



### Background

Ammonia is a corrosive chemical present in water, air and soil and is naturally produced by living beings in organs, tissues and through gut bacteria. Although it is extremely important as a source of nitrogen, excess is highly toxic. In the last 10 years, as a result of a process of specialization and concentration, many companies exceeded their emissions, 94% of them farms in the pig and poultry sector. This is toxic to human and animal activity; contributes to water eutrophication, acidification of soil and water, environmental impact by gases involved in global warming; and causes large economic losses.

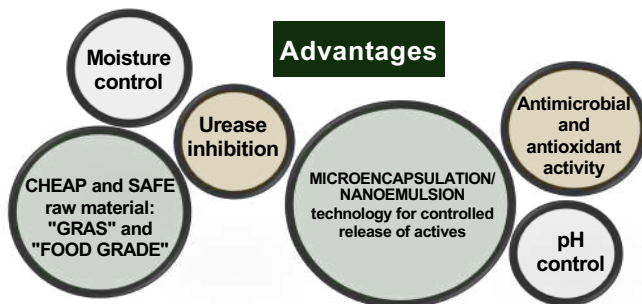
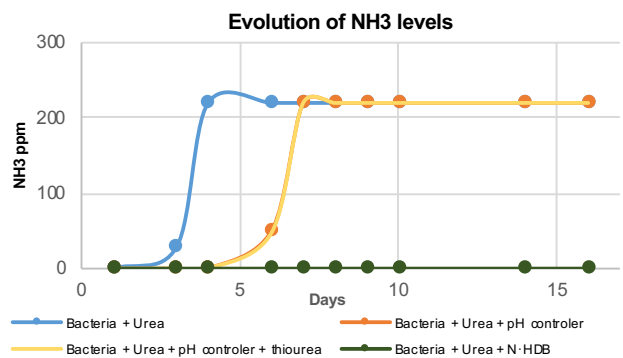
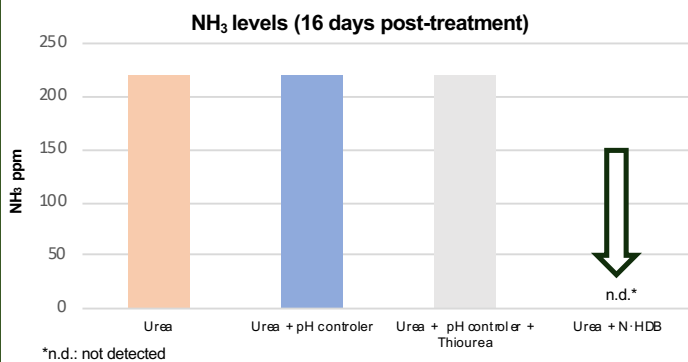
### Innovation

- ✓ Generation of a system based on the microencapsulation of a pH regulator and essential oils by nanoemulsion technology to achieve controlled release and high efficacy.
- ✓ Combination of effects of the main competitors to reduce NH<sub>3</sub> levels: moisture and pH control, antimicrobial and antioxidant activity and urease inhibition.

Its effectiveness has been demonstrated in:

- ❖ An in vitro study based on the simulation of the humidity, temperature and microbial count conditions of poultry bed.

**N-HDB is more effective than thiourea (strong urease inhibitor) and a pH controller in reducing NH<sub>3</sub> levels, with a significant decrease in NH<sub>3</sub> volatilization (n.d. vs >220 ppm), better pH control (3 vs 8.5) and a significant reduction in antimicrobial count and activity.**



IP: Intellectual property rights until 2040.

- ✓ PCT/EP2020/062573. Process for preparing high density, thermostable polysaccharide beads as food additives.

### Fields of application

Encapsulation of actives to protect against degradation and achieve their controlled release.

- ❖ Food sector: improve the stability of food additives, probiotics, proteins and peptides.
- ❖ Agro and pharmaceutical sectors: encapsulation of microorganisms for application as probiotics or in the agricultural sector.
- ❖ Textil sector, waste treatment...

### DNA Catcher

DNA CATCHER is a company specialized in the development of a technology based on natural, biodegradable and biocompatible high density polymeric beads (HDB), based on cheap and safe raw materials (GRAS and FOOD grade), which offer an innovative solution to the problems of environmental pollution and quality control of different sectors and industries (pharmaceutical, veterinary, food, textile, etc.).

These beads allow the encapsulation of different active ingredients (metals, drugs, microorganisms, etc.) to protect them from extreme environmental conditions and promote a controlled release in the area of action.

