PHYTOZEN® LIQUID

PHYTOZEN® LIQUID IS INDICATED TO PROMOTE POSITIVE AND RELAXED BEHAVIOR IN SWINE, CHICKENS AND TURKEYS DURING PERIODS OF STRESS ASSOCIATED WITH TEMPERATURE CHANGE, TRANSPORT/ANIMAL MOVEMENT, VACCINATION AND DIET TRANSITION

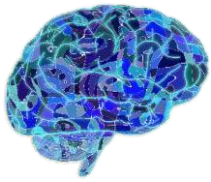
VETPHARM

Stress mitigation in hog farm, a winning strategy for everyone…

Stress management should be considered as an effective tool for improving economic profit in modern swine operations (Martinez-Miró et *al.*, 2016). While some management practices may limit stressors (size of farrowing crates, enriched environment, highly digestible feedstuffs), other parameters definitely increase them (prolific breeds, grouping, temperature...) as summarized by Jag Mohan (2006) (Fig. 1).

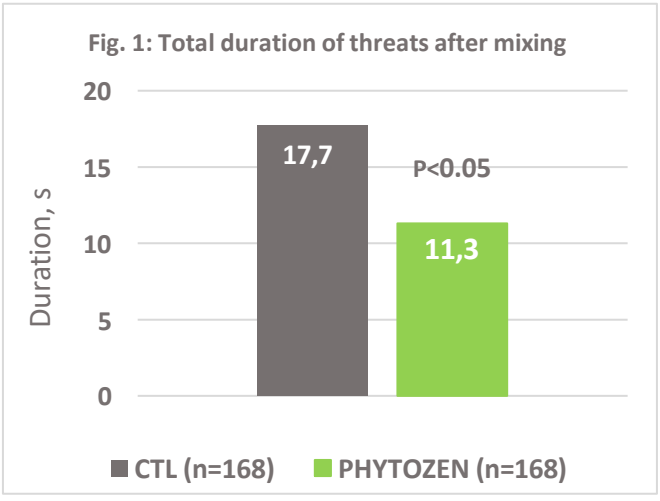
Figure 1: Avoidable / Unavoidable stressors

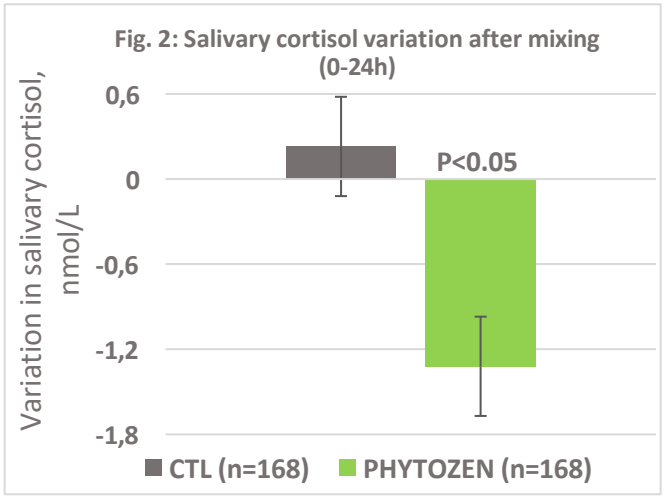
Avoidable stressors	Unavoidable stressors
Overcrowding	Extreme weather
Poor ventilation	Handling, grouping
Dirty farm equipment	Vaccination
High ammonia level	Transportation
Feed quality (low digestible feedstuffs, toxins)	Prolific and rapid growth breeds
Poor management	Diseases and infections
Abrupt or sudden changes	Lighting
Feed restriction	Medication
Limited water points	Hormonal changes, sexual maturity



Probiotech International Inc. developed a unique formula based on essential oils (rich in monoterpenes), spices, magnesium and vitamin C. All of these ingredients are known to regulate the brain perception of stress (Coquery et *al.*, 2019), their anxiolytic effect (Pervenn et *al.*, 2009) as well as their thermoregulatory action (Wen et *al.*, 2020).

The capacity of PHYTOZEN® LIQUID to regulate aggressive behavior in swine during commingling has been evaluated at the Prairie Swine Center (Fig. 1). This observation was associated with a lower level of salivary cortisol (stress biomarker) (Fig.2) (Brown et *al.*, 2017).





Références:

Martinez-Miró et *al.*, 2016 – Causes, consequences and biomarkers of stress in swine: an update. BMC Veterinary Research 12:171

Jag Mohan (2006) - Thrust Areas for Mitigation of Stress in poultry. In Poultry Research Priorities to 2020. P.V.K. Sasidhar (Ed.). Proceedings of National Seminar of CARI (India), pp 147-151

Coquery et *al.*, 2019 – fMRI-based brain responses to olfactory stimulation with two putatively orexigenic functional food ingredients at two different concentrations in the pig model. J. Of Food Science. Vol 0, Iss

Perveen et *al.*, 2009 - Repeated administration of *N. Sativa* decreases 5-HT turnover and produces anxiolytic effects in rats. Pak. J. Pharm. Sci. Vol 22, No.2, pp 139-144.

Brown et *al.*, 2017 – Effects of a novel compounds on aggressive behaviour in grow-finish pigs. Annual Banff Pork Seminar

Wen et *al.*, 2020 – Effects of gingerol-rich extract ginger on growth performance, serum metabolites, meat quality and antioxidant activity of heat-stressed broilers. J. of Thermal Biology 89, 102544 pp 1-6

Usage recommendations in SWINE production:

- Climate stress (abrupt variation of temperatures, summer and hot periods).
- Handling, grouping, transition movement (nursery – finishing barn).
- Loading process and transport towards slaughterhouses (fasting, waiting and transit times and confined space).
- Preparation to maternity transfer and farrowing (1 week prior the expected farrowingd date).
- Feed restriction on pre-breeding gilts.
- Feed transitions.
- High stocking density during the end of grower-finisher period.
- During both infectious and viral periods (for a faster recovery).
- To limit condemnation and improve carcass quality.

Directions for use

Add **200 ml of** PHYTOZEN® **LIQUID per 1000 L** of drinking water. Prepare a stock solution of 500 ml (2 cups) de PHYTOZEN® **LIQUID** in 25 L of water. Then, use at a dilution rate of 1%.

Use continuously during the stress period.

Allow 24 to 48 hours to observe the most significant effect on pigs' behavior.

No negative interaction with chlorine, acidifiers and antibiotics present in drinking water.

Before using, ensure lines are clean and disinfected as well as the quality of the pipe (HDPE) in contact with the stock solution.

Shelf life: 24 months from the manufacturing date.

Net weight : 4 kg jug

Veterinary Health Product **NN.E1U9**

FABRIQUÉ AU • MADE IN Canada

VETPHARM

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