cause rapid growth of many species of fungi. Fungicides and herbicides are sparingly soluble in water. Most commercially available products contains biologically active compounds dissolved in organic solvents, which are often neutral to the environment, human and animal health.

The main goal of our research was to study the impact of β-cyclo-dextrin to increase the water solubility examined (tebuconazole, MCPA) plant protection products. To examine the complex formation between biocides and cyclodextrins we used isothermal titration calorimetry (VP –ITC). For the determination of concentration of pesticides we used UV-VIS spectrophotometer Specord 50. The set of parameters of interaction given by these methods brings information about the strength and the energetic aspects of complex formation between CDs and fungicides.

PUMPKIN FRUIT‘S AND JERUSALEM ARTICHOKE TUBER‘S FLOUR INFLUENCE ON MEAT QUALITY INDEXES OF BROILER CHICKEN‘S BEAST MUSCLE

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Growing demand for poultry meat has resulted in pressure on breeders, nutritionists and growers to increase the growth rate of birds, feed efficiency, size of breast muscle and reduction in abdominal fatness [2]. Nutrition is an external factor with major influence on the muscle characteristics of broiler chickens [3]. Accordingly, to improve production performance, supplementation of natural components in poultry rations is widely adopted in the world. There is an evidence suggests that some of these components have different active substances [1]. Jerusalem artichoke contained inulin, other dietary fibres, and a small amount of polyphenol [5]. Pumpkins are considered to be a rich source of pectin, carotene, minerals, vitamins and dietary fiber [4].

The aim of this research was to examine the influence of pumpkin fruit‘s and jerusalem artichoke tuber‘s flour on broiler chicken‘s breast muscle‘s quality indexes.

The research with broiler chickens was carried out from 1 to 42 days of their age in a personal farm in Lithuania. There were formed three analogical broiler chicken groups: control group and two experimental groups. Broiler chickens from all groups were fed and held under the same conditions, except for I experimental group‘s broiler chickens which were additionally given jerusalem artichoke tuber‘s flour (13.0 pct. of their feed were replaced by jerusalem

artichoke tuber‘s flour), and II experimental group‘s broiler chickens which were additionally given pumpkin fruit‘s flour.

Broiler chicken‘s beast muscle was used for the analysis of meat quality. All the studies were performed 48 hours after the slaughter. Quality characteristics included the amount of dry matter, cooking loss, water holding capacity, dip of water, color intensity, pH, amount of fat, amount of ash and tenderness, and were performed according to generally accepted methods.

The R statistical package version 2.0.1. was used to estimate data. Differences were considered significant with $p \leq 0.05$.

Table 1 – Chemical and technological broiler chicken‘s breats muscle‘s quality indexes

Indexes	Groups		
	Control	II experimental	I experimental
Dry matter, pct.	25, 74 ±0,74	25,80 ±0,66	25,81 ±0,95
Fat, pct.	2,02 ±0,08	2,21 ±0,15	1,75 ±0,13
Ash, pct.	1,18 ±0,05	1,22 ±0,06	1,21 ±0,04
pH	5, 98 ±0,05	5,97 ±0,03	5,87 ±0,04
Rigidity, kg/cm^2	0,91 ±0,12	0,84 ±0,08	0,74 ±0,11
Boiling loss, pct.	19,91 ±0,72	19,88 ±0,68	19,93 ±0,39
Water coherence, mg pct.	62,2 ±1,52	63,47 ±1,75	62,49 ±1,61
Wateriness, pct.	4,31 ±0,18	4,00 ±0,25	4,73 ±0,31
Colour, L*	67,04 ±1,54	67,82 ±1,62	65,95 ±1,27
a*	10,1 ±0,71	9,43 ±0,84	10,34 ±0,63
b*	10, 48±0,72	10,36 ±0,77	10,79 ±0,62

From the data given in Table 1, it is observable that control group‘s broiler‘s meat distinguished for the least amount of dry matter, comparing to experimental group‘s meat the difference varied from 0.06 pct. to 0.07 pct. Meat of broiler chickens that were fed with pumpkin fruit‘s flour had the least amount of intermuscular fat, the difference was statistically significant ($P<0,001$), it reached 0.46 pct. comapring to I experimental group and 0.27 pct. from the amount of control group‘s broiler chickens meat‘s intramuscular fat. Meat of broiler chickens that were given pumpkin fruit‘s flour distinguished for higher acidity comparing to control (difference reached 0.11 pct.) and Ist experimental (difference reached 0.10 pct.) groups. It was determined that control group‘s broilers had the most rigid meat, broiler chickens that were fed with jerusalem artichoke tuber‘s flour had 7.69 pct. softer meat, broiler chickens that were fed with pumpkin fruit‘s flour had 18.68 pct. softer meat comparing to control group. The least meat wateriness was determined in meat of broiler chickens that were additionally given jerusalem artichoke tuber‘s flour, it was 0.31 pct. less comparing to control and 0.73 pct. less comparing to II experimental group‘s meat. From the data given it is observable that pumpkin fruit‘s flour had the biggest influence on meat‘s colour, II experimental group‘s meat

distinguished for having the least brightness and biggest pinkness and yellowness, comparing to control and Ist experimental group.

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CORRELATION OF ESSENTIAL MINERAL ELEMENTS AND MEAT QUALITY INDEXES OF VARIOUS PIG BREEDS

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Lithuanias‘ processed food sectors‘, as all European Unions‘ countries, one of the main aims is to warrant consumers wellness and wellbeing by developing an environment which saves safe, healthful and various foods‘ production and distribution chain (Staniskienė et. al., 2007). Animal breeding and conversion corporations respectively must manufacture a production of high quality, be aware of factors influencing the quality and the ways of decreasing its‘ variation (Warner et.al., 2010). Trace minerals are essential for the growth and metabolism of pigs. In practice, extra addition of some vitamins and trace elements can improve the carcass characteristics, including moisture loss, meat color, marble stripes, etc., so the relationship between trace elements and meat characteristics are important for improving meat quality (Guang Zhi et al., Gerber et. al., 2009). The aim of the research - to estimate the connection between essential minerals (Na, Mg, Ca, Ni, Cu, Zn, Ba, Se, Fe) and indexes of meat quality.