXXON® COCCIVET R - performing above or at standard ADG.



Above Production chart indicates standard production index versus production from Vaxxon® COCCIVET R vaccinated breeders.

VAXXON® COCCIVET R

Vaxxinova's innovative and broad protection vaccine against Avian Coccidiosis in long-life-cycle birds.

VAXXON® COCCIVET R is a polyvalent vaccine against Avian Coccidiosis in layer and breeder chickens.

Active substance per dose:
Eimeria tenella strain BV 25
Eimeria acervulina strain BV 45
Eimeria maxima strain BV 47
Eimeria maxima strain BV 52
Eimeria brunetti strain BV 300
Eimeria necatrix strain BV 302
Eimeria mitis strain BV 44
Eimeria praecox strain BV 41

EYE-DROP OR ORAL VACCINATION SCHEDULE
Application by eye-drop or oral administration. This application method guarantees that all the chicks from the same flock receive the recommended optimal uniform dose.

Vaccination	Chicks age	# of birds	# vaccine doses	Total volume
Single dose	3-8 days old	1.000	1.000	30 ml

SPRAY VACCINATION SCHEDULE
Application by spray, diluting the vaccine content as per instructions. This will guarantee that all the chicks in the same flock uniformly receive the recommended vaccine dose. This application route is recommended for 1-day-old chicks at the hatchery plant.

Vaccination	Chicks age	# of birds	# vaccine doses	Total volume
Single dose	1 day old	1.000	1.000	210 ml

Do not provide any anticoccidial drug in the feed or drinking water at any time when vaccinating with VAXXON® COCCIVET R.

Storage conditions:
Store in a refrigerator (2 °C – 8 °C).
Do not freeze. Protect from light.

Shelf life:
Shelf life of the veterinary medicinal product as packaged for sale: 12 months.

For full technical information see the packaging leaflet.

Vaxxinova®
Though Vaxxinova was officially named and founded in 2010, our predecessors have been in the livestock vaccine and diagnostics business since the 1950s. Vaxxinova can rely on more than 6 decades of expertise in disease prevention for production animals and our products and services are available in more than 60 countries.

Our current technology network comprises production, research & development and diagnostic facilities in 10 countries: Brazil, Chile, Italy, Germany, Japan, Jordan, Norway, Thailand, USA and The Netherlands.
Since 2016 the location in the Netherlands also serves as the headquarters for the Vaxxinova Group.

Vaxxinova is part of the family-owned EW Group. The EW Group specializes in animal genetics, animal nutrition and animal health and operates in over 100 countries.

Vaxxinova Brazil
Vaxxinova Brazil, previously named Biovet, has been a benchmark for innovation and quality for over 60 years in Brazil and Latin America. Part of the Vaxxinova group since February 2018, Vaxxinova Brazil's R&D facilities and production plants are based in the state of Sao Paulo, Brazil. Being the largest laboratory for the production of vaccines against avian coccidiosis in Latin America, Vaxxinova Brazil ensures development, manufacturing and availability of VAXXON® COCCIVET R.

Disclaimer

This brochure may contain information or may show or refer to products and/or services which are only available in certain countries. A reference to any product/service in this brochure does not imply that such product or such product with the same specifications et cetera, is or will be available at your location. Any product shown or referred to in this brochure may be subject to different regulatory requirements depending on the country of use. Please contact your local Vaxxinova representative for more information.

Vaxxinova International BV does not give any warranty or other assurance as to the content of this brochure, its accuracy, completeness, timelessness or fitness for any particular purpose. To the full extent permissible by law, Vaxxinova International BV disclaims all responsibility for any damages or losses (including without limitation, financial loss, damages for loss in business projects, loss of profits or other consequential losses) arising in contract, tort or otherwise from the use of inability to use any material of Vaxxinova, or from any action or decision taken as a result of using Vaxxinova's materials. Vaxxinova disclaims all responsibility and liability (including for negligence) in relation to information mentioned in Vaxxinova's materials. This document or its content is not to be copied or further distributed without the consent of Vaxxinova International BV.

Version 2, 2022.12 134095

Vaxxinova International BV

Transistorweg 5
6534 AT Nijmegen, The Netherlands
+31 24 20 48 600
www.vaxxinova.com