



AGRABONDTM

Certified Quality

**Selective Mycotoxin Adsorbent suitable for all
productive species**



Manufactured by AGRANCO CORPORATION USA

AGRANCO World Distribution Network

Agranco Group is a manufacturing and sales organization headquartered in Coral Gables, Florida and manufacturing companies located in Mexico and the U.S. It has a network of distributors in Mexico, United States, Central America, South America, Europe, Middle East, Africa and Asia, all dedicated to providing distribution and service of our products, with its own staff of engineers, technical specialists and PhD in every area of activity.

Animal Nutrition: Selective Adsorbents Mycotoxins, Organic Minerals microencapsulated probiotics and Immunomodulators, Enzymes, Yeast and Microflora regulators.

Agricultural Industry: Organic Insecticides, Fertilizers, natural and biodegradable.

Aquaculture Industry: Yeast, Enzymes, Probiotics and oligosaccharides for shrimp and fish rations.

Food Processing : Disinfectants food for human consumption.

Sugar Industry : Stabilizers of pure cane juice

Water Treatment : Decomposers of organic matter and water purification.

The products are marketed under its own brand, are unique and specific to improving processes in each industry, having fully researched about them, proving their effectiveness in every field. We invite you to evaluate waiting to exceed your expectations and be part of our user list.



Food Poisoning Mycotoxin

The attitude of man toward fungal contamination of food has been modified due to a relatively new discovery, related to the ability of many fungal contaminants to produce a wide variety of secondary metabolites called mycotoxins.

These substances have different chemical structures and have been involved in both outbreaks of diseases affecting different animal species and in a wide variety of human diseases.

The diseases caused by ingestion of mycotoxins are known as mycotoxicosis

Mycotoxin-producing fungi

Mycotoxin-producing fungi are widespread in the environment and are frequent contaminants of food, especially those of plant origin. The most important toxigenic species belonging to three genera: *Aspergillus*, *Penicillium* and *Fusarium*.

Genus *Aspergillus* and their Toxins:

Molds of the genus cause impairment in many food products. Their metabolic products are highly toxic to animals and to humans.

The main factor in the ubiquity of *Aspergillus* is their ability to grow at different temperatures on substrates with variable moisture content. The temperature range for growth of these ranges from 0 ° to 55 ° C for most species.

Among the mycotoxins produced by this genus may be cited include: *Aspergillus* acid, cyclopiazonic acid, aflatoxin B1, B2, G1, G2, citrinin, sterigmatocystin and ochratoxin A.

Main Effects on productive species:

Poultry

Reduce the ability to withstand stress by inhibiting the immune system

In laying and breeding causes reduced egg size, shell weak and low production.

Contamination of egg albumin with aflatoxin metabolites.

In broilers cause fatty liver, reduced weight gain, increased mortality, low production rates.

Pigs

You can expect acute effects including death.

When food is contaminated with **Aflatoxin M1** is shown in the milk of mothers and in turn is transmitted to the offspring (pigs).



Contamination of egg albumin with aflatoxin metabolites.

In broilers cause fatty liver, reduced weight gain, increased mortality, low production rates.

Cattle

In dairy cattle and calves show a lack of appetite, lethargy, ataxia, hair problems and hair loss, pallor and enlarged liver.

In breeding stock reduces appetite, feed intake, milk production, lowered resistance to disease and interference with vaccine-induced immunity.



Genus Fusarium and their toxins:

Fusarium species are "field fungi" because they are on plants before harvest, surviving on stored products.

The Fusari do not compete well with the "storage molds." (Aspergillus, Penicillium), except *F. culmorum*. Some of the cause disease Fusari grains and mycotoxins can form even before the harvest. They can grow during refrigerated storage and contribute to the decay of stored fruits and vegetables.

Las micotoxinas principales producidas por los fusarios comunes son: DAS (diacetoxiscirpenol), NIV (nivalenol), ZEA (zearalenona), MON (moniliformina), FUM (fumonisinas), T2 (toxina T2), DON (deoxinivalenol), entre otras.

Major Effects on productive species:

Poultry

The T2 cause mouth lesions affecting the tongue and intestine ability to eat, digest food properly.

The DON is associated with decreased feed intake in layers, breeders and broilers.

Fumonisin causes a weak immune system, decreasing the response to antibiotics and vaccines to increase the susceptibility of animal pathogens challenges prevalent in the species.



Pigs

Zearalenone significantly affect the reproductive system of mothers causing red areas, size of the vulva and breast tissue. Cause embryonic mortality at certain stages and fertility problems.

The DON causes great loss of weight due to acute vomiting in pigs, as well as physiological disorders.

The T2 is associated with the passage of undigested food and decreased productivity.

In piglets causes black-tailed and detachment.



Cattle

Zearalenone causes estrogenic response in animals, interfere with conception, ovulation, implants, fetal development and vitality of the offspring. Increased mammary gland and early maturity.

T2 toxin reduces feed intake, lower milk production, gastroenteritis, intestinal bleeding. Allocation of reproductive tract and fewer offspring per cow abortions. Suppresses the regenerative process of the bone marrow and immune system. Decrease of immunoglobulin and complement protein. Death in severe cases.

Dairy cows are slightly sensitive to the effects of this toxin.

Genus Penicillium and its Toxins:

The penicillin grows on prepared food or raw materials, whether plant or animal.

