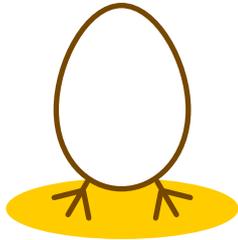


ZEOLITE CLINOPTILOLITE

APPLICATION AS



BEDDING POULTRY & LIVESTOCK

HEALTHY FARMS

While it's well-known that the ammonia odor is the most obvious indicator of air pollution in poultry houses, in this regard making sure that the animals' bedding is clean is equally important as having a good ventilation system in place.

When applied as a bedding, Zeolite;

- Absorbs the ammonia in animal feces and urine at very high rates. Decreases the level of ammonia inside the farm (the rate is dependent on the climate conditions). Absorbs the ammonia gas in the air.
- Improves the micro climatic quality of the farm house and the life quality of the animals.
- Decreases the fly larvae population, the total number of microorganisms and the prevalent pH value.

HEALTHY ANIMALS

Having ammonia gas in the farm house continuously at high concentrations has negative impacts for animals' overall health conditions and their product yield efficiency, as ammonia gas in high concentrations decrease the activity of cilium in animals' respiratory channels. As ammonia is accumulated more and more in the environment over time, the acidity of the animal bedding increases, which in turn causes burns in animals' feet and chests. Zeolite is a highly efficient and effective solution to health problems that occur due to ammonia.

When applied as a bedding, Zeolite;

- Prevents the increase of the animal bedding's acidity, and prevents the foot and chest burns that are commonly observed among the poultry. It is effective against the foot and chest burns that otherwise occur due to phosphorus.
- Helps animals avoid diarrhea that otherwise occurs due to lying down continuously on wet and hard bedding.
- By preventing the bedding from getting harder, provides a dry and healthy bedding on a continuous basis. By providing a soft bedding, it prevents the poultry animals from having decubitus complications.
- Helps prevent eye and respiratory system complications in animals that otherwise commonly occur due to irritations and damages by the ammonia gas.
- Relieves the animals' static electricity charge and level of stress.

PRECIOUS FERTILIZER RICH IN NUTRIENTS

Zeolite is a multi-functional product which is beneficial for both your poultry house and your soil. Zeolite;

- Increases the cation exchange capacity and water retention capacity of the soil, and the nutrient utilization rates of the soil as well.
- Irreversibly binds onto itself the harmful microorganisms and toxins that are found in animals' feces.
- Decreases the salinity level of the soil.
- Renders the carrying and transport of the fertilizer a lot easier.

By using Zeolite, you acquire dry, odorless, precious fertilizer rich in nutrients.

COST & YIELD

In broiler production a significant part of the manpower is allocated to the cleaning of animal bedding and of other equipment. Once the animals are relocated, a thorough cleaning and disinfection during the changing of the bedding takes about 10-15 days. Especially in poultry houses, where intensive production takes place, massive endeavor is spent in order to have this waiting time in between limited to a time as short as possible. By using Zeolite it's possible to reduce greatly both the expenses on animal bedding and the time interval in between cyclical production periods. It has been found in recent studies that the utilization of Zeolite in animal bedding has positive impacts on animals' growth rate, feed conversion rate, and overall strength for living.

 **rota mining
corporation**
YOUR RELIABLE PRODUCER

SUSTAINABLE AND COST EFFECTIVE
TOXIN BINDER

ENVIRONMENT FRIENDLY PRODUCT
SAFE & 100% NATURAL

ZEOLITE CLINOPTILOLITE

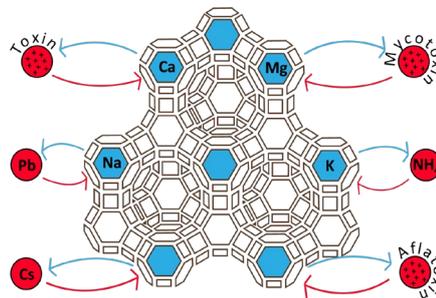


CONTENT

Zeolite is a crystalline, hydrated aluminosilicate that has an infinite three dimensional structure. Rota Mining's Zeolite contains extremely pure Clinoptilolite (92% by mass on average), which is one of the most effective Heulandite type of zeolite. Its highly porous structure (with a porosity reaching 50%) provides an extremely large surface area on which chemical reactions and cation exchanges can take place at a very high degree. It can absorb incredible amounts of water/liquid into its pores. Clinoptilolite has a natural negative ion charge which furnishes it with a tremendously high cation exchange capacity (CEC). Thanks to CEC, it adsorbs and binds ammonium, toxins, mycotoxins and heavy metals like Ni, Pb, Hg and Cd, very efficiently and effectively.

CATION EXCHANGE CAPACITY

Cation exchange capacity (CEC) is a measure of the amount of cations (positively-charged ions) that a clay can catch. As mycotoxins, toxins, heavy metals and ammonium are all positively charged, they are all easily trapped by cation exchangers. Clinoptilolite from Rota Mining's Gördes / Manisa reservoir possesses by far one of the highest CEC rates (as high as $170 \text{ cmol}+\text{kg}^{-1}$) among all reservoirs in the world. Purity and CEC are the two vital parameters that define the quality of zeolite mineral.

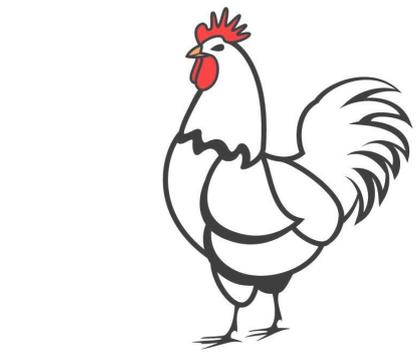


THE PRODUCER, ROTA MINING

Rota Mining is the leading natural Zeolite - Clinoptilolite mineral producer and exporter in Eurasia. It was founded in 1995. Since 2003, it is only specialized in the production and the marketing of its own natural Zeolite mineral; and is committed to setting the standards for the natural zeolite industry in the world. It carries out its production under Fami-Qs quality control system since 2007. Thanks to the high purity of its ore and to the quality of its service, Rota Mining serves its products to more than 50 countries in the world.

 **rota mining**
corporation
YOUR RELIABLE PRODUCER

MINIMUM
85% PURITY
GUARANTEE



BEDDING POULTRY & LIVESTOCK

APPLICATION

In poultry spread 3-5 kg Zeolite per square -meter on the floor. The quantity used may be increased or decreased according to climatic circumstances.

In livestock spread enough Zeolite regularly inside the hovel.

Zeolite can be used by mixing with sawdust and other bedding materials.

SUITABLE SIZES

- 0 - 400 micron
- 0 - 1,6 mm
- 0 - 3 mm
- 0,7 - 1,6 mm
- 1,6 - 3 mm

ENVIRONMENT-FRIENDLY

100% natural and safe product; produced in accordance with the EU's Feed Additive and Premixes directive and under the strict quality control system and surveillance of FamiQs. Prevents liquid leakages and pollution of water sources. Improves the air quality in the environment.

Information herein is accurate to the best of our knowledge, but may be subject to change without notice. Suggestions are made without warranty or guarantee of results. Before using, user should determine the suitability of the product for its intended use and user assumes the risk and liability in connection herewith.



FAMIQs

Rota Madencilik A.Ş. - Rota Mining Corp.
Tel: +90 216 385 1600 www.rotamining.com
Fax: +90 216 385 4297 info@rotamining.com

