

Introduction:

Essential oils (EOs) are important aromatic components of herbs and spices, and are used as natural alternatives for replacing antibiotic growth promoters (AGPs) in poultry feed as these have antimicrobial, antifungal, antiparasitic, and antiviral properties.

Antimicrobial compounds produced by microorganisms have been used for decades in poultry diets to increase performance and decrease morbidity particularly in broiler chickens. However, consumer pressure related to the potential development of antibiotic-resistant bacteria has resulted in the development of non-antibiotic feed additives that may also improve broiler performance. In recent years, aromatic plants and their extracts have received attention as growth and health promoters. It is known that most of their properties are due to the essential oils (EOs) and other secondary plant metabolites. EOs enhance production of digestive secretions, stimulate blood circulation, exert antioxidant properties, reduce levels of pathogenic bacteria and may enhance immune status.

Respiration in birds :

Respiration processes in birds are totally different from mammals. Poultry birds have lungs and air sacs too. The air sacs include: Two posterior thoracic, Two abdominal, Two anterior thoracic, Two cervical (these are not present in some species) and one interclavicular.

Poultry birds lack diaphragm. The air sacs get connected directly into the bones and hence the respiratory infections can spread to the abdominal cavity and bones quickly. The lungs of the birds do not expand or contract.

The respiratory system of birds is understood to be more efficient than that of mammals, transferring more oxygen with each breath. Indirectly it implies toxins in the air are also transferred more efficiently into the system.

In intensive farming, the condition of air and ventilation system are not that great.

Some information about Air quality in poultry sheds : Respiratory diseases occur due to improper, over-crowding and environmental stress.

Effects of Poultry House Air Contaminants :

Ammonia	Can be detected by smell at 20 ppm or above > 10 ppm will damage lung surface > 20 ppm will increase susceptibility to respiratory diseases > 50 ppm will reduce growth rate
Carbon Dioxide	> 3,500 ppm causes ascites and is fatal at high levels.
Carbon Monoxide	100 ppm reduces oxygen binding and is fatal at high levels.
Dust	Damage to respiratory tract lining and increased susceptibility to disease
Humidity	Effects vary with temperature. At >29°C and >70% relative humidity, growth will be affected

What is ADDEssentia ?

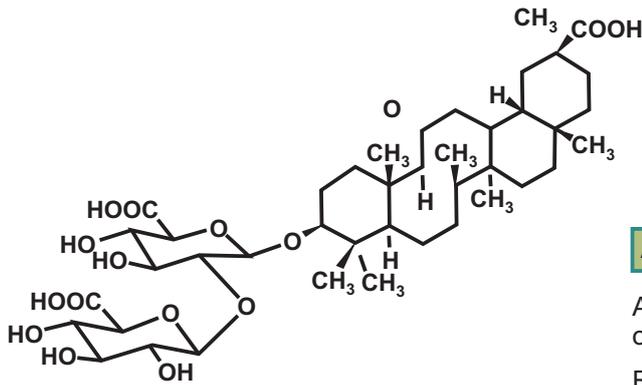
When the air quality is very poor, the respiratory tract gets into trouble which reduces the efficiency as a result there is increase in the mucus production damaging the respiratory tract.

ADDEssentia is a novel product produced by Advanced Biotechnologies to take care of respiratory tract issues.

It is a blend of aromatic oil and extracts that contain eucalyptus, mint, thyme, licorice that plays a significant role in fighting against any type of inflammation, decreasing mucus production, and acts as a powerful antiseptic compound and antibacterial role in animals and birds. They have received attention as growth and health promoters.

Importance of Active Ingredients:-

Licorice (Glycyrrhiza glabra) contains glycyrrhizin (or glycyrrhizic acid), which has a long history of use in birds and animals.



GLYCYRRHIZIN

Licorice has been used since 500 BC for the treatment of peptic ulcers, asthma, pharyngitis, malaria, abdominal pain, and infections. It is considered to be a natural remedy to relax and soften throat mucosae, reducing inflammation and supporting the immune system. It's able to block infections of the respiratory tract, and it alleviates bronchial spasms and helps the body to expel mucus.

Thyme (*Thymus vulgaris*) is an excellent antiseptic and antibacterial, used to prevent and cure respiratory tract infections. The oil of thyme have been used to treat , diarrhea, stomach ache, arthritis, colic, sore throat, cough, bronchitis, flatulence, and as a diuretic, to increase urination.

Mint (*Mentha piperita*) contains well-known aromatic oil, menthol that aids in relaxing the muscles of the respiratory tract which makes the respiration easier for birds.

Eucalyptus contains eucalyptol, an essential oil used to promote the health, respiratory tract, irritations in the throat : it's an expectorant & decongestant. It also contains antioxidants to support the immune system.

Moreover, ADDEssentia contain's organic acids that are used in the krebs cycle to produce energy from respiration vis a vis recovery from respiratory problems.

Precautions :

Avoid the simultaneous use of ADDEssentia with live vaccines.

Withdraw ADDEssentia treatment minimum two days prior to administration of live vaccinations and withhold it for 2 to 3 days post live vaccination administration.

Avoid overdosing or underdosing by calculating the actual water consumption at different ages of the animals.

Advantages and benefits of ADDEssentia :

ADDEssentia support's the defense mechanism of the respiratory system by various ways.

Reduces the stress, motality and calming agent.

Stimulate digestive enzymes.

Antibacterial, Antifungal, Antiviral, Anti inflammatory.

Antioxidant, Antiparasitic, Coccidiostatic, Immunomodulatory.

Revitalize mucus producing cells.

Re-ignite the 'bathing' cells by keeping upper part of the respiratory area with secretor antibodies.

Revitalize the respiratory system by expelling unwanted materials like dust, cough etc.

Dosage :

Use	Dilution & Dosing	Administration
Special prevention drinking water to overcome post vaccination reactions against respiratory problems at the end of the production cycle.	Use 200 ml of ADDEssentia in 1000 L of drinking water. As above apply via batch treatment or dosing system	2 to 3 days after NDV / IB vaccination (24 hrs. administration /day) Day 26-28/ 12 hrs. / day
General prevention drinking water	Use 200 ml of ADDEssentia in 1000 L of drinking water	Twice weekly / 12 hrs. / day
Preventive aerial spray	Dilute 100 ml of ADDEssentia in 5 L of water and spray the 5 L over 10000 birds, 0.5 ml per bird (use fine nozzle)	Twice weekly or if needed

Shelf Life : Two years from the date of manufacture.

Packaging : 500 ml / 1 ltr Bottles / 5 Ltr. Jar & 25 Ltr. HDPE Drums

The information and data contained herein has been compiled based on information we believe reliable. Users should thoroughly test all applications and independently conclude satisfactory performance before commercializations, as these recommendations are non-binding. User's assume all liabilities for use of the Products. We are not liable for any advice which we may have failed to give.

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