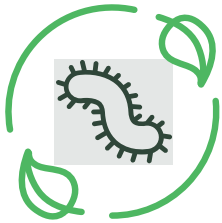
bio medi active

medinova

Combating ANTIBIOTIC RESISTANCE

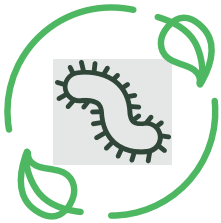


With their "Global action plan on antimicrobial resistance", WHO has made it their aim to combat the threat caused by antibiotic resistance.

The organization has invested heavily in research and development to do away with this ever-growing treat.

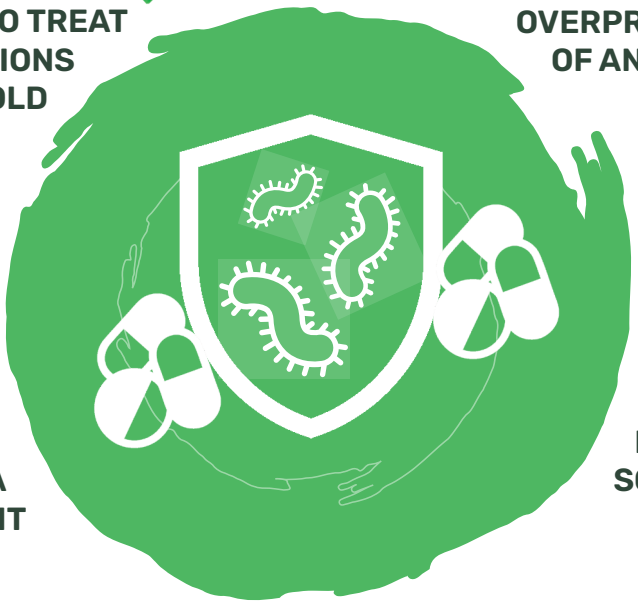
Let's look at some preliminary steps which we can take at all levels to restrict the spread of Antibiotic resistance.

What causes ANTIBIOTIC RESISTANCE?



