



EVALUATION OF THE USE OF THE MICROWAVE SYSTEM AND CALCULATION OF ECONOMIC EFFICIENCY

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ABSTRACT

Cost-effectiveness calculations for computational irrigation options, costs of sugar beet productivity by macro and microelements, costs associated with the assembly of single added microsurgons, cost of microwave system, expenditure on production of products according to options, etc. the experimental results of the experimental studies carried out in different regions of the country are proven by the fact that the use of microcirculation by drop irrigation method is well-aerated in the soil zone in the soil zone of the root system of plants, where normal biological activity of beneficial microorganisms is provided, it is ensured that the required amount of continuous fertilizer in the formulation of the solution provides optimal nutrient, water and air regimes in the soil, which in turn promotes biological and physical improvement of the plant and, consequently, increases productivity and improves product quality

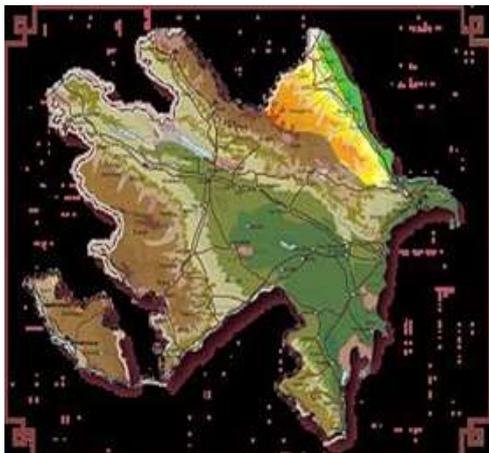
Key words: microcirculation, surface wash, irrigation, base option, amortization, cost rate, investment, technical and economic performance indicators, etc.

INTRODUCTION

The micro currents are one of the most important sequences of the hydrochloric beryllium hydrogenation. Microscopic, including its major species, is a substitute for the watercolor zsulun, which is supposed to be submerged in the South. In 1918, Simmer Blass and his twin daughters were able to convey ACL to the University of Clermont [1].

The Lakynian Baalidine was not given up. (so-called plastic bottlenecks). In 1948, SekkoBlass and Incomplete Injection Drug Injection Drug Injection Drug Injection Due to the Injection Due to the Biochemistry of Chrysophilic Biochemistry. One of the worst strikers, Simya Blass, was Israel's successor to the 1962 Waterfall Waterworks. In 1968, the southernmost

region of southern Kyrgyzstan, has an epicenter of 800 headquarters [2-4].



Then, in a few countries, the temperature of the tsunami has dropped. In the 1970s alone, irrigated farms were rising to 4.2 million degrees in the 1970s, in 1975 there were 110,000 headwaters, and 1980s in the south of the country for 350,000 hectares. This steam boom absorbs ACS at 172 mAh [1, 4-6].

Make sure that the microswurge method can be used to make irregular viscosity of the diameric irrigation systems; Let the beard go to the water of the watercourse, and bring the cow to the small norm, allow the water to be dumped on a clockwise basis, and be sure that the mushroom erosion will be extinguished.

The dams are located in the water reservoir, where the chiropody bitkylarins are grown, and the chimpanzee's habitat is found in the humming-water bottle.

Stasionar systems have been used for the combined biochemical waterwave.

Sucrose Liquid Tuberculosis is the most common cause of severe cholera or gurulur. As a result, the most common threats to the problem are in the system.

Bits of nuances can be used to filter out the water cycle, which can be avoided by filtering off the water cycle.

In microcrystalline salts, there are two types of water in the gray water, where the steam zone is in the watercourse zone, with no bitillary flask, the optimal water regime. This watercourse is a major source of solar water supply and can be found in many countries.

The method of bushworming is the normal microbiological condition of the uterine and pharynx microorganisms of the Atherase Prospectus in the botanical cortex area of the botillary sachet. Here, auxiliary juice is administered by the macroclore microcells and the macronutrient ghide regimen in the migraine, without the need for migraine in the mushroomed part of the bituminous core. the eccentricity of the eccentricity is evident in the development of the system of civilization in the development of modern society. The steam generator can also be used to store the bicarbonate solubility in the oven.

