

A guide towards AGP replacement

Tips and tricks on
how to replace AGPs





What do the most used and best performing AGPs have in common?



They have limited intestinal absorption. Therefore, they remain in the intestinal lumen for quite a while.



They contain anti-inflammatory properties. The energy cost of inflammation can be quite high, so the energy available for growth and other metabolic processes is reduced.



They all act against gram-positive bacteria (or more broad-spectrum). This down-regulates the proliferation of gram-positive potential pathogens in the intestinal lumen (like *Clostridium perfringens*).

All about AGPs

Antimicrobial Growth Promoters (AGPs) are antibiotics added to the feed of production animals to enhance production performance and to improve health. There are two classes of AGPs:

- 1 | An antibiotic, commonly used as a therapeutic agent and used in subtherapeutic dosages.
- 2 | The antibiotic is only used as an AGP, not as a therapeutic agent.

For a long time, we believed that the main mode of action was the downregulation of gram-positive microflora. *"Bacteria in the microflora require nutrients and energy. If you reduce the total bacterial count in the microflora, more nutrients and energy will be available for growth, consecutively the feed conversion will be lower."*

However, more recent studies indicate that the anti-inflammatory effect of the most frequently used AGPs plays a more important role as previously thought.

Probably, a combination of mechanisms of action finally is responsible for the growth-promoting effect of AGPs.

Why committing to an AGP removal strategy?

Several important reasons:

1 | GOVERNMENTAL AND REGULATORY DECISIONS:

Concerns about bacterial resistance led progressively to a total ban on AGP in the EU in 2006. Furthermore, more and more countries worldwide are moving towards or have implemented an AGP ban.

2 | CONSUMER PREFERENCES:

Consumer demands meat free from antibiotics.

3 | ANTIMICROBIAL RESISTANCE:

Resistance issues will affect human and animal health.

An AGP removal strategy is profitable for your business! Use of alternative solutions instead of AGPs resulted in:



The reduction of mortality is equal or higher as tested AGPs.



The FCR-improvement is better than AGPs.



The microbiome is more balanced, more diverse and thus less susceptible to undesired bacterial proliferation.



The immune system is primed, making the animal less susceptible to disease.



*An answer of a big poultry and swine integrator in Brazil: "It is our responsibility to reduce antimicrobial resistance in animal production, therefore we always keep **the guidelines of the WHO regarding antimicrobial use in mind**":*

- 1 | Reduce overall use of antimicrobials, regardless of the class
- 2 | Do not use antibiotics for growth promotion
- 3 | Do not use antibiotics for prevention when there is no disease clinically diagnosed
- 4 | Do not use antibiotics that are classified as critically important for human medicine or are classified in the highest priority list

"Our goal is to remove the AGPs and at the same time reducing the usage of other antibiotics for therapeutic reasons."

Strategy for AGP withdrawal



A **holistic approach** including good farm management is key for success in any AGP-withdrawal programme. The success relies on the implementation of **fundamental management practices**. Secondly, by using **alternative (non-antibiotic) solutions** improving the health and welfare of the animals, performance and productivity can be maintained and in some cases increased.

Fundamental management practices



Alternative solutions

Criteria to select the most suitable AGP alternative:



Prevent pathogens



Perform an **anti-inflammatory** activity (direct or indirect) or immune modulating effect



Improve **performance**



No resistance issues and **no withdrawal** periods

General intestinal health management and immune support will be the key to AGP-replacement. A healthy and well-balanced intestinal microbiome and immunity are the core of animal health and welfare. Consequently, it is crucial for performance and economic results.

How can we assist you in your AGP replacement strategy?

We believe an AGP replacement strategy is a **holistic approach** and needs a combination of products and services. Therefore, we offer our full support.

Supporting and monitoring gut health and the animal's immune status is the backbone of a good AGP replacement programme.



How can we assist you in your AGP replacement strategy?

1 | Monitoring by Services

- Our **expert team** is always available for advice and farm visits. We help you with tailor-made solutions for AGP-withdrawal.
- We have a **large network of global (external) experts** that has huge experience in AGP-withdrawal programmes.
- Our **Customer Lab Service** (CLS) perform multiple analyses, form quick rapid on-farm tests to lab tests.




We guide you in developing health monitoring programmes, to evaluate the efficacy of the taken actions.


2 | Support by products


An elaborated or **tailor-made programme** needs to be set-up. This programme depends on the:

- Farm's management situation
- Animal species and age
- Other health management actions

When we compare the mode of action of classic AGPs and the mode of action of specific probiotics, it is obvious that those probiotics must play a central role in any strategy to replace AGPs. Nevertheless, all products supporting gut health and immunity play an important part in a tailor-made replacement strategy.

 **CLOSTAT®**: A probiotic maintaining intestinal health, uniformity and performance.

 **ButiPEARL™**: Encapsulated calcium butyrate, strengthening the intestinal integrity.


 **Formyl™/Formyl™ 2B/ FormaXOL™**:
A non-antibiotic solution, for producing pathogen-free livestock, resulting in safe meat and eggs.

