GUT HEALTH FIRST

Gut Health, Performance, and the Science Behind OGS Organic Gut Solution

Prepared for the Florida Feed Association

Agsolv Inc. · Makers of OGS (Organic Gut Solution), Heritage Harvest Organics & SoilYield

ROADMAP

What We'll Cover

OGS's Gut-Health Mechanism

Organic carbon, probiotics, and adsorption vs. buffering

Gut Health Economics

Turning gut integrity into a cost and performance case

Mycotoxin Risk — Secondary Focus

Species-specific risk and OGS's adsorption data

Practical Takeaways

A working framework for formulators and mill managers

Gut Integrity Is the Foundation

A healthy gastrointestinal tract does more than digest feed. Barrier function, microbial balance, and nutrient/immune support underpin feed efficiency and profitability — and many stressors, sub-clinical mycotoxin exposure included, can compromise that integrity.

Barrier Function

Tight junctions regulate what passes from the gut into the bloodstream.

Microbial Balance

A balanced microbiome supports digestion and crowds out pathogens.

Nutrient & Immune Support

The gut wall is a major site of nutrient absorption and immune activity.

FEED-MANUFACTURER TAKEAWAY

Gut-integrity problems can affect performance and cost before any animal looks sick — whatever is driving them. A gut-health-first strategy, with mycotoxin protection built in, is more durable than treating mycotoxins as a stand-alone problem.

How OGS Supports Gut Health

OGS combines a multi-strain probiotic blend with a functional, humic-rich organic-carbon base — a broader gut-support mechanism than simple acid buffering. The organic-carbon component is supported by published literature on humic substances, which shows biological plausibility for gastrointestinal effects, including microbial and intestinal-surface interactions.

Buffering

Acid-base chemistry that resists pH changes — useful, but doesn't mean a material adsorbs toxins.

Adsorption

A surface interaction where molecules bind to the material — OGS's broader capability, alongside gut support.

IMPORTANT CLAIM DISCIPLINE

Published humic-substance research supports a mechanism discussion — it should not be described as though researchers tested OGS unless OGS was the material actually used in that study.

Today's Grain Doesn't Deliver Like It Used To

Decades of breeding for yield and energy traits — accelerated by ethanol-driven demand for starch — have measurably diluted the protein density of U.S. corn. That trend puts more pressure on the gut to extract usable nutrition from every load of feed.

~9–10% → ~8–9%

Corn protein content, 1970s vs. today

Starch rose roughly 60% → 73% over the same span, as breeding shifted toward yield and energy traits (SDSU Extension)

8.4%

Protein in the 2025/26 U.S. corn crop

Below both the 5-year average (8.6%) and 10-year average (8.5%) — record yields tend to dilute protein concentration (US Grains Council)

Sources: SDSU Extension, "Leveling the Playing Field for U.S. Corn"; US Grains Council, Corn Harvest Quality Report (2025/26).

WHERE OGS FITS

As grain arrives with less inherent protein density, more of an animal's nutrition depends on what actually gets absorbed at the gut wall. OGS is formulated to support gut integrity and microbial balance — the mechanism behind nutrient and immune support (slide 3) — so animals are positioned to draw more usable nutrition from every load of feed. Claim discipline: this describes OGS's designed function, not a controlled trial quantifying a specific % lift in nutrient uptake — we're happy to scope a trial if you want a hard number for a specific species.

SECTION 1 · FIELD TRIAL DATA

Field Trial: Amaferm vs. OGS — And What Happened When It Ran Out

One customer's herd (14 head, tracked by ear tag) was switched from Amaferm onto OGS partway through a winter-into-spring growing period. ADG rose after the switch — and when the farm briefly ran out of OGS and fed none for one period, ADG fell below even the Amaferm baseline before recovering as soon as feeding resumed.