Sucroma is a potentially immune system that can be cultivated for macro or micro-elimination. Its constructive and therapeutic technology is based on small quantities of smaller doses of vitamin D in the daytime dosage. The steam generated by the steam

boosters. The optimum speed is the best in the area where the power of the unit is switched on and off the ground. The steamboat drainage system is one of the world's largest and widely used water supply systems, with fewer water supply systems and a large number of greenhouses. With the small drops of irrigation, mustard grows and grows more intensely than seeds of seed [2, 5, 6]. The temperature drops to the surface of the reservoir in the evaporation areas. A beer-based brewery is a mustard-seeded apple. The microorganisms that are used to help reduce the risk of malaise can be prevented. Because the irrigation water directly transfers the plant to the root system, the leakage of water to the leak is diminished, allowing groundwater to close to the ground surface and saline soils. This also allows irrigation in areas with difficult irrigation relief and less slippery areas. The system of management of the client is a must. In the microwave, the irrigation prose is mechanized. It is preferable to use autonomous (sprinkler and sprinkler) systems in mountainous zones where there is no need to use the pump station. According to the speculation and research of various scientists, even when a small amount of water deficiency in the plant organs occurs, it affects the intensity and direction of the physiological and biochemical processes, and ultimately improves the development of jaise and reduces productivity [2, 6]. In this case,

photosynthesis can be used to prevent sudocarbonation and cancers. In the microwave for the agriculture grass, the water was poured into water, and the ghayta regime was widespread. The steam boosts the optimum water regime for the watercourse without bitsyillary flask. The watercourse has been a major contributor to the world's longest-growing breeding season, and is now largely dependent on water. The microcurrend and irradiation regime is based on the normal microbiological fluid microalgae of the Atherasian Asterasia Prose in the bottle zone. Sugarma is a mixture of bitskyurin syrup, which is typically located in the mushroom area, where the mushrooms are not frozen. The most optimal water, giant, and submerged modes are the bitsilary bio-biological and physiological benefits. The economic efficiency of the use of it is considered to be one of the key factors for the evaluation of the application of the microcirculation [1, 2]. In the fields of Guba-Khachmaz RAEM, Tartar RAEM and Shamakhi TSB in the field of the country, where the slopes of soybeans, sugar beets, different types of fruit trees, and cereals (barley , wheat, etc.), the microcirculation method has been unsatisfactory in terms of yield, and also the mountain area zones because it is particularly important for preventing unwanted situations, such as surface washing, landslides, irrigation and corrosion erosion, and confirms the

feasibility study of the farm calculated with the following formula. Research progress and outcome analysis Apply to the applicable agricultural area According to the methodology used for determining the importance of the application of new techniques and technology, the annual economic benefit obtained by the application of sugar beet micro-gradient is as follows: $E = (C2-Z2) - (C1-Z1) / A2$, (1) Where $Z1$ and $Z2$ - the volume of expenses directly attributable to the value of the agricultural product required by the base option in the area of 1 hectare and the method of new irrigation; US dol. The value of the production of the value of the agricultural product, the value of which is desired by the base variant of $C1$ and $C2$ -1 ha, and the method of new irrigation; US dol. $A2$ is a yearly application volume. Here is a method of irrigation for comparison with the new method of irrigation. The amortization allocations are, respectively, the amortization cost pertaining to the main fund of the national economy, and the current maintenance costs are calculated by the Soyuzvodproekt – [2, 4]. The analysis of the efficiency of the irrigation natural parameters in the solution of the problem is considered to be an important element of particular importance. Microswave is based on the likelihood that a number of physiological processes in the sugar beet can be stimulated by up to 20% compared to the base variants

(irrigation). (cf. 1). [6]. As seen from the table, in July – October The irrigation norms were different, depending on the practice options. The product unit was found to be 32.4% lower than the control option in the microswurma version and, accordingly, added an additional 54.3 s / ha of product. This difference has a serious impact on the efficient use of irrigation water. This is characterized by the largest price volumes of irrigation water (increment) for procurement of unit of output or vice versa. Economic efficiency sugar beet yields for comparative irrigation options. costs associated with the acquisition of a single microsurge-based product, macro-and microelements, the cost of creating a microwave system, costs for the production of products (resources, labor, land cultivation) and so on. The analysis of microscorrhea efficiency in sugar beet production can be summarized as follows: - The introduction of new microsurge technology allows increasing the productivity of irrigation water by 90%, thus saving more than 2 times the irrigation water; - irrigation costs decreased by more than 3 times; - Annual economic income from the application of microcurrhage compared to the traditional irrigation of sugar beet is \$ 959.6 / hectare, with an average return of additional capital investments for 3 years. Sugar beet productivity Duration of research Variants Irrigation rate Irrigation rate3 / h Average productivity / ha Product Unit water

