Сибирский научно-исследовательский и
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ФЕДЕРАЛЬНОЕ АГЕНТСТВО НАУЧНЫХ ОРГАНИЗАЦИЙ РОССИИ

МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ РОССИЙСКОЙ ФЕДЕРАЦИИ

СИБИРСКИЙ НАУЧНО-ИССЛЕДОВАТЕЛЬСКИЙ И ТЕХНОЛОГИЧЕСКИЙ ИНСТИТУТ ПЕРЕРАБОТКИ
СЕЛЬСКОХОЗЯЙСТВЕННОЙ ПРОДУКЦИИ СФНЦА РАН

ПИЩА ЭКОЛОГИЯ КАЧЕСТВО

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Репчатый лук и помидоры очистить и мелко нарезать. На бамбуковый коврик положить лист нори. По его поверхности распределить рис. Копченую курицу мелко нарезать и положить на слой риса. Заем тонким слоем положить помидоры, лук репчатый и соус холопеньо. Скрутить роллы и нарезать на равномерные кусочки [2].

Приготовленные роллы поместить в жарочный шкаф на 5 минут при температуре 180 градусов.

В таблице 1 представлена общая масса пищевой ценности блюда «Тори Купсей».

Таблица 1 - Общая масса пищевой ценности блюда «Тори купсей»

Наименование сырья	Пищевая ценность на 140 г продуктов:		
	Белки	Жиры	Углеводы
Тори купсей	20.38	4.6	50.89

Таким образом, была разработана рецептура и технология приготовления блюда «Тори Купсей».

Выводы. В результате построения и разработки блок-схем было установлено, что процесс приготовления изделия состоит из нескольких стадий. Первой является холодная обработка рыбы и других ингредиентов. Второй – тепловая обработка такая, как запекание.

Расчет пищевой и энергетической ценности показал, что блюда имеют достаточную калорийность, чтобы удовлетворить суточную потребность организма человека.

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D. S. Saleev, A. V. Borisova

THE TECHNOLOGY OF MAKING BAKED ROLLS

Abstract: *A brief description of the technology of cooking baked rolls is Given. An example of modern technology of baked rolls production is given.*

Keywords: *baked rolls, technology, Japanese cuisine, Tory kunsey*

УДК 635.665.64.

К.М.Сарикян, Г.Ж.Саргсян

РЕЗУЛЬТАТЫ ИССЛЕДОВАНИЯ ДЕЙСТВИЯ ОРГАНИЧЕСКИХ УДОБРЕНИЙ НА БИОЛОГИЧЕСКИЕ ОСОБЕННОСТИ И ХОЗЯЙСТВЕННО - ЦЕННЫЕ ПРИЗНАКИ БАКЛАЖАНА В УСЛОВИЯХ АРАРАТСКОЙ ДОЛИНЫ РЕСПУБЛИКИ АРМЕНИЯ.

Аннотация: *Исследовали действие разных вариантов "Биогумуса полученного из органических отходов" и "Органическое удобрение полученное на базе биогумуса" полученные из производства отходов грибководства армянско-норвежской организации "ОРВАКО", на рост, развитие, урожайность и качество плодов баклажана.*

Результаты исследования показали, что у местного баклажана сорта Карине, высокие показатели роста, развития, урожайностьи и качества плодов получены в варианте "Органическое удобрения получена на базе биогумуса" удобрения были внесены во время посадки рассады + 2 раза подкормка в течение вегетации из расчета 5 тонн на 1 га.

Ключевые слова: *баклажан, органические отходы, биогумус, биологические особенности, хозяйственно ценные признаки*

Great importance is now being paid to the raw materials which are free of chemicals and to their quality improvement to provide the population with agricultural products. This issue can mainly be solved by the production of organic fertilizers and their use in farms where valuable vegetable crops are cultivated. For this reason we have initiated tests with the use of the organic fertilizer derived from biohumus and biohumusderived from organic wastes on eggplant crops.