USING ANTIBIOTICS TO TREAT VIRAL INFECTIONS LIKE FLU AND COMMON COLD

OVERPRESCRIPTION OF ANTIBIOTICS



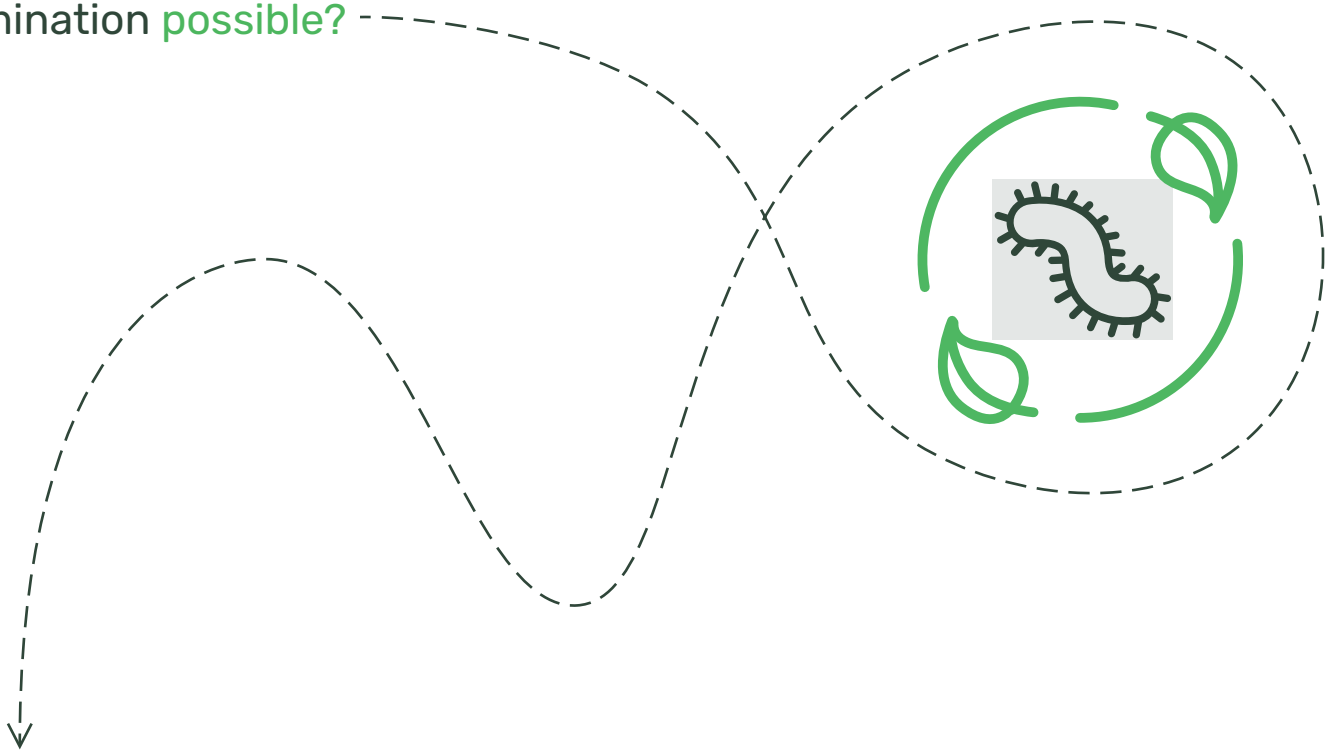
NOT COMPLETING COURSES OF ANTIBIOTICS, ALLOWING BACTERIA TO BECOME RESISTANT

TAKING ANTIBIOTICS PRESCRIBED FOR SOMEONE ELSE

OVERUSE OF ANTIBIOTICS IN FARMING

Research question

Is the development of an innovative antibiotic free extender for swine artificial insemination possible?



aim

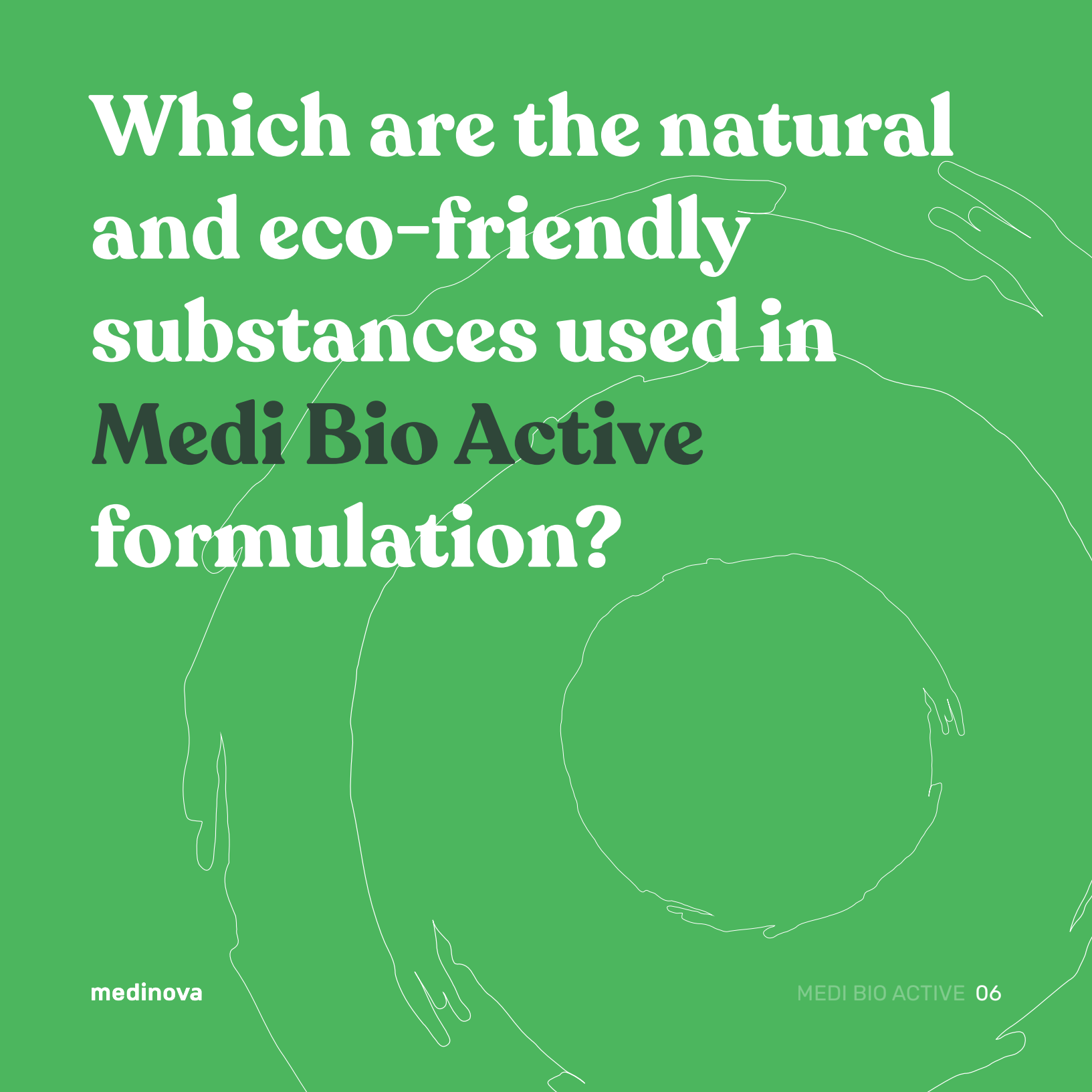
To investigate the suitability of different molecules and and how combining them could develop new antibiotic free formulation for artificial swine insemination