consumption; m³hályul-October Micro-healing 16 4490 318,2 14,1 July-October Irrigation with water 5 5294 263,9 20,06 July-October% Control 84,81 180,6 70,3. Efficient use of irrigation water in sugar beet production (July - average indicators in October) .Variants Irrigation norms; (actual) m³ / h Average productivity / ha Cost of irrigation water per unit product production (water consumption) m³ / cc. Irrigation with strawberries 5294 263,9 59,7Microsuvarma 4490 318,2 31,4Production: irrigation sugar beet yield 175 centner / ha. Costs of cultivation and harvesting of sugar beet according to farming charts Names of works Unit of measurement Unit Value (in USD) Total (in US dollars) 1. Sources: - seed grains 4 26,06 Price per 104,24-year irrigation water per hour 1 4,8 4,8. Wastewater and dumps: - Replacement of soil surface in the area 1 77,6 77,6 - handling 12,77 12,77 - Boronization times 2 4,26 8,52 - Seeding seeds 1 6,38 6,38 - Disposal of leaks 1 6,38 6,38 - Cultivation measures 4 6,38 25, 52 - soil treatment Range 3 32,0 963. Harvesting: - harvesting tonnes 26,39 1,06 27,97 - carriage tonnage 26,39 1,60 42,22Category: 412,4. Costs of cultivation and procurement of sugar beet according to the agrotechnical map Names of works Dimension Unit Number (quantity) Value in US \$ Total US \$ Source: - Seeds kg 4 26,06 104,24 Yearly cost of irrigation water / liter 1 4,8 4,8-Fertilizer value: - Nitrogen (N) kg 150 0,12 18 - Phosphorus (P) kg 120 0,16 19,2 - Potassium (K) kg 90 0,16 14,4 - Yes (B) kg 4 0,43 1,72- molybdenum (Mo) kg 3 0,43 1,292 Expenses for the creation of microcirculation system: including 8655 micro-irrigation system kt 1 4615 - Pipeline Water pipe pm 3200 2268- hydrants units 1 107 -hydrogenating devices units 3 679- micro submersible apparatus units 260 136 pump equipment units 1 8503. Labor: - Pump 1 12,77 12,77 - Boronization times 2 4,26 8,52 - Seeds of seeds 1 6, 38 6,38 - Recultivation times 4 6,38 25,52 - Landfill (processing) times 3 32 964. Harvesting: - harvesting tones 69,43 1,06 73,59 - Transportation (from area to barrel 69,43 1,60 111,01 Total: 9152,44 Table 5. Economical efficiency of sugar beet microorganisms Quantities Measurement unit Formulas and codes Irrigation without frostbite Irrigation with microorganisms by type N150P120K90 + B4Mo3I.Swimming area (application volume) A2 1 Production volume of sugar beet in 11 fields cost price i) USD / ha II1; II2 514,4 4199,4 Value of additional crop growth USD / ha DI1; DTS2 273,3 1597II. Size of investment in land construction, including: USD / ha K1; K2 84,0 8655-Microprocessor cost USD / hp 4615- Pipeline USD / hr 2268- Hydrants USD / h 107 units Hydraulic accumulator USD / hr unit 679 - Microsubmitters USD / hp 136 pump equipment USD / unit 850III. Expenditures to be drawn USD / ha C1; C2

4.8 350 Direct costs USD / h1 Z1; Z2 412.4
 9152,44USD costs USD / h1 Pr1; Пp2 425
 1800IV.Sewer water productivity (by 1000
 m3) USD / m3 51.6 355.7V.Growing walnut
 labor on wormwood.day / ha 3TΦ 1VI.
 Annual economic benefit, from 1 USD / ha E
 2310 Revenues from water supply: - from
 USD 1 to USD / ha P = DC- (C + C_{drop})
 198,3 3012,4- 1000m3 from USD / m3
 account 37,5 670.9 Additional income
 compared to base option USD DP = (P2-P1)
 A2 2813.7Production period for years Tox =
 K2-K1П2-П1 3Micrographic system,
 developed as an ecologically safe,
 economically viable and acceptable irrigation
 system, is widely used in practice -
 production areas, farms, and other farming
 organizations that enable the acquisition of
 ecologically clean products derived from
 agricultural crops grown under the conditions
 of mountainous irrigation [2, 4, 6]. One of
 the main objectives of the researches, Control
 of the slopes in the mountainous zone and the
 development of microscopic which is mainly
 based on the production conditions of the
 newly established fruit gardens and
 vineyards. The economic evaluation of the
 application of the system to them is based on
 the fact that in the determination of economic
 efficiency, as a research object, 0.5 hectares
 of newly purchased apple and pear gardens
 were studied and studied. Here it is not
 possible to calculate the economic efficiency.
 It is assumed that new apples and pears will

