

# Effect To Economic Efficiency Of Sow Duration, Planting Scheme And Fertilizer Soybean

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**Abstract**—The main objective of a scientifically grounded agricultural system is to produce a maximum product of every hectare by spending less on labor and harvesting products. It is considered one of the most important issues when reducing their cost price and increasing renerability during agricultural production.

In order to reduce the cost of soybean and to increase the level of renerability, sow duration, sowing scheme and proper regulation of fertilizer norms play an important role in the agrotechnical measures complex.

**Keywords**—soybean, fertilizer, vegetation, sow, ground

**Material methodology** Field experiments are based on three factors (3x3x5) in the following scheme: A factor - sow duration : 1) April 1-5; 2) April 10-15; 3) April 20-25.

B factor-planting scheme: 1) sow in 45x5 cm scheme, plant density 440 min; 2) sow plant density in 45x10 cm scheme 220 min; 3) sow in 45x15 cm , plant density 148 min.

C factor-fertilizer norms: 1) Control (no fertilizer); 2) 10 t / ha of manure (ground): 3)ground + N30P60K30; 4) ground + N60P90K60; 5) ground + N90P120K90.

From the mineral fertilizers, nitrogen-ammonium nitrate is 34.7%, phosphorus-simple superphosphate 18.7%, potassium-potassium sulphate 46%, and manure in half-rotten (nitrogen 0.5%, phosphorus 0.25%, potassium 0.6%). Manure100% , phosphorus and potassium 70% under the plows in autumn, phosphorus and 30% of potassium are used in the stage feeding and between ranges and nitrogen has been taken once in a output time.The economic observations were made on 25 plants and the agro-technical measures were implemented in the region.

To study the agrochemical properties of the soil area of the experimental area, 5 parts of the ground from the area in form 0-30; 30-60; 60-100 layer soil samples have been taken before the giving fertilizer and samples were mixed,dried in the lobaratory,

crushed in the porcelain pots and filtered from 1mm filter.

In the study, depending on the sowing time, planting scheme and fertilizer norms, soybean productivity in the irrigated grass-brown soils (chestnuts)was calculated. The economic strength was calculated from the soybean shrubs at 45x5, 45x10, 45x15 cm planted in sow on 10-15 April, with the highest quality. It has been established that,depending on the duration of the sow and the planting scheme, the mineral fertilizer norms on the fertilizer floor also increase the costs of soybean and the quality of the product while increasing its expenditure on its consumption.Costs for agro-technical measures in the area of 1 hectare while calculating economic efficiency: 25-27 cm depth of the field 35 manats, field preparation 20 manats, search watering 30 manats, 1 kg seed the value is 0.80 manats (45x5 cm in the planting scheme 70 kgq0.8 = 56 manats, 35x0.8 = 28 manats at 45x10 cm and 25x0.8 = 20 manats at 45x15 cm), 15 manats sowing 3 x 15 = 45 manats, cultivation of irrigation 2x12 = 24 manats, vegetation watering 3x20 = 60 manats, combine harvesting 35 manats and transportation of goods 10 manats, fertilizer all expenses incurred. In 2015, the physical weight of a ton of mineral fertilizers is estimated at 433 manats of ammonium saline, 130 manats with 70% concession , simple superphosphate 520 manats,156 manats with 70% concession , 649 manats sulphate, 194.7manats with 70% concession, and one tonne of manure is 2 manats. The cost of mineral fertilizers for one hectare of land was 12 manats, 10 tonnes of land per hectare, 12 manats for loading, transportation and field placement .

The net income received as a result of the research is based on the total cost of the product and is based on the best selling price of that product. The effect of mineral fertilizer seeds on the economic efficiency of the soybean, depending on the sowing and planting scheme, is shown in Table 1 and Figure 1. The sales price of one centner of product from the market is 60 manats. The expenditures on the agro-technical activities were 494-530 manats per hectare, and the costs of the fertilizers were 32.0-264.2 manats depending on the fertilizer norms.

As can be seen from Figure 1, net income from a hectare area of 45x5 cm in the sow on April 10-15,

depending on productivity and fertilizer norms, is 514,0-1001,2 manats , the cost of per centner of bean product is 25.6-30.5 manats, the net income per fertilizer is 70.0-487.2 manats / ha, and the renterability rate varies from 97.0 to 134.4%. the highest results were 45x5 cm in the sowing scheme manure of 10t / ha + N60P90K60 in net income of 1001.2 manats / ha, cost per centner - 25.6 manats, fertilizers 487.2 manats / ha, renterability - 134.4%. As ground fertilizer norms (ground + N90P120K90) combined with ground, the net income declined relative to the ground floor + N60P90K60.

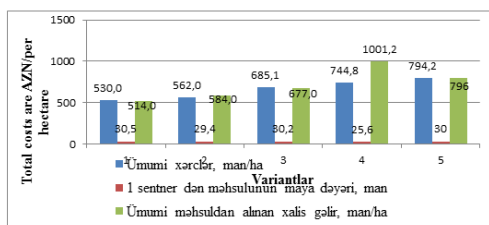
Apparently, 45x10 cm planting yield compared to 45x5 cm and 45x15 cm planting scheme was 644.0-1233.2 manats per hectare higher than all varieties, with the cost per centner of 22.1-26.3 manats, fertilizers 88.0-589.2 manats per hectare and renterability - 128.0-172.0%. The highest yield was in the first sowing scheme of manure 10 t / ha + N60P90K60 1233.2 manats / ha, 22.1 manats, 589.2 manats / ha and renterability 172.0%. By reducing the net fertilizer norms with the floor, net income declined. In the planting scheme of 45x15 cm, the net income, depending on productivity, has diminished compared to both planting schemes. Net income of 484.0-911.2 manats / ha, cost per centner bean product of 26.3-31.7 manats, fertilizer - 76.0-427.2 manats / ha, profitability with the highest level of 89.1-128.6%, compared with 911.2 manats / ha, 26.3 manats, 427.2 manats per hectare, and 128.6 per hectare, renterability, with 10 t / ha + N60P90K60 % was.

1. Control (no fertilizer), 2. Manure 10 t/ha, 3. Ground + N30P60K30,
4. Ground + N60P90K60, 5. Ground + N90P120K90

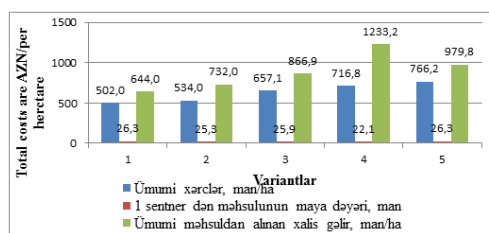
Thus, on April 10-15, when the sowing plan was 45x10 cm and the fertilizer was 10 tonnes / ha + N60P90K60 normally, the soybean crop was more economical than intense and sparse sow.

### Literature

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45x10 sm



45x15 sm

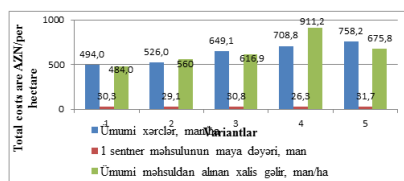


Table 1. Effect to economic efficiency of sow duration, planting scheme and fertilizer soybean (2013-2015, average from 3 years)

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