+47%

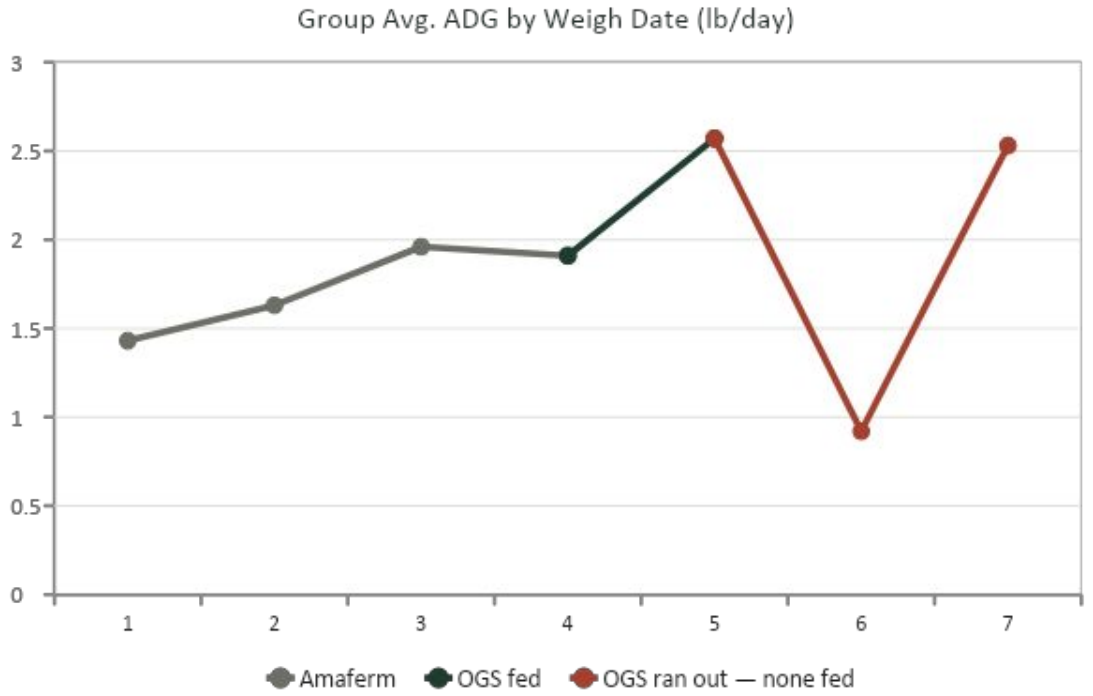
ADG on OGS vs. Amaferm

2.55 vs. 1.73 lb/day average, comparing the periods each product was actually fed

0.92 lb/day

The one period OGS ran out

Gain fell below the Amaferm baseline with no product fed, then rebounded to 2.53 once OGS resumed



READ THIS AS A FIELD OBSERVATION, NOT A CONTROLLED STUDY

This is one customer, one location, sequential — not a randomized, concurrent, or blinded comparison against Amaferm, so age, season, and management changes over the period could also be contributing. That said, the unplanned lapse when the farm ran out of OGS functions like an informal on/off check: gain dropped in exactly the period OGS wasn't fed and recovered once it resumed, which strengthens the signal. Treat this as one real, promising farm's data — not yet a substantiated, generalizable performance claim.

Gut Health Economics: Why It Pays

Compromised gut integrity shows up in the numbers nutritionists already track — feed conversion, average daily gain, and management cost — often before any animal looks sick. A single input that supports barrier function and microbial balance broadly, and also binds key mycotoxins, is a more efficient formulation than stacking separate products for each concern.

RUN THIS AGAINST YOUR OWN MODEL

This is a framework, not a guaranteed savings figure. Weigh a gut-health-first formulation approach against what you currently spend across separate gut-support, prebiotic, and mycotoxin-binder inclusions.

SECTION 2 (SECONDARY FOCUS) · MYCOTOXIN RISK

How Widespread Is the Problem? U.S. Grain at a Glance

Mycotoxin exposure isn't a rare-event risk for U.S. livestock feed — independent surveys of U.S. corn and North American feed ingredients show it's close to universal, and multi-toxin contamination is now the norm.

100%

Of 2023 U.S. corn samples

contained at least one detectable mycotoxin — up from 91% in 2022 (small 2023 sample, n=37)

97%

Contained fumonisins

in 2023 U.S. corn grain — sharply above the 2019–2022 range of roughly 64%–79%

82%

Of global feed samples

contained more than one mycotoxin; North America saw DON in 73% and zearalenone in 79% of samples

Sources: Journal of Animal Science, "Mycotoxin Contamination Trends in United States Corn Grain: 2019–2023" (2024); dsm-firmenich World Mycotoxin Survey (19,051 samples, 85+ countries, 2025).

FEED-MANUFACTURER TAKEAWAY

This isn't a rare-event risk — multi-mycotoxin contamination is now the norm in U.S. corn. That's exactly why broad-panel adsorption, not a single-toxin fix, matters for formulation.

The Economic Cost of Mycotoxins

Mycotoxins are one specific, well-studied stressor on gut integrity. Sub-clinical exposure carries a measurable cost even when no animal in the barn looks sick — and published, third-party research has now put figures behind that cost.

Up to 10%

Reduction in feed efficiency

from mycotoxin-contaminated feed — before any visible clinical signs

$202,600

Estimated annual loss

for a medium-scale poultry operation, from mycotoxin-related inefficiency

>8%

Increase in carbon footprint

from mycotoxin contamination, even at very low levels

Source: Queen's University Belfast, BOKU University, FFoQSI (Austrian Food Competence Centre) and dsm-firmenich Animal Nutrition & Health; published in Environmental Impact Assessment Review (2025).

