

## THE APPRECIATION OF WATER HYGIENIC QUALITIES IN A FARM OF CHIKEN BROILERS GROWING

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### **Abstract**

*The water role for animal organism was marked out through more experiences.*

*In some terms water can transport parasitological maladies, conserving and transmitting parasites, eggs and other parasitological forms.*

*Through hygienic qualities, water influences the organism health condition, the level and quality of procured production.*

*The intention of present study is that of hygienic qualities appreciation of water used in chicken broilers growing, based on organoleptical characteristics and organic substances content.*

*Through method of warm oxidation with  $KMnO_4$  it was appreciated that organic substances level from distribution network, from water and recipients cistern had oscillated between 10-18 mg  $KMnO_4/l$ . The acquired results were compared with values allowed by STAS 1342/1991 (10-12 mg  $KMnO_4/l$ ).*

**Key words:** organic, standard, hygienic, control, rules

### **MATERIAL AND METHOD**

Experiments were involved in a chicken broilers growing farm with battery growing system.

Water quality appreciation was based on physical properties (colour, turbidity and temperature), organoleptical properties (odour and taste) and chemical properties (organic substances level).

For laboratory analysis were gathered water tests from distribution network, water tank and water bowls.

From distribution network, tests were gathered from different points, after tap was opened about 10 minutes.

From pools, harvest was made on outlet place. From water tank, tests were gathered from outlet point.

For colour intensity determination it was utilized a platinum-cobalt solution, which allows degrees expression of colour. Colour degree is the dyeing produced by a solution contains 1 mg platinum on 1 litre of water, which allows tape visibility thus:

- over 60 cm-clear water
- between 30-60 cm-opalescent water
- under 30 cm-turbid water.

Water temperature was determined with a common thermometer, whose tank was braided in gauze and introduced in water for 10 minutes.

For water odour determination we introduced 500 ml water in balloon, which we closed with a bung. After an energetic agitation we took out the bung and we observed odour, then we warm up the test on 60-70°C. We determined odour with other known odours: flavoured, fish, mouldiness, and the intensity we appreciated according to STAS 1342/1991.

Water taste can be expressed through common terms (sweet, rancid, brackish, sour), and the intensity is appreciated according a scale like the taste one.

Water chemical properties can be expressed through different qualities: toughness, ammonia quantity, nitrites, nitrates, chlorides, iron and organic substances. Organic substances from water were indirectly determined, through method of warm oxidation with potassium permanganate solution.

## RESULTS AND DISCUSSIONS

The drinkable properties were determined on tests gathered on February (for

winter period) and May (for summer period).

The physical properties results of these exams are presented on table 1.

Tabelul 1  
 Physical properties of inspected water

Water provenance	Water temperature °C		Colour mg caramel/ l		Turbidity	
	I*	V*	I	V	I	V
Distribution Network	8	16	Colourless	Colourless	clear	clear
Central Tank	10	18	Colourless	Colourless	clear	clear
Water bowls	11	18	Colourless	Colourless	clear	clear

\*I = winter; V = summer

Organoleptical properties of water were normal, without any strange odour or taste.

Among water chemical properties it was determined the level of organic substances.

The organic substances level diversified between 10-12 mg  $\text{KMnO}_4$ / l on tests gathered from distribution network and it diversified between 12-18 mg  $\text{KMnO}_4$ / l on tank and bowls level, outrunning the drinkable rates allowed by STAS, which present an oxidation index of 10-12 mg  $\text{KMnO}_4$ / l.

## CONCLUSIONS

Organoleptical properties corresponded with drinkable terms for water analysed from

distribution network, central tank and bowls level.

-organic substances were identified in STAS limits just on water test from distribution network; on the other tests the organic substances quantity constantly exceeded the maximum allowed limit, which denotes presence of nutrient substratum for microorganism.

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