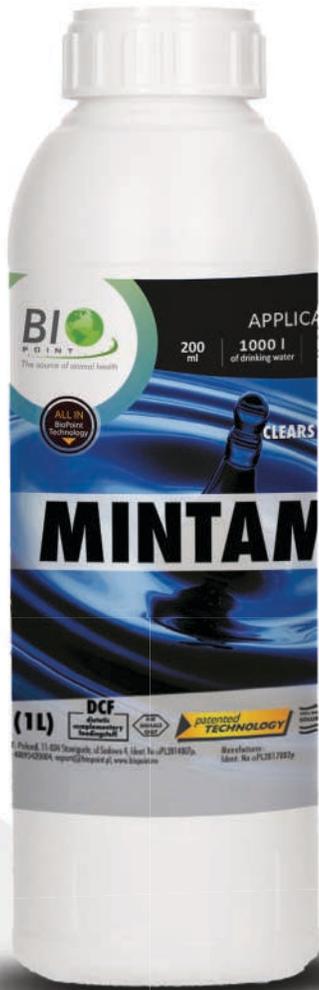




MINTAMIX

PROTECTION OF THE UPPER RESPIRATORY TRACT



SUPPORTS TRACHEAL
MUCOSA
REGENERATION



FACILITATES BREATHING
AND OXYGENATION
OF THE ORGANISM



STRENGTHENS
RESPIRATORY TRACT
IMMUNITY



COOLS AND
MOIUSTURISES

World-renown effective
**upper respiratory tract
conditioner**

Great efficacy thanks
to rich oils composition,
high stability and vitamin A
enrichment

2-way application:
drinking water and
aerosol spray



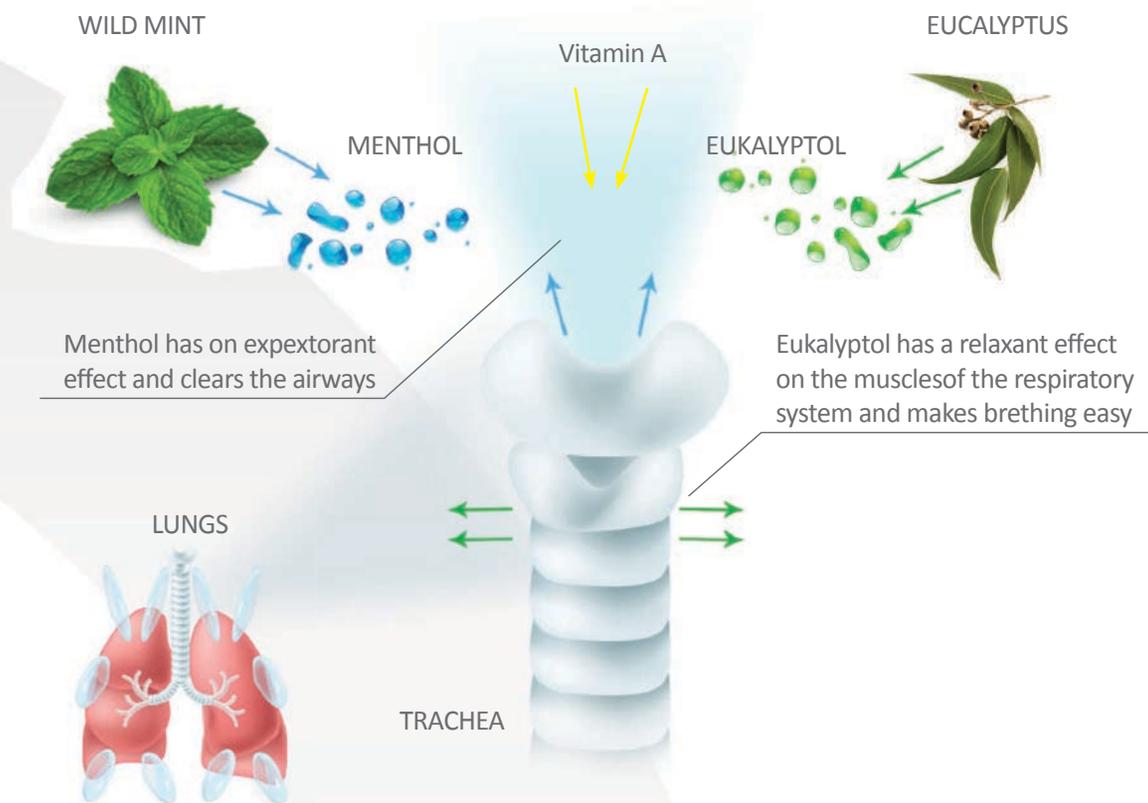
MODE OF ACTION

Mintamix preparation contains **peppermint oil, eucalyptus oil and vitamin A** – all these ingredients can significantly reduce losses in farm conditions that cause inflammation of the upper and lower respiratory tract. They are especially useful at the time of high temperatures, poor environmental conditions such as high concentration of ammonia and excessive dust. **The most important component is menthol** which makes for around 50% of mint oil. Its action brings relief in inflammatory airway because it affects cold receptors causing a feeling of coldness. It has also topical anesthetic effect, facilitates breathing, dilates blood vessels, acts as relaxant and displays strong antiseptic action. Substances contained in **eucalyptus oil** act as bronchial relaxant, analgesic, also present strong antibacterial as well as antiviral properties. They also help in diseases of the respiratory system because they clear the airways of secretions retained by epithelial cells by stimulating the

movement of snapshot, residual liquefaction of mucus as well as by triggering reflex cough. **Vitamin A** has a supportive and protective effect on epithelia, including the airway epithelium and mucous membranes, by accelerating the regeneration and reducing drying. During disease states and poor environmental conditions the organism is exposed to stress, lowered immunity, leading to increased demand for vitamins. In states of vitamin A deficiency the susceptibility to infection as well as sensitivity to poor environmental conditions increase, because damaged and less cornified epithelia perform insufficient protection against germs. In these conditions vitamin A supplementation is recommended.

