

Редакція Міжнародного електронного науково-практичного журналу «WayScience»

Матеріали подані в авторській редакції. Редакція журналу не несе відповідальності за зміст тез доповіді та може не поділяти думку автора.

Сучасний рух науки: тези доп. V міжнародної науково-практичної інтернет-конференції, 7-8 лютого 2019 р. – Дніпро, 2019. – 864 с.

V міжнародна науково-практична інтернет-конференція «Сучасний рух науки» присвячена головній місії Міжнародного електронного науково-практичного журналу «WayScience» – прокласти шлях розвитку сучасної науки від ідеї до результату.

Тематика конференцій охоплює всі розділи Міжнародного електронного науково-практичного журналу «WayScience», а саме:

- державне управління;
- філософські науки;
- економічні науки;
- історичні науки;
- юридичні науки;
- сільськогосподарські науки;
- географічні науки;
- педагогічні науки;
- психологічні науки;
- соціологічні науки;
- політичні науки;
- інші професійні науки.

2. Heuristic. (n.d.). Competences. Site: Educational structures in Europe. Retrieved from <http://www.unideusto.org/tuningeu/competences.html>.

3. K.L. McClarty and M.N. Gaertner (2015). Measuring Mastery. Best practices for assessment in competency-based education. Retrieved from <https://www.luminafoundation.org/files/resources/measuring-mastery.pdf>.

DEVELOPMENT OF MIXED FODDERS FOR SNAILS

Makarynska A.

PhD, Associated Prof.

(ID ORCID 0000-0003-1879-8455, allavm2015@gmail.com),

Yarmak L.

master

Odessa National Academy of Food Technologies, Odessa, Ukraine

Today, Ukraine is gaining popularity and the development of farms for growing snails, which does not require significant costs, the growing period and, with the right approach, is profitable. Meat of snails is a nutritious dietary product (the ratio of fats: carbohydrates - 70:10:20), as well as strong aphrodisiac, contains protein, essential amino acids: choline - essential for the brain and retinol - necessary for blood vessels, macro-and trace elements (selenium, iron, calcium, zinc, potassium, sodium, magnesium, copper, phosphorus), a large number of fatty acids, without cholesterol and a large amount of vitamins. In 100 g of snail meat contains 90 kcal and has a pleasant taste. Snail meat is considered to be a dietary and easily digestible product, therefore it is recommended to all people who have excess weight, metabolic disorders. The snails contain enough calcium, iron, and magnesium, so they help to restore and strengthen the bone and cartilage tissues. In addition to meat, mucus and caviar are snails that are expensive and have a lot of useful qualities.

The main areas of application of snails include: cooking; cosmetology "sclotherapy"; jewelery and decor; livestock breeding.

The most squatted are snails of the genus *Helix pomatia* - are the largest gastropods, which live up to 7 years. The "commodity" snail has a weight of 20–25 g and is about 5 cm in size. 1 snail brings up to 1 kg of litter per period. From 100 kg of snails get up to 2 tons of offspring. For one season, one snail is able to lay up to 40-60 eggs.

The purpose of the work is development of recipes and technologies of production of mixed foddors and additive for snails, estimation of their zootechnical and economic efficiency. Objects of research - snails *Helix pomatia*, fodder for snails.

Today in the world 420-450 thousand tons of molluscs are sold for about \$ 12 billion. Of these: 15 % are grown on special farms, while others are collected in natural conditions. In the structure of global production of snails, the leaders are Morocco – 47 %, Spain – 20 %, Indonesia – 18 %, followed by China – 9 % and Romania – 6 %. The leader among buyers of snails is China with a share of more than 40 % of world imports. Followed by European countries, famous for their exotic cuisine - France (23,12 %), Italy (10,46 %), Belgium (5,76 %), Greece (4,16 %) and others (13,62 %).

The world market of snails in 2018 amounted to 750 thousand tons, snail meat - more than 110 thousand tons, and demand is met by a maximum of 70 %. In 2017, the world's production of snails was 650 thousand, in Ukraine - 415 tons. In 2018, for the first 3 months. there is a decline - production volume amounted to 60.5 tons, which is explained by the purchase of young snail farmers. However, despite the fact that Ukraine consumes very little snail meat (10-12 tons per year), Ukraine in recent years has considerably increased exports of snails to France, Spain, Poland, Germany, Belgium, and Britain. In 2015, they were imported for 0,2 thousand dollars (0,4 kg), and already in 2016 - 4,8 thousand dollars (977,9 kg). In 2016, just like a year earlier, China became the main supplier of mollusks to Ukraine. The second place is France.