only be given in 2-3 years. However,
 economic efficiency on separate options,
 costs for irrigation and microwave conditions
 and phenological observation the economic
 efficiency of the results can be compared
 comparatively to [14.8.9]. Actual costs for
 setting up a microwave (drip, plastering, etc.)
 system and current costs based on the
 agrotechnical program for the cultivation of
 fruits (apple and pear trees). Shows that the
 largest expenditure required for the
 installation of a microwave system at 1 ha of
 fruit trees is \$ 1006. despite the cost of
 operating electricity, because of the
 inadequate use of electricity, because the
 same value of irrigation water (\$ 0.0041 for 1
 m3) is \$ 0.27 against \$ 0.7 compared to the
 irrigation water.In the drop irrigation)
 irrigation systems will reduce the current
 expenditures by 2.6 times as a result of 2,4
 times reduction of use of irrigation water. At
 the same time, the minimal irrigation will
 stimulate the physiological activity of fruit
 trees, in contrast to the moisture content of
 the soil, in contrast to the ambient conditions.
 Table 6 Costs of cultivation of fruit trees
 based on the agro-technical map. Names of
 works Unit of measure Number (quantity)
 Value (USD) Total (US \$) 1 2 3 4 5I.
 Expenditure 1782O Including: 1. Installation
 costs of the microwave system 1006o
 including: - Metallic tubes □□□ 76 x 3.0 m.
 2.4 4.08 9.79 □□□ 50 χ 2.2 Pa. 14.4 3.41
 49.10-Plastics pipes □ 75 8 8.1 μm 91.0 0.73

66.28 □□□ 50 x 5.4 p.m. 574 0.58 332.92
 □□□ 20 x 2.2 p.m. 250 0.13 35.50 Metallic
 elements Three columns: numbers 75 x 75 x
 75 2 6.10 12.20□ = 75 x 50 x 75 3 5.45
 16.35 poles: units 75. x 75 2 4.9 9.8 □ □ 50
 x 50 8 4.01 32.08- Plastic finish Three
 columns: □ = 50 x 50 x 50 pieces 3 0.61
 1.83□ = 50 x 20 x 50 4 0.51 2.04 Bracelets:
 □□□□ 50 x 50 pieces 2 0.50 1.0 Coupling:
 □ 75 pieces 4 0.81 3.24□ 50 5 0.60
 3.0Keywords □ = 75 x 63 1 0.92 0.92□ = 63
 x 50 1 0.82 0.82- Wires: Дy = 50 (156 / br)
 pieces 7.55 22.65- Pump RZK-6 pieces 1
 400.0 400.0 Submersible pieces 18 0.36
 6.482.V = 25m³h metal water supply and
 installation 250.0- metalworking materials
 0.285 700.0 200.0- Installation on site
 50.03. Supplication and carataking works on
 the terrain 226.04.0,25 ha of terrace soil-
 construction works p.m. 250 1.2 300.0II
 Current expenses for the processing of fruit
 trees in accordance with the agrotechnical
 program: 80.13O Including: tinker pieces
 154 0.5 77.02.36 fertilizer for wood (at
 physical prices) kg 210 0.12 31.38 -Azot (N)
 kg 65.40 0.12 7.8 -Fosfor (R) kg 117.34 0.16
 18.7-Potassium (K) kg 25.12 0.16 4.0-Bor
 (B) kg 1.20 0.43 0.5-Zinc (Zn) kg 0.89 0.43
 0.383. Chemical preparations: - DNOC kg
 3.1 1.5 4.654. Implementation of irrigation
 ditches: - drip irrigation m³ 66.2 0.0041 0.27
 - irrigation with irrigation m³ 159 0.0041
 0.75. fertilizer time 3 2.45 7.356 giving of
 chemical preformates once 1 3.38 3.387. land

emptying units around Tink 54 0.1 5.48
 holding of awareness seminars for farmers to
 master microsystems 4 160 640COMM:
 2532.13 Note: 1. Azintensive (micro-
 irrigation, drip irrigation, irrigation, etc.) the
 current costs for the installation of the system
 are actually \$ 606. because the PZK-6 pump
 is purchased as a reserve for \$ 400. This will
 be used mainly to fill the water reservoir
 from another source in the summer months,
 in case of water shortage in the water source
 2. The cost of the automated management
 system for the technological process, which
 is an integral part of the ASMO systems, is
 not taken into account, since the research is
 conducted in a small area, and therefore, the
 system is not installed in the system and
 costs are not calculated.

REFERENCES

- [1] Aliev BH - Methods of application of pulse and doping technology in Azerbaijan. Baku, 1999, p.29.
- [2] Aliyev BH The procedure for calculating the effectiveness of the micro - circulation system in the field of productivity, J. AAE No. 5-6. Baku 2004 c 46-51
- [3] Aliyev Z.H. Mammadov H.A. Importance of application of drop irrigation technology in Azerbaijan's Guba- Khachmaz region. ET Erozia and Irrigation EIM Collections. Baku - 2,000 s 53-59.

- [4] Z. H. Aliyev, Cavadzadeh - Automatic management of irrigation drip irrigation. Ecology and Water Industry Scientific-Technical and Production Magazine Baku-2007.# 5.
- [5] Z.H.Aliyev. - Irrigation system with impelled drops and its economic importance. AAE No. 4-6. Baku-2005 c 76-83.
- [6] Bashirov N. B. - Progressive irrigation technique.Baku, J. «Elm» 1999, p. 51-101.