MEDI BIO ACTIVE

Discover our cutting-edge semen extender, specifically designed for artificial swine insemination. By replacing antibiotics with powerful natural substances, we ensure semen preservation while reducing bacterial load, offering a sustainable and eco-friendly solution for modern pig farming.

- Natural and eco-friendly substances
- Free from antibiotics
- Reduces bacterial growth
- Preserves sperm cell for up to 4 days

Which are the natural and eco-friendly substances used in Medi Bio Active formulation?



Alfa Biomolecule

A natural compound with powerful antibacterial properties that directly targets and disrupts the bacterial structure, effectively breaking down the cell wall. This substance is particularly effective against certain types of bacteria and is widely used in food preservation and personal care products. It is completely safe, natural, and approved for use across various industries.

MAIN FEATURES

- Breaks down bacterial defenses effectively
- Targeted action against harmful microbes
- Natural and safe for use in multiple industries
- Boosts product shelf life without synthetic additives

Beta Biofactor

This natural polymer provides broad-spectrum protection against microorganisms. Its ability to destabilize cell membranes makes it an ideal preservative, while being biodegradable and environmentally friendly.

MAIN FEATURES

- Broad-spectrum antimicrobial effect
- Disrupts cell membranes of bacteria, fungi, and yeasts
- Biodegradable and eco-friendly alternative
- Provides medium-lasting, non-toxic protection

MINIMUM STANDARDS
FOR THE USE OF
LIQUID PRESERVED BOAR SPERM

Table 2
Minimum standards for the use of liquid preserved boar semen in 11 pig breeding organization worldwide.

Semen Standards	A	B	C	D	E	F	G	H	I	J	K
Total motility (%)											
[illegible]	70	80	75	70					70		80
Expire day	60	70		65			60		50	60	70
Progressive motility (%)											
[illegible]		80	70			70					
Expire day		70			70	60	50	70		45	
Morphological abnormal sperm (%)	30	20	25	25	25	15	30	25	30	30	
Cytoplasmic droplets (%)		20		15		15	20		30		
Agglutination (%)	20			30		15	30	30			
Sperm/dose ($x10^9$)											
Cervical insemination	1.8	2.0	2.3	1.8	4	3		3	2.2	1.3*	1.5*
Post cervical insemination		1.5	1.4		2.2	1.8		1.5	1.1		
Storage duration (days)	3–7	6	2–5	3	2–3	7		5–6	5	4	4
Extender	s, l	l	l	s		l	l	l	l	s	s
Bacterial contamination (CFU/mL)	300	0	0		1000		0	0	30		300

A: Agriculture and Horticulture Development Board (GB); **B:** Netpork (AR); **C:** Rivalea & Sabor (AU); **D:** German Livestock Association (DE); **E:** Agrosuper (CL); **F:** CP Group (CN); **G:** Pig Improvement Company (US); **H:** Pipestone (US); **I:** AIM Ibérica (ES, PT); **J:** Topigs Norsvin (NL); **K:** DanBred (DK); s = short-term extender; m = medium-term extender; l = long-term extender; * = motile.