The main advantages of snail breeding include: meat contains a minimum of cholesterol - 48 mg/kg, which helps to protect the heart and human circulatory

system; strong aphrodisiac; snails emit 80 times less methane than cows; To get 200 calories, a person consuming meat snails, eat the least fat and most proteins in comparison with other meat; ease of breeding and care, do not hurt.

There are three ways of breeding snails: extensive - involves the cultivation of molluscs in natural conditions, involves growing completely in the open area; the intensive method is more suitable for breeding on an industrial scale, provides for breeding in a closed room of the greenhouse type; semi-intensive breeding of snails in open pits, where natural shading and moisturizing are organized, as well as a good organization of feeding, with the addition of moderate amounts of feed.

With the maintenance of snails, provision is made for feeding with natural forages, feed additives and a combined method. A special need for a diet should be the presence of calcium to strengthen their shell.

The most popular method of breeding snails is the farm. The first snail farm in Ukraine appeared in Transcarpathia in 2010. Today in Ukraine there are 15 gilly farms, 90 % of which is exported. Among the largest include: Snail Elf, Eco Ravlyk, Western Snail, Organic Escargo, Ponebel, Farm M. Demian, Pokutskiy snail, Aulika, FG-Ravlyk-2016, USH (Ukrainian Snail Holding), Zdravlik, Aunt Sophie snails, Squirrel House, Family Snail Farm.

Breeding of snails in artificial, "greenhouse" conditions is also a guarantee that the meat that is sold will be free from various contaminations - heavy metals, pesticides and others. Propagating snails are good. Only they need space. Normal conditions for their lives are created when 40-50 snails (that is, about a kg) live on 1 square meter. So, in terms of outdoor parking, one should expect that the return will not be earlier than 2 years. The snail in the natural environment grows more slowly than a rabbit or a cow.

Based on the literary search, taking into account the needs and taste preferences of snails, and analysis of the existing additive for snails, we have calculated and optimized the recipe for compound feeds for snails for the software complex KormOptimExpert. Optimization was carried out in terms of the nutritional value of feed (the content of exchange energy, crude protein, crude fiber, amino

acids, calcium, phosphorus, sodium) and its value. Mass content of the components of the feed for snails, % - grain (wheat, barley without films, maize, wheat bran) - 58, animal feed - 12, tricalcium phosphate - 5, chalk feed - 24, premix - 1. Quality indicators of feed, %: raw protein - 14,58, crude fiber - 1,57, Lis - 0,66, Met - 0,26, Met+Cys - 0,46, Ca - 10,19, P - 1,30, P is digestible - 0,96, Na - 0,40.

It is established that the feed on the developed recipe is not inferior to the fodder that are offered today for the cultivation of snails, and at a cost is cheaper.

According to the calculated recipe, feed was obtained in accordance with the phased technological scheme presented in Fig. 1.

Organoleptic characteristics of feed for snails: appearance - a dry homogeneous mixture without solid lumps with the color inherent in the combined color of the mixed-recipe components. The smell is inherent in the combined odor of the mixed-