GUT HEALTH










IMMUNE STATUS



 **Aleta™**: Algae derived beta-glucan for immune modulation.

AGP replacement tips and tricks

Dos

-  Set KPIs: Register easy to measure performance data to monitor your actions
-  Involve the entire production chain in your AGP strategy
-  Replace AGPs by a holistic approach including feed and farm management and alternative solutions
-  Train and involve all people working in the production chain on your AGP replacement strategy, especially those raising the animals
-  Set a very high standard for biosecurity
-  Introduce preventive programmes such as vaccination in combination with health supplements. For support contact the manufacturer's technical team
-  Treat with antibiotics only after diagnosis by a veterinarian and only if no alternative solution available

Don'ts

Don't think that every health issue or digestive disorder is caused by the withdrawal of AGPs

Don't replace AGPs with in farm application of low (subtherapeutic) dosages of therapeutic antibiotics

Don't think that just replacing an AGP with an alternative will be sufficient to evolve to a larger antibiotic reduction programme

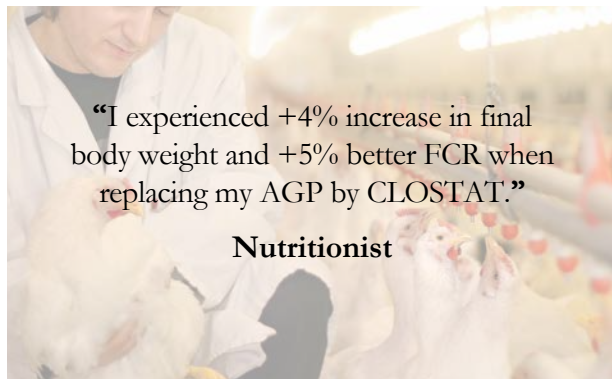
"AGP replacement is only possible with a holistic strategy, including strict biosecurity and adapted feed and farm management"

Experiences from the field

Profitable business without AGPs,
your colleagues testify

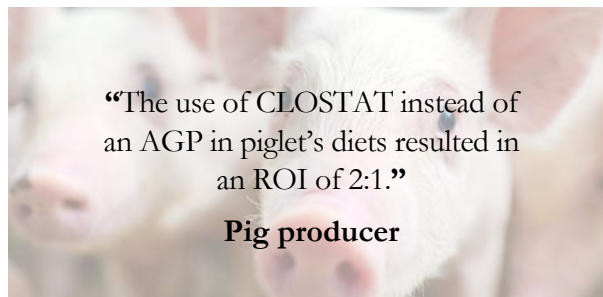
NUTRITIONIST, BROILER INTEGRATION MIDDLE EAST

"I experienced +4% increase in final body weight and +5% better FCR when replacing avilamycin (100 g/ton) by CLOSTAT in my broiler production. This resulted in a EEF increase with 42 points, an increased income of € 51K per 1M birds."



"I experienced +4% increase in final body weight and +5% better FCR when replacing my AGP by CLOSTAT."

Nutritionist



"The use of CLOSTAT instead of an AGP in piglet's diets resulted in an ROI of 2:1."

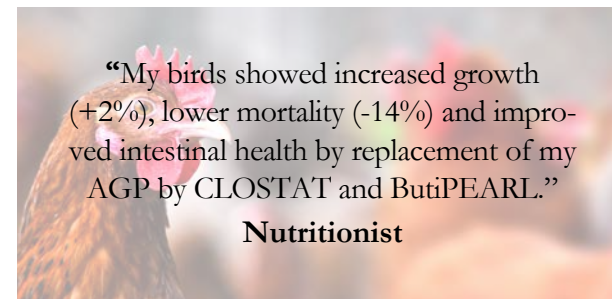
Pig producer

PIG PRODUCER, BRASIL

"The use of CLOSTAT as a substitute for my AGP programme, consisting of 12 ppm Flavomycin in piglet prestarter and 12 ppm enramycin in piglet starter resulted in lower feed cost (- € 0.110/pig) and better results in weight gain during the nursery phase (+239 g/pig), resulting in a ROI of 2:1."

NUTRITIONIST, BROILER INTEGRATION, VIETNAM

"I used the combination of CLOSTAT and ButiPEARL to replace enramycin 15 ppm in my broiler diets. My birds showed increased growth (+2%), lower mortality (-14%) and improved intestinal health. Those effects were leading to an improved EEF with 4 points. I never expected that combination of alternative products would give better results compared to my AGP programme."



"My birds showed increased growth (+2%), lower mortality (-14%) and improved intestinal health by replacement of my AGP by CLOSTAT and ButiPEARL."

Nutritionist



Set goals and evaluate
the results to monitor your
AGP replacement strategy

Main take-aways

- Implement a correct, complete strategy to successfully remove AGPs
- Use a holistic approach including farm management and alternative solutions
- Focus on biosecurity and prevention
- Commit all stakeholders involved for a successful AGP removal strategy
- Define a tailor-made programme, depending on your specific farm situation
- Set goals (= identifying key performance indicators (KPIs)) and evaluate the results to monitor your AGP removal programme

**Do you have a question or
want more information?
Please contact us.**

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