Synergistic effect of these carefully selected and well balanced substances make up for a product that is appreciated and widely used under various farm conditions in a growing number of countries globally.

PROPERTIES OF RAW MATERIALS



KEY FARM EFFECT

- Reduces the sensitivity to adverse environmental conditions
- Reduces the risk of infection
- Reduces the occurrence of inflammation of mucous membranes

ADDITIONAL BENEFIT

- Accelerates convalescence after infections

EXPERIMENT

The aim of the experiment was to demonstrate Mintamix action in assisting the treatment of respiratory diseases and its application in convalescence. The experiment

was carried out in 3 poultry houses with an area of 1100 m² and capacity of 2750 m³ each. The trial took place throughout the 42 days period of rearing.

POULTRY HOUSE T₁

22 000 pieces of 380 Ross Broilers
Aerosol Mintamix 2 times a day, for 3 consecutive days from 12th day, then 2 times a week; aerosol formulation: 200 ml/10l of water (3ml/1m³ of poultry house)

POULTRY HOUSE T₂

22 000 pieces of 380 Ross Broilers
Mintamix 2 times a day, for 3 consecutive days from 12th day, then 2 times a week 200 ml/1000l in ½ of daily drinking water

POULTRY HOUSE K

22 000 pieces of 380 Ross Broilers
Control

	Poultry house K	Poultry house T1	Poultry house T2
Feed Conversion Ratio	1,78	1,80	1,74
European Broiler Indeks	345,87	341,76	356,11

	Congestion of the trachea (found)	Turgid tracheal mucosa (found)
K	15,0 %	29,0 %
T ₁	8,0 %	24,0 %
T ₂	15,2 %	30,0 %

	E. COLI (found)	STAPHYLOCOCCUS (found)	ASPERGILLUS FUMIGATUS (found)
K	50 %	38 %	12 %
T ₁	47 %	35 %	7 %
T ₂	51 %	37 %	9 %

The test results of Mintamix in broiler chickens flock are similar to observations made in numerous farm applications.

CONCLUSIONS

Practical advantage of substances used in **Mintamix** is the possibility of their safe use with antibiotics and after prophylactic vaccination, additionally in two forms: in drinking water and in spray. **Mintamix** used in drinking water has **improved final body weight and FCR**, whereas administered as an aerosol (T1) had a **positive effect on**

the tracheal mucosa by inhibiting the growth of bacteria (Staphylococcus, E. coli) and reducing the occurrence of pathological changes compared to the K and T2 groups. The experiment shows that in order to exploit full properties of **Mintamix** it should be used in both drinking water and in aerosol.

OPINION

ALBERT NAKIELSKI (AVIPOINT) DVM, poultry disease specialist

I am using Mintamix immediately after observing the first symptoms of coughing, sneezing or inflammation of the respiratory tract in birds. Mintamix can also be applied in spraying, which provides additional protection for the herd, especially in the threat of viral infections.

APPLICATION

INDICATIONS

Spray	Drinking water
200 ml	200 ml
10 liter of warm water	1000 liter of drinking water
2 times per day	8-12 h daily water drunk
3-5 days	5 days



Mintamix is intended for each production type or group of poultry:

- During periods of disadvantageous environmental conditions (high temperature, high pollution, high concentration of harmful gasses e.g. ammonia, hydrogen sulphide) – as a mean of prevention,
- For inhalation of the mucous membranes of the nose, sinuses and trachea.

COMBINED USE

When?

If the veterinarian does not recommend otherwise, supplementation begins at the moment of the first signs of stress (higher intake of water, panting birds, elevated falls) and continue for 5 consecutive days. In the case of prolonged hot weather, after a one-day break, continue therapy.

Morning

Mintamix 200 ml | 1000 L of drinking water | 8 hours

Mintamix should be dosed in the morning when the birds are most active.

The components of the formula stimulate the immune system and help in airways epithelium regeneration, which was damaged the day before. Additionally, in order to protect the upper airways from damage, it is advised to dose Mintamix in the form of misting.

The dose of 200 ml / 10 l of warm water should be applied twice a day during the period of hot weather. As a result the local immunity will be stimulated.

Noon

Osmozan 500 g | 1000 L of drinking water | 8 hours

Osmozan supplementation should be introduced in the period of the highest temperatures of the day, when the birds lose the highest levels of electrolytes by drinking large amounts of water.

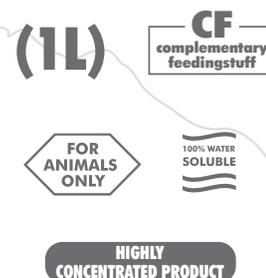
Evening

Biostress C 250 g | 1000 L of drinking water | 8 hours

In the evening the activity of the birds decreases and metabolism slows down. The hormones which accumulated in blood during the day undergo metabolic transformations. Vitamin C stimulates these processes as well as the tempo of the birds' growth.

COMPOSITION

Active, highly concentrated essential oils, vitamin A.



ALL IN TECHNOLOGY

BioPoint ALL IN Technology is a patented technology for obtaining and standardizing herbal preparations. Each of the production stages is under strict control, starting from the selection of raw materials, through extraction, to the creation of a finished product.



Nothing unnecessary, just active ingredients	Low dosage, high efficacy	Less susceptibility to external factors
Constant level of active ingredients	High product activity through the shelf life	Constant activity along the drinking line