

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 these research was to study the impact  $\beta$ -cyclodextrin to increase the water solubility examined (tebuconazole, difenylamine) fungicides. For the determination of concentration of pesticides we used UV-VIS spectrophotometer Specord 50. To examine the complex formation between fungicides and cyclodextrins we used isothermal titration calorimetry (ITC). 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 .

### **SOLUBILITY STUDY OF THE INTERACTION BETWEEN PAMAM G5-OH DENDRIMER AND 5-FLUOROURACIL IN AQUEOUS SOLUTION**

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Poly(amidoamine) dendrimers (PAMAM) are polymeric macromolecules that can find their use as carriers of drugs both for animals as well as humans. 5-Fluorouracil is a potent oncological drug, whose usage is limited because of its relatively high toxicity. The surface groups in PAMAM dendrimers belonging to the fifth (G5) generation allow ligand molecules to bind with terminal dendrimer groups and to penetrate the dendrimer interior. That is way the macromolecules of PAMAM dendrimers might be used reduce toxicity of highly toxic drugs. More and more frequently tested polymers of this kind include hydroxyl-modified PAMAM dendrimers. Such modified dendrimers are better tolerated by organism than their cationic equivalents.

The aim of our study was to evaluate the number of 5-fluorouracil molecules combined by PAMAM G5-OH macromolecule in aqueous solution.

The formation equilibrium of PAMAM G5-OH dendrimer complex with an oncologic drug such as 5-fluorouracil (FU) in aqueous solution at room temperature was examined. Using the results of the drug solubility in dendrimer solutions, the maximal number of drug molecules in the dendrimer-drug complex was evaluated. The bonding interactions between the

investigated drug and hydroxylated PAMAM generation fifth dendrimer are weaker than with their cationic equivalent.

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## **PUMPKIN FLOURS' INFLUENCE ON CHICKEN BROILERS GROWTH AND CARCASS YIELD**

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Pumpkin has received considerable attention in recent years because of the nutritional and health protective value of the proteins and oil [1]. Pumpkins are sweet when fully mature with yellow or orange flesh rich in carotene and dietary fibre [3]. It is also known, that pumpkins contain vitamin C, B group vitamins, vitamin PP and vitamin T, which assist in more intense assimilation of nutritional materials [2].

The aim of the research was to estimate the influence of pumpkin flour upon the growth and carcass yield of chicken broilers.

The research with chicken-broilers was carried out from 1 to 42 days of their age in a personal farm in Lithuania. Two groups of parallel chickens were formed: control and experimental. Chickens of both groups were held and fed at even conditions, except that chicken-broilers of experimental group had 13.0 pct. of their fodder replaced with pumpkin fruit flour.

Appealing to the data of control weighing, we have calculated the daily makeweight. A control slaughter was accomplished in the end of the research. After control slaughter the yield of carcass, the yield of breast and legs muscle were estimated, besides that, the length of intestine was measured.

It can be seen from the data of Table 1, that chicken-broilers which were additionally fed with phytobiotic preparations had grown faster than control groups' analogues.

Table 1 – The dynamics of chicken-broilers' growth

Chickens' age, days	Groups	
	Control	Experimental
0	35.00 ±0.01	35.00 ±0.01
14	421.00 ±34.50	456.00 ±39.20
28	1458.00 ±66.20	1510.00 ±44.30
42	2540 ±120.30	2655.00 ±130.00
Daily makeweight, g	59.60 ±3.22	62.3 ±3.24