Organomix, the new organic fertilizer derived from biohumus and biohumus, derived from organic wastes are produced by ORWACO, an Armenian-Norwegian company, and are provided by "Armenian Women for Health and Healthy Environment" NGO to the Scientific Center for the tests on eggplant crops. ORWACO aims at transforming organic wastes into valuable organic fertilizers. Biohumus is derived from decontaminated compost, a by-product of mushroom farming. It is referred to as "Biohumus derived from organic wastes". Biohumus is produced as a result of waste processing by Californian red worms and microorganisms. It is brittle, with pleasant smell and looks like black soil.

The chemical constituents of biohumus. Biohumus contains 53% of dry organic matter, 30-50% level of humidity, 1.8% oftotal nitrogen, 0.85% of total phosphorus, 0.72% of potassium, 6.4% of calcium, 0.67% of magnesium. Besides, it contains almost all the microelements, as well as biologically active substances.

The mixed organic fertilizer, Organomix, is a mixture of biohumus, peat and compost. It is referred to as a "New organic fertilizer, derived from biohumus".

Subject and methodology. The research was conducted within 2013-2014 period in the experimental household of Darakert community (the Ararat valley) of Scientific Center of Vegetable and Industrial Crops. Biohumus, derived from organic wastes and the new organic fertilizer, Organomix derived from biohumus, were the subject for research.The experiments with the aforementioned fertilizers under the conditions of the Ararat valley were conducted over a local selection of eggplant called Karine, which is certified in the RA. The seeding of eggplants was conducted in the second half of May by the planting plan /90−70/x30cm.

The phenological observations were carried out during the main phases of plant growth and development, the terms of overall germination, blossoming, fruiting and ripening were indicated.

The biometrical measurements were performed over 10 plants by measuring the bush height, the number of branches and their length. The number of leaves and crops, the average crop mass and crop length were measured. The crop mass was determined by weighing. The phenological observations, biometric measurements, plant disease resistance and crop weighing were performed by the "Vegetable and crop growing field experiemtal method" [1].

The experiment was carried out according to the " Methodological regulations of randomized block experimental design" of the World Vegetable Center [2].

Biochemical tests of crop overall productivity were carried out over ripe crops. Dry matter was estimated by weighing.the sugars by Bertrand's and vitamin C by Murray's methods [3].

Table 1- The following samples were tested

Samples	Activities
Tester	Without fertilization
I sample	Fertilized with Organomixinto seeding pits followed by single feeding with biohumus (4.5 T for 1 ha)
II sample	Fertilized with Organomix into seeding pits followed by double feeding with biohumus (5 T for 1 ha)
III sample	Fertilized by biohumus, derived from organic wastes, into seeding pits followed by single feeding with biohumus (4.5 T for 1 ha)
IV sample	Fertilized by biohumus, derived from organic wastes, into seeding pits followed by double feeding with biohumus (5 T for 1 ha)
V sample	Fertlized by Organomix 20 and 40 days after seeding (4 T for 1 ha)

VI sample	Fertilized by biohumus, derived from organic wastes, 20 and 40 days after seeding (4 T for 1 ha)

Results and discussion. We studied and estimated the impact of different varieties of"New organic fertilizer, derived from biohumus"and "Biohumus, derived from organic wastes"on the biological and economical valuable characteristics and features of various species of eggplants.

The results of the study demonstrate significant differences referring to blossoming, fruiting and ripening. [Table 2].

Table 2 - The impact of the tested fertilizers on the biological characteristics of eggplants

Samples	Overall germination dates	Days to germination-overall blossming	Days to germination-overall maturity	Days to germination-tecnical ripening	Days to germination-biological ripening
Karine					
Tester	1.04	85	96	107	130
1	1.04	82	94	106	128
2	1.04	80	92	102	125
3	1.04	79	91	102	124
4	1.04	77	89	100	120
5	1.04	84	94	105	128
6	1.04	85	96	107	130

The number of days to germination-overall blossoming in the tested samples of Karine species was 77-85 days. Samples 4 of Karine species blossomed 8 days earlier in camparison with the tester of the same species grown without fertilizers (85 days). The same pattern was trackedin germination-overall maturity phase of Karine species with 89 days correspondingly regarding the same samples as in the previous phase. The number of days to germination-technical ripening or germination-first harvesting in the studied varieties of Karine species was 100-107 days.The number of days to germination-biological ripening in the studied varieties of Karine species was 120-130 days. Samples 4 had the best indices of biological charcteristics.