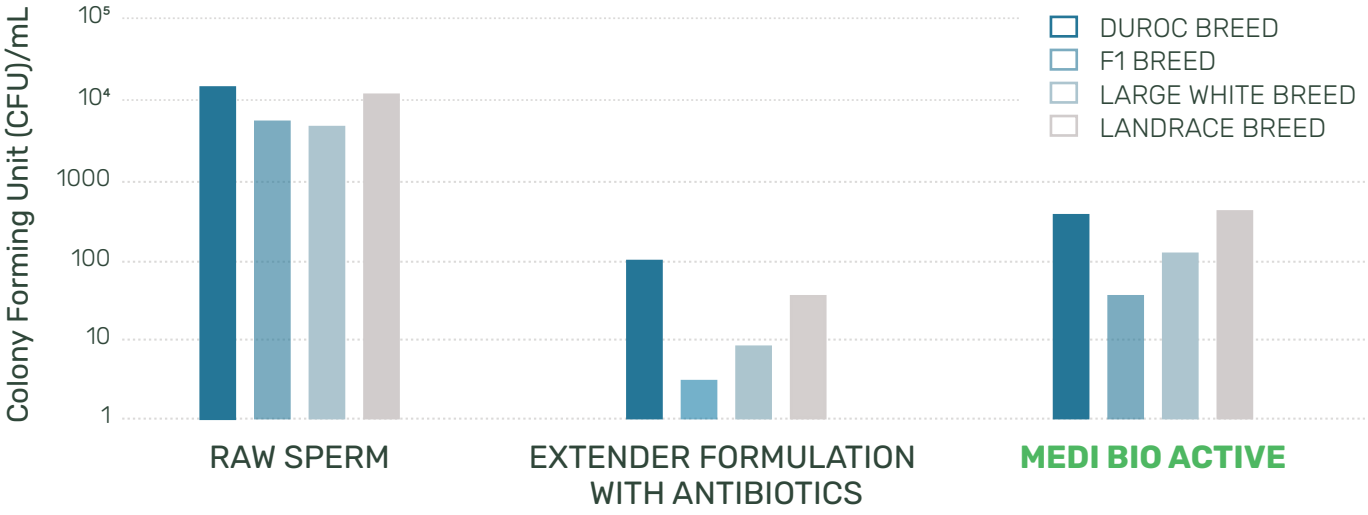
Dagmar Waberski, Anja Riesenbeck , Martin Schulze , Karl Fritz Weitze , Lawrence Johnson.
Application of preserved boar semen for artificial insemination:
Past, present and future challenges. 2019

SELECTED RESULTS
FROM IN VITRO SPERM CULTURES

The graph shows the **bacteriological analysis** carried out on **sperm cultures** of different boar breeds.

The measurement of bacterial growth after 4 days showed that:

- **Medi Bio Active** significantly reduced and controlled the microbial growth when compared to raw sperm (P <0.0001)
- **Medi Bio Active** provides a secure preservation of the semen doses