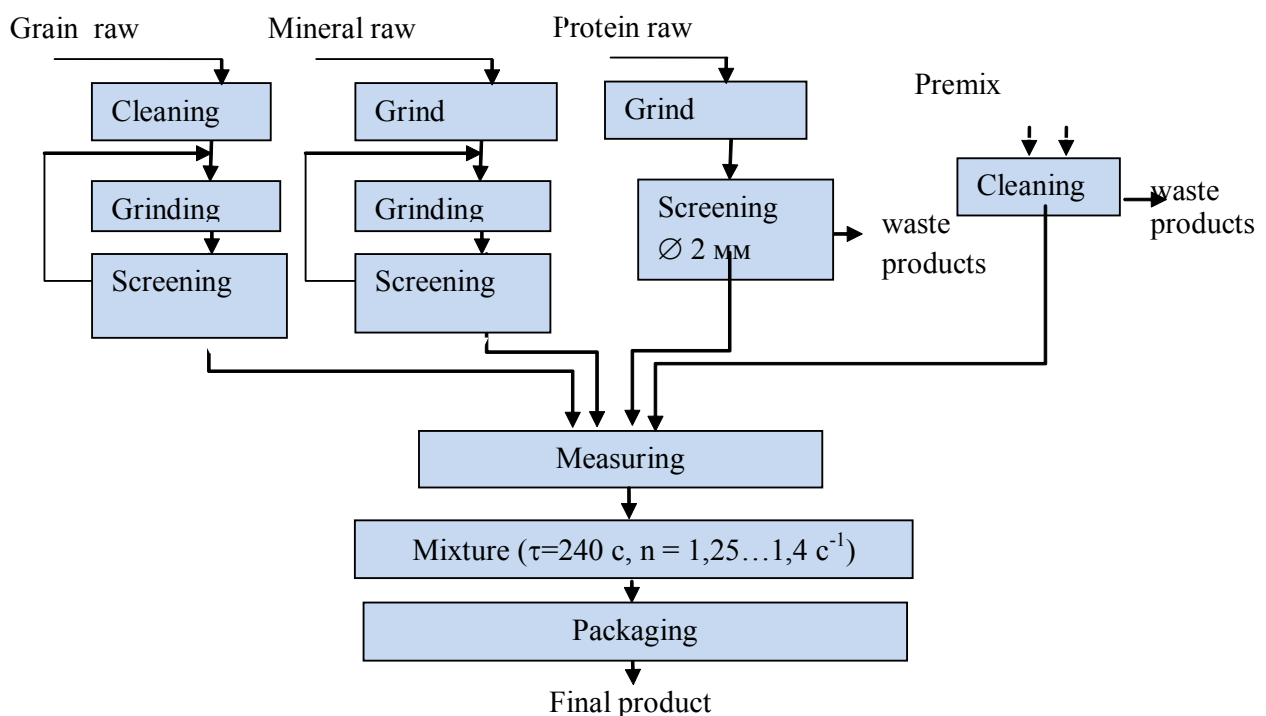


Figure 1 - A phased scheme for the production of mixed fodders for snails.

recipe components (slightly pronounced fish).

Physical indicators of feed for snails: the mass fraction of moisture - 10,5%, volume mass - 720 g / l, the natural slope angle - 48grad., The brightness - 6,3 cm / s,

the size - 0,56 mm. According to the organoleptic, physical properties and chemical composition, ready-mixed fodder for snails meets the requirements of the State Standard of Ukraine.

The microbiological parameters of the mixed fodder were evaluated by the determination of the number of bacteria, mold fungi, Salmonella and BGKP. Fodder was stored in unregulated conditions for 1 month. It has been established that according to the quality indices the experimental sample of mixed fodders for snails meets sanitary requirements, since the amount of CFU is less than 500 in 1g. In the developed experimental sample, the number of colonies is higher than in the mixed fodder of the Bulgarian production due to the presence of animal feed (meat-bone meal).

The zootechnical evaluation is the final result of determining the effective action of fodder. The zootechnical evaluation of the feed was carried out using 3 groups of snails: control and 2 experiments on 7 units in each group. Conditions for keeping snails: temperature +18...30°C, relative humidity 75...90 %, world day 9...11h. The control group fed the main diet (OR): cucumbers, lettuce, apples, carrots in the same amount. Experimental groups received the main diet and 2 g of feed per day. Fodder was fed at evening and night time, pre-creating conditions for spraying "fog" with the help of a humidifier. The assessment was conducted on the following indicators: growth of live weight (m, g); the length of the leg of the snails (l, mm) and the width of the snail (b, mm). Fodder for snails during feeding gives a positive zootechnical effect, since the size of the shell at the end of the experiment refers to the commodity, the increase in the mass of snails increased by 13,6 %, and the length by 30 % at the feed conversion ratio (FCR) 1.2 ... 1.5.