During the studies we trackedthe morphological indices of eggplant crops within the period of seeding to the end of vegetation stage. The tested fertilizers did not have significant influence on the morphological properties. The plants did not catch diseasesin differet phases of growth and development. Samples 4 stood out in different phases by their vegetative growth and height. Samples 4 excelled by quantitative changes of vegetative and generative organs as a result of eggplant respective studies. In the fruiting phase of these samples of eggplant Karine species the following paramenters were recorded: plant height – 95.3cm, the total lengh of branches on one plant – 360.8cm, the number of branches – 14.2, the number of leaves – 105.9.

Table 3 - The impact of the tested fertilizers on the yield and economically valuable features of eggplants

Samples	Average yield, cwt/ha	Difference with the tester, cwt/ha	Number of crops on a single plant	Average cropmass, g	Crop length, cm
Karine					
Tester	500.5	-	9	205.5	25.4
1	580.6	30.0	12	269.2	29.3
2	600.1	49.6	12	270.6	30.1
3	610.7	56.6	13	275.4	32.4
4	690.9	140.4	14	280.3	35.5
5	564.3	13.8	11	260.2	27.4
6	555.8	5.3	11	265.7	28.3

Sx=3.5 %, LDS_{095} 12.6 cwt/ha

The results of fertilizer studies [Table 3]demonstrated that the average yield of the samples of Karine species was 550.5-690.9 cwt/ha. All the samples had higher yield as compared to the tester. Sample 4 of Karine species demonstated the highest crop yield of 690.9 cwt/ha, which exceeded the crop yield of the tester (500.5cwt/ha) by 140.4 cwt/ha. Samples 4 stood out by the number of crops which is 14 in both cases. The average crop mass was 250.5-280.3 g in the tested samples. The crops of sample 4 had the highest average mass (280.3g).The average crop length of the tested samples was 25.4-35.5cm. The crops of samples 4 stood out by their length which was 35.5cm respectively.

Table 4 - The impact of the tested fertilizers on the qualitative parameters of eggplant in technical ripening phases of crops

Samples	Content in crops		
	Dry matter %	Sugars %	Vitamin C mg%
Tester	8.9	3.0	4.45
1	9.3	3.5	5.85
2	9.4	3.6	5.85
3	9.5	3.6	6.00
4	9.8	3.9	6.55
5	9.2	3.2	5.25
6	9.3	3.4	5.25

The studied samples differ in their qualitative parameters as well [Table 4]. In the phase of the technical ripening the crops of Karine species had 8.9-9.8% of dry matter, 3.0-3.9 % of sugars, 4.45-6.55mg% of vitamin C. The qualitative parameters are the same as those determined for eggplant [3]. Samples 4 stood out by their high qualitative parameters.

Conclusion. The results of the study demonstrated high indices of growth, development, yield and crop quality of local species of eggplants when fertilized by Organomix into seeding pits followed by double feeding with biohumus (5 T for 1 ha).

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K. M. Sarikyan,G.G.Sargsyan

THE STUDY OF THE IMPACT OF ORGANIC FERTILIZERS ON THE BIOLOGICAL AND ECONOMICAL VALUABLE CHARACTERISTICS AND FEATURES OF EGGPLANT GROWN IN THE ARARAT VALLEY, ARMENIA

Abstract: *We studied the impact of biohumus, derived from organic wastes, and Organomix, an organic fertilizer derived form biohumus, the two products of ORWACO, Armenian-Norwegian joint venture, on the growth, development and yield of tggplants.*

The results of the studies demonstrate high indices of the growth, development, yield and crop quality of local eggplant species Karine when fertilized by Organomix into seedingpits followed by biohumus double feeding(5 Tfor 1 ha).

Keywords: *eggplants, organic wastes, biohumus, biological characteristics, economical valuable features*