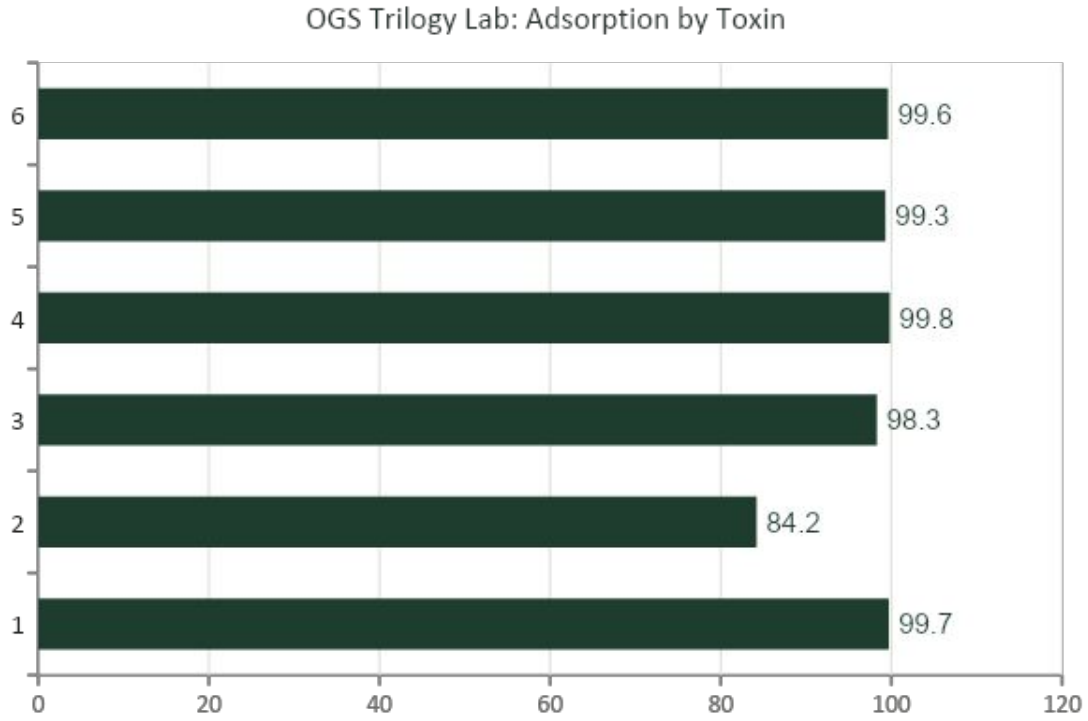
FEED-MANUFACTURER TAKEAWAY

Sub-clinical losses show up in feed conversion ratio and cost per unit of gain long before they show up as visible disease — which is exactly why formulation-level protection is a commercial question, not only a health one.

Species Risk & OGS Adsorption, At a Glance

KEY TOXIN / SPECIES RELATIONSHIPS

Toxin	Species	Principal Concern
DON	Swine; other livestock	Feed intake, gain, GI barrier
Fumonisins	Horses, swine	Equine neurologic; porcine pulmonary
Aflatoxins	Broad; dairy important	Liver injury; food-chain transfer
Zearalenone	Swine / breeding animals	Estrogenic, reproductive effects
Ochratoxin A	Multiple species	Kidney toxicity
T-2 toxin	Poultry, swine, others	GI/oral injury, immune effects



DON's lower result (84.2%) reflects a structurally harder-to-bind toxin, and rises with inclusion rate (47.9% at 9 lb/ton). In-vitro adsorption is mechanistic evidence, not an in-vivo claim.

Practical Takeaways for Formulators

For formulators and mill managers, the most defensible value of this research package is combining species-specific risk awareness with product-specific adsorption evidence.

1. Which toxin is likely in the ingredient?
2. Which species will consume the feed?
3. What concentration and inclusion rate are involved?
4. What is the target OGS inclusion?
5. What evidence is in-vitro versus in-vivo?
6. What claims are permitted for the finished feed?

COST: RUN THE NUMBERS

Weigh OGS's cost per ton — covering both broad-panel adsorption and gut-support benefits — against what you currently spend stacking separate binder and gut-support products, and against the published cost of unprotected sub-clinical loss. Full FDA action-level citations by toxin are available on request.

Beyond Mycotoxins: Equine Fecal Water Syndrome

Fecal water syndrome (FWS) is a common, frustrating hindgut issue in horses — free fecal liquid discharged separately from otherwise normal, formed manure. Its exact cause isn't fully established, but hindgut microbiome and mucosal-barrier disruption are widely suspected contributors.

Agsolv is currently running a field trial of OGS for FWS management in horses, in collaboration with Dr. Simmonson and Dr. Ellison.

PRELIMINARY — STUDY IN PROGRESS

Early observations from this ongoing trial are promising, with several cases showing complete resolution of symptoms. This is a preliminary, ongoing field study — not yet peer-reviewed, published, or a substantiated product claim. Full results will be shared once the trial concludes.

Field Trial in Progress

CONDITION
Fecal water syndrome (FWS) in horses

COLLABORATORS
Dr. Simmonson and Dr. Ellison

STATUS
Ongoing field trial; preliminary stage

EARLY SIGNAL
Promising — complete symptom control in early cases

KEY TAKEAWAYS

Gut Health, Science, and Substantiated Data

- Gut integrity — barrier function, microbial balance, and nutrient utilization — is the foundation of performance.
- OGS supports that foundation through a multi-strain probiotic and organic-carbon mechanism — not simply acid buffering.
- Mycotoxin risk is one specific, well-documented stressor OGS also addresses, with strong Trilogy lab adsorption data across five toxins.

Scan For A Free Formulation Estimate

15 minutes. No pressure.

AGSolv

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Thank you, Florida Feed Association.