



# THE CLEAR SOLUTION.





## The High Definition Coccidiosis Vaccine for Versatile Coccidiosis Control

For many years, medicated feed coccidiostats have been successfully used to prevent coccidiosis outbreaks in broiler flocks. With concern for development of drug resistant strains of coccidia, broiler growers follow a strict practice of drug rotation programs. Coccidiosis vaccines, such as ADVENT, work great in drug rotation programs. ADVENT provides excellent protection from coccidiosis and allows growers to rest drug use.

### Consistent Performance, Consistent Quality

ADVENT is a versatile anticoccidial product that can be used in all broiler production setups and fulfills organic and antibiotic-free production requirements.

To assure consistent performance, product quality must also be consistent. ADVENT has been developed with a focus on extreme batch-to-batch and serial-to-serial consistency throughout its entire dating period.

What sets ADVENT apart from every other coccidiosis management tool is the patented VIACYST® assay that accurately quantifies the number of live, viable sporulated oocysts. Only live, sporulated oocysts are capable of imparting immunity and generating resistance to a coccidiosis challenge. Only VIACYST can distinguish the difference.

A vaccine with too many viable oocysts can overwhelm a broiler chicken's immune system and trigger a coccidiosis outbreak. A vaccine with too few viable oocysts will not stimulate a sufficient response to develop immunity. With ADVENT, and the VIACYST assay, the optimal dosage to generate immunity is always provided.



## Optimum Formulation

The VIACYST assay allows accurate formulation of the ADVENT vaccine so that it can provide maximum protection while allowing the bird to achieve optimal performance with minimal reaction.

Specific strains of *Eimeria acervulina*, *Eimeria maxima*, and *Eimeria tenella* were selected for their broad immunogenicity and natural low pathogenicity as well as their sensitivity to existing coccidiostats.

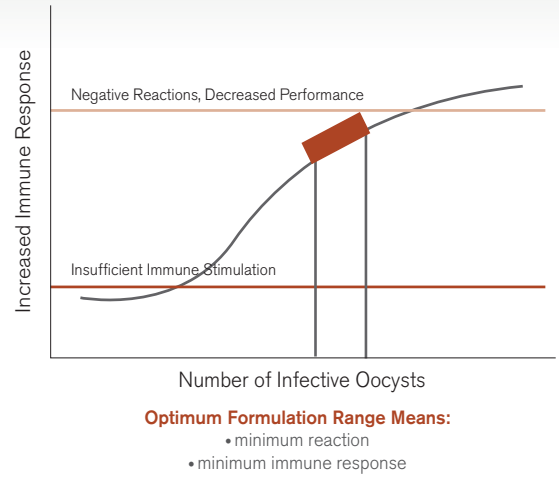
To achieve the high-definition formulation required, these *Eimeria* spp. are precision sporulated, and electronically counted. Their viability is then determined using the VIACYST assay.

## How VIACYST Works

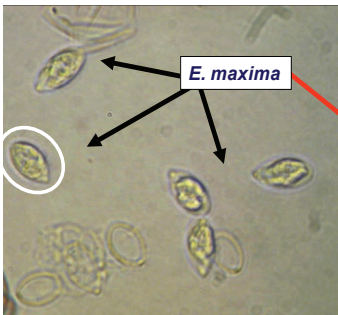
VIACYST is a dye exclusion assay. First, ADVENT sporocysts obtained from oocysts are stained using a proprietary assay at a controlled temperature. Non-viable sporocysts cannot maintain cell wall integrity and, therefore, accept the dye from the assay. As the image below illustrates, red means dead. Viable oocysts do not stain red.

ADVENT formulators use a fluorescence microscope to count the number of stained sporocysts which allows them to assess the number of live, sporulated oocysts. Finally, the VIACYST count is used to accurately formulate the optimal dosage of vaccine serials.

Figure 1. Dose Response Curve

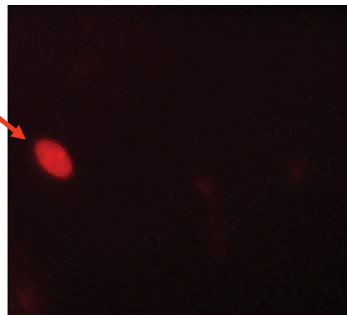


Sporocysts, Phase Contrast, 400x



**LEFT:** *E. maxima* sporocysts (found inside oocysts) all look alike under the microscope. Note the circled one in white, which is indistinguishable from the others.

Sporocysts, UV, 400x



**RIGHT:** The patented VIACYST Assay, with the help of a fluoroscope, shows that the normal-appearing sporocyst circled in white is actually dead and, therefore, non-infective.

When choosing a coccidiosis management tool, choose ADVENT, the clear solution.



 ADVENT®



**ADVENT contains low pathogenic, high immunogenic, coccidiostat-sensitive strains of *E. acervulina*, *E. maxima* and *E. tenella* that have been:**

- Precision sporulated
- Electronically counted
- Measured for viability/infectivity using the VIACYST assay

### **Reliable and Versatile**

- With VIACYST, precise counts of live, viable sporulated oocysts provide the correct potency every time
- With precise formulation, extraordinary changes in management are not necessary
- Use ADVENT regardless of bird size or season

### **Effective Performance**

- Offers a viable platform for both conventional and drug-free production
- Consistent feed conversion and weight gain

### **Complete Protection**

- ADVENT provides complete coccidiosis control, eliminating the concern of developing drug-resistant strains
- ADVENT is labeled for both spray cabinet and on-feed application. It is available in boxes of ten vials with 10,000 doses per vial or three vials with 40,000 doses per vial

### **Consistent Support**

- ADVENT is backed by experienced poultry veterinarians, nutritionists, spray system technical support, and sales staff
- Huvepharma has extensive experience in intestinal health and nutrition
- Huvepharma understands poultry performance and has the patented technology to make ADVENT a key component of your coccidiosis control program

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