Conclusions: 1. The growth of consumption of snails, especially in Europe, forms favorable market conditions that ensure a guarantee of constant demand for products of activity of snail farms in Ukraine. 2. Growing of snails is a waste-free production with a closed cycle, which allows to get a commodity snail, meat, white caviar, offspring. Creation of snail farms allows to expand the domestic assortment of high biological value food products, as well as feed products. 3. Growing of snails is

one of the directions of the solution of protein deficiency in the food and feed industry and the rational use of land resources. 4. Scientifically grounded and developed recipes of mixed fodders for snails with feed conversion ratio 1,2 ... 1,5, which allow more rational use of non-traditional types of raw materials. 5. According to the organoleptic, physical properties and chemical composition, the finished product meets the requirements of the State Standard of Ukraine. According to microbiological indicators of quality, feed meets the requirements, since the amount of CFU is less than 500 per 1 g. 6. Fodder for snails during feeding gives a positive zootechnical effect, since the size of the shell at the end of the experiment refers to the commodity (about 50 mm), the increase in the mass of snails increased by 13,6%, and the length by 30%. 7. The snail farm can be considered as an object of tourism business.

ХУДОЖНЬО-ЕСТЕТИЧНЕ ОСВОЄННЯ СОЦІУМУ ЯК ЗАСІБ ГАРМОНІЗАЦІЇ ОСОБИСТОСТІ

Малицька О.В.

Бердянський державний педагогічний університет

кандидат педагогічних наук, доцент,

доцент кафедри початкової освіти

orcid.org/0000-0001-6296-5957

+38050076554

sokolska16@rambler.ru

Серед пріоритетів розвитку суспільства актуальними є ті, що пов'язані з визначенням шляхів гармонізації відносин людини з природою, суспільством і власним «Я». Гуманітарна складова є найважливішою і неодмінною умовою і фактором розвитку суспільства, а гармонійні процеси його трансформації невід'ємні від людського фактора.

ІНСТИТУТІВ, ТЕХНІКУМІВ, ШКІЛ В 1920-1930-Х РОКАХ	
Lukianova T., Sherbina L. PRIORITY FORMATION OF CRITERIA OF EVALUATION AND SELECTION OPTIMUM OPTION OF RENOVATION OF UNFINISHED PROJECT	401
Ляшенко Е.В., Белая Т.А., Охрименко Е.В. ПРОБЛЕМЫ РАЗРАБОТКИ КОМПЕТЕНТНОСТНО ОРИЕНТИРОВАННОГО КУРСА	404
Małagynska A., Yarmak L. DEVELOPMENT OF MIXED FODDERS FOR SNAILS	407
Малицька О.В. ХУДОЖНЬО-ЕСТЕТИЧНЕ ОСВОЄННЯ СОЦІУМУ ЯК ЗАСІБ ГАРМОНІЗАЦІЇ ОСОБИСТОСТІ	412
Marenichenko V.V., Burlaka V.I., Tonkonogov Y.L., Mudrak A.A. CHOICE AND CONSTRUCTION OF REGIONAL MANAGEMENT AND SOCIAL DEVELOPMENT STRATEGY	417
Марків В.М. ЗАГАЛЬНОЛЮДСЬКІ ЦІННОСТІ ЯК ОСНОВА ФОРМУВАННЯ ТОЛЕРАНТНОЇ ОСОБИСТОСТІ	419
Марковська О.Є. НАУКОВІ ПІДХОДИ ДО ЕЛЕМЕНТІВ СУЧАСНИХ АГРОТЕХНОЛОГІЙ ЗА УМОВ ЗРОШЕННЯ	424
Мартинець Д.С. РОЗРОБКА ТА ОБҐРУНТУВАННЯ СТРАТЕГІЇ УПРАВЛІННЯ ПЕРСОНАЛОМ ПІДПРИЄМСТВА	428
Мартинюк Л.В. АКТИВІЗАЦІЯ МУЗИЧНО-ОБРАЗНОГО СПРИЙНЯТТЯ МОЛОДШИХ ШКОЛЯРІВ НА УРОКАХ МУЗИЧНОГО МИСТЕЦТВА	433
Марущак О.А., Денісова Л. ПСИХОЛОГІЧНА ТЕОРІЯ ПОХОДЖЕННЯ ДЕРЖАВИ	437
Марціхів Х.Р. РЕЗУЛЬТАТИ НАВЧАННЯ БАКАЛАВРІВ ГУМАНІТАРНИХ НАУК У ГАЛУЗІ ЖУРНАЛІСТИКИ В УНІВЕРСИТЕТАХ США ТА УКРАЇНИ	442
Масалигіна В.В. ОПТИМІЗАЦІЇ УПРАВЛІННЯ ОСНОВНИМИ	446