Their mycotoxins consumed regularly, even in minute amounts, cause irreversible damage to kidneys, liver, brain and have teratogenic activity.

They produce a wide variety of mycotoxins, some of which are: cyclopiazonic acid penicilloic acid, citreoviridina, citrinin, ochratoxin A, patulin, penitrem A, rubratoxina A, rubratoxina B, PR toxin, and roquefortina veruculógeno.

Major Effects on productive species:

Poultry

The ochratoxin cause primary renal lesions, but also affect the liver, the immune system and bone marrow. Severe poisonings rise to clinical symptoms, which is a decrease in spontaneous activity, accumulation, hypothermia, diarrhea, rapid weight loss and death. Sublethal poisoning can seriously affect weight gain, feed conversion, pigmentation, carcass yield, egg production, fertility and hatching.



Pigs

Ochratoxin most can contaminate edible tissues in pigs and can produce enough liver damage to the need to state the carcass unfit for human consumption. The acute ocratoxicosis (concentrations higher than 5 ppm in diet) is characterized by nephropathy (renal damage), enteritis, fatty liver, necrosis of the lymph nodes, immunosuppression, along with a variety of other pathological conditions. In acute cases death can occur by acute renal failure.

Cattle

The effects of OTA has not been documented experimentally, but is known to be rapidly degraded in the rumen, in newborn calves birthed produces liver damage.

A practical and efficient method to eliminate mycotoxins in the livestock industry is the use of adsorbents. These prevent the mycotoxin to be absorbed by the animal and prevents the toxic effect of it. In the market there are several types of adsorbents and within them there are different qualities. The proper selection of the adsorbent is a critical factor for good results. Should be taken into account among other factors its spectrum of action, adsorption capacity, quality and technological support. It is noteworthy that the adsorption capacities evaluated in vitro, ranging from almost 0% to values close to 100%, and there are few that have affinity adsorbents for specific mycotoxins such as zearalenone.

It is important to mention that all produce mycotoxins immunosuppressive effects of all species, accentuating infectious problems on farms and often confuse the origins of the disease.

Mode of Action Agrabond

The molecular structure of AGRABOND clays and cationic charges have been amended by a unique process, intellectual property of Agranco CORP.

This process creates a high affinity toxins, covalent bonds (Zearalenone), as well as ionic toxins (aflatoxins).

Long molecular chains that extend out of the glass cationic **covalent** bonds produce stable bonds with molecules of the genus *Fusarium* mycotoxins.

In the crystal, cationic binding sites, produce stable **ionic** bonds with molecules of the genus *Aspergillus*.

Advantages and Benefits of Using AGRABOND

Certified Quality

AGRABOND is certified by the three most important laboratories worldwide in the field of mycotoxins through in vitro tests. This gives the assurance that you are using a highly reliable product.

**CERTIFIED 98 %
EFICACIA BY TRILOGY
LABS, INC.**
111 West Fourth Street,
Washington, Mo. 63090



**CERTIFIED 97.3% EFICACIA
BY ROMER LABS, INC.**
1301 Stylemaster Dr.
Union, MO 63084-1156

**ROMER
LABS**

**CERTIFIED 92% EFICACIA
500 GR-/ MT**
Universidade Federal de Santa
María, Sta. María - Río
Grande Do Sul – Brasil



Trials in vivo

AGRABOND has conducted various tests in various parts of the world under experimental protocols proving the effectiveness of the product with inclusions indicated. You can view the results in www.agranco.com

Low Inclusion and Best Cost Benefit.

AGRABOND is a product of third generation low inclusion (500 gr / ton of feed) containing CATIONIC properties and ionic (hydrophilic and lipophilic).

The cost per dose compared to that of adsorbents 1st and 2nd generation.

Technical Support

Each client that consumes AGRABOND has a large technical support consultancy which detect the causes of the problem and provide solutions beyond the simple sale of the product, as well as monitoring and achievement of results.

Product Safety

AGRABOND has a free product certification Dioxin and heavy metals PACE ANALYTICAL SERVICES, INC.

Valor Maximo Limit Superior - 0.11 nanogramos / kg.

Allowed limit of the European Community and World Health Organization - ngramos 0.50 / kg



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Rate of Inclusion:

Per metric ton of food:
Fed to chickens: 500 grams / TM
Breeding birds to feed and hens.
Prophylactic: 500 grams per MT of food.

Growing pigs 500 grams per MT
Lactation and pregnancy: 1 kg per MT

Cattle: 12 to 20 grams per head / day

Certificate of Analysis

Chemical Name: Calcium Aluminum Silicate sodium, magnesium and iron Selected.

Appearance: Powder, light gray

Physical Properties:

Specific Gravity: 1.6
PH (6%): 9.0
Moisture%: 7.0
Cation Exchange Capacity - me/100 G: 65
Adsorption of lipid compounds, ASTM D 281-31, Lb/100 Lb: 45
Specific surface area: 25 SQ M / GR
Density 65.0 LB - PIE 3LOI: 12

Chemical analysis:

Mineral mix - the main component: silicon dioxide

SiO2	72.8
Al2O3	26.4
Fe2O3	0.1
MgO	0.1
CaO	0.2
Na2O	0.1
K2O	0.3



Manufacturer and Worldwide Distributor

AGRANCO CORP. USA

2014 S.W. 24 Terrace, Miami, FL 33145

Tel (305) 856 3782 Fax (305) 856 3734 E mail: agranco@netscape.net