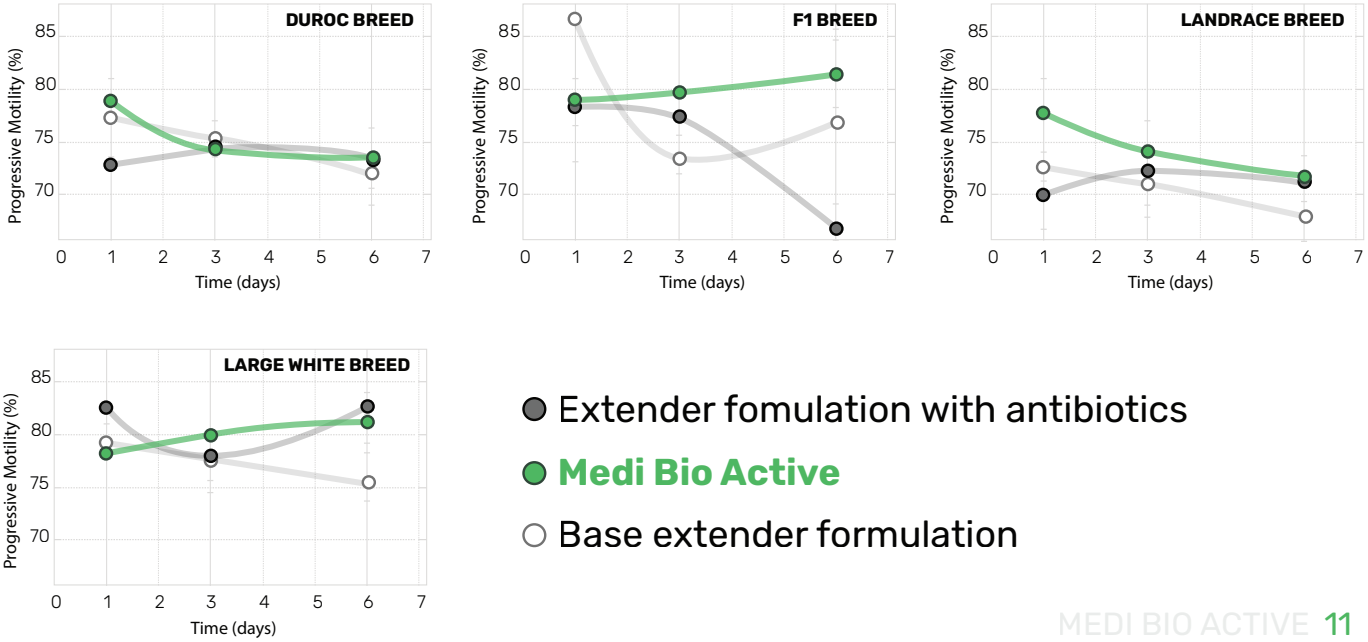


SELECTED RESULTS FROM IN VITRO SPERM MOTILITY EVALUATION

The sperm cell movement patterns in the ejaculate are characteristic of each boar. The semen samples were diluted with **Medi Bio Active** in comparison with an extender formulation with antibiotics and one base extender formulation.

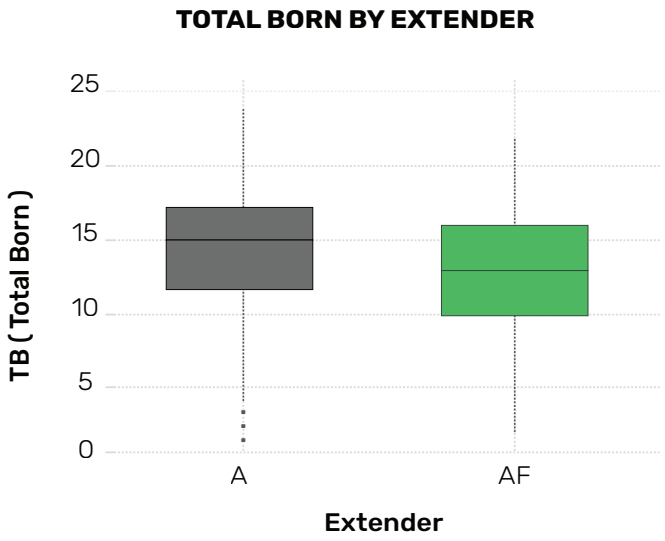
Medi Bio Active maintained good motility in all tested animals, being even better than the formulation with antibiotics in three out of four cases.

It is also worth noting that, although **Medi Bio Active** is designed to maintain sperm vitality for 4 days, the tested formulation guaranteed progressive motility > 70% in all boars until 6 days.



SELECTED RESULTS FROM IN VIVO EVALUATION

Insemination of 103 sows (Large White x Landrace), randomly divided into 2 treatments: extender A (Extender with antibiotics) and extender AF (Extender with natural antibacterial substances).
The graphic shows the average value of total born by treatment.



- A: Extender formulation with antibiotics
- **AF: Medi Bio Active**

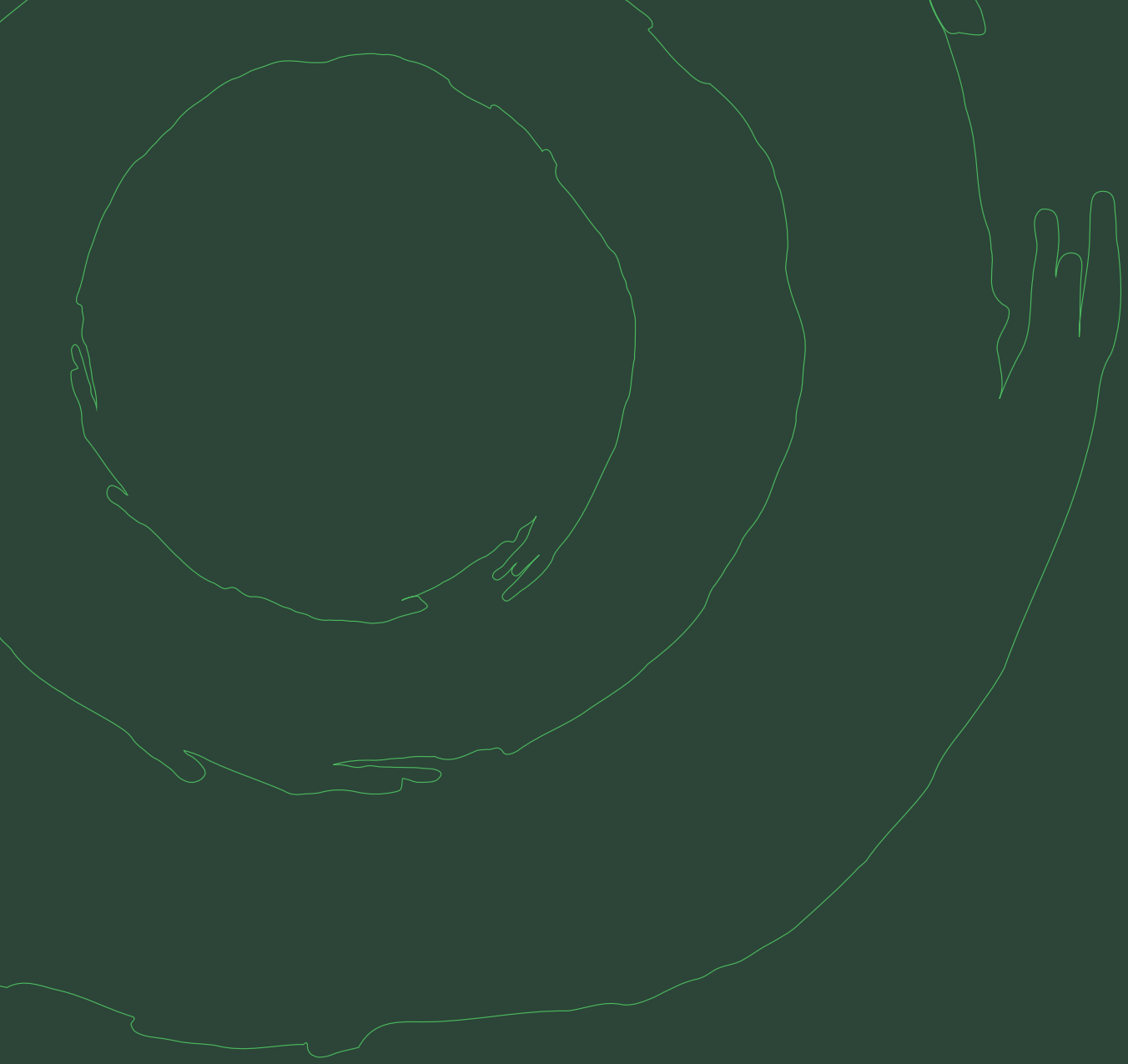
Why to use
Medi Bio Active ?

- Eco-Friendly Solutions: our low-concentration substances ensure minimal environmental impact.
- Biodegradable Excellence: Experience the power of a fully biodegradable and sustainability system.
- Revolutionary Composition: Medi Bio Active introduces the way for antibiotic-free swine production, enhancing animal health.
- Proven Efficacy: Our research confirms that Medi Bio Active maintain sperm motility and kinetic parameters, ensuring optimal reproductive performance.
- Effective Contamination Control: Medi Bio Active significantly reduces bacterial load when initial counts are below 1000 CFU/ml.
- + Biocompatibility: Designed to work harmoniously with the uterine and sperm environment, Medi Bio Active is an affordable solution to reduce bacterial contamination.

TRANSFORM YOUR SWINE PRODUCTION PRACTICES TODAY WITH

Medi Bio Active

WHERE INNOVATION MEETS SUSTAINABILITY!



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