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Research Article

The Effect Of The Norm Of Feeding With Mineral Fertilizers On Grain Yield Of Soybeans Varieties.

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Annotation: The Article Presents The Results Of Scientific Research On The Application Of Different Amounts Of Nitrogen Fertilizer To Soybean Varieties On The Background Of Pure Phosphorus 90 Kg / Ha, Potassium 60 Kg / Ha In The Meadow Gray Soil Conditions Of Local And Foreign Varieties Of Soybeans. The Best Results Were Obtained With Pure Nitrogen Fertilizer In The Amount Of 120 Kg / Ha, On Average 35.1 Ts / Ha In Tomaris Man-60, 27.5 Ts / Ha In Oyjamol, 21.9 Ts / Ha In Selekta-201, 18 In Amigo. , Data On Grain Yield In The Amount Of 6 Ts / Ha.

Key Words: Plant, Shade, Variety, Soil, Fertilizer, Norm, Nutrition, Duration, Growth, Development, Grain, Yield.

Introduction: On The Basis Of The Strategy Of Actions On 5 Priority Directions Of Development Of The Republic Of Uzbekistan, Radical Changes Are Taking Place In Our Country. In Our Country, The Development Of Leading Sectors Of The Economy, Improving The Welfare Of The Population Has Been Identified As A Priority. The Main Sector That Determines The Economy Of Our Country Is Agriculture, And Its Leading Sectors Are Cotton And Grain. Today, A Number Of Works Are Being Carried Out To Include Soybeans In The Main Crop And To Grow Crops From Them.

One Of The Main Tasks Of The Process Of Market Economy Relations Is To Meet The Needs Of The Population In Food Products By Increasing Production.

The Soybean Crop, Which Is A Legume, Is Expanding Day By Day In Agriculture Around The World.

Today, 109.7 Million Soybeans Are Grown In The World. Hectares Are Planted And Cultivated. Brazil, The United States And Argentina Are The Leaders In Terms Of The Share Of Soybeans In Total Grain Production. Soybeans Are Second Only To Wheat, Rice And Corn. More Than Four Hundred Different Products Are Made From Soybean Grain And Protein, And They Are Used In All Sectors Of The National Economy.

Resolution Of The President Of The Republic Of Uzbekistan Dated March 14, 2017 No Pp-2832 "On Measures To Increase The Sowing Of Soybeans And Soybean Crops In The Country In 2017-2021."

The Resolution Instructs To Gradually Expand The Area Under Soybeans In 2017-2021 And Increase Oil Production. In Order To Ensure The Implementation Of This Task, It Was Planned To Plant Soybeans On 8,000 Hectares As The Main Crop From 2017, And By 2021 This Figure Will Increase To 17.3 Thousand Hectares. In 2021, It Is Planned To Plant Soybeans As The Main Crop On 24.8 Thousand Hectares. [1]

In His Speech At The Solemn Ceremony Dedicated To The Day Of Agricultural Workers, Which Was Celebrated For The First Time In The Country, President Of The Republic Of Uzbekistan Sh.M.Mirziyoev Said: , Pepper And Greens Are Planned To Be Planted. ”

The Degree To Which The Problem Has Been Studied: By Establishing Soybean Cultivation In The Country, It Is Possible To Solve The Problem Of Protein Deficiency In The Country, Increase The Production Of Vegetable Oil, Meet The Needs Of Livestock In Quality Protein Feed, Further Develop Poultry Farming To Provide Them With Nutritious Food. At The Same Time, The Fertility Of Soils Planted With Soybeans Can Be Achieved Through The Activity Of Nitrogen-Fixing Bacteria In Its Roots, The Accumulation Of Biological Nitrogen In The Soil, The Use Of Phosphorus In A Form That Can Not Be Assimilated By Plants For Years.

The Inclusion Of Soybeans In The Crop Rotation System Also Serves To Maintain Soil Fertility In Irrigated Areas. Maintaining And Increasing Soil Fertility, Ensuring Its Biological Activity, Using New Effective Methods Of Soil Cultivation To Achieve Active Development Of Living Organisms, Application Of Scientifically Based Advanced Technologies For Crop Care, Selective Planting Of High-Yielding, Fast-Ripening And High-Quality Varieties Required. This Requires Extensive In-Depth Research.

According To Great Scientists, "... By Planting Legumes, We Do Not Reduce The Fertility Of The Soil, But Improve It, Because After These Crops We Can Pass On The Fertile Soil To Future Generations." [2]

He Then Scientifically Substantiated The Fact That Legumes Enrich The Soil With Nitrogen By Chemical Means, And That Nitrogen Is Absorbed From The Atmospheric Air. It Was Found That Microorganisms Are Actively Involved In This Process.

Legumes Compact The Soil To A Lesser Extent Than Alfalfa. Their Small Root Systems Rot A Certain Amount During The Period Of Plant Growth And Increase The Organic Matter In The Soil, Improving The Water-Physical Condition Of The Soil. [3]

According To The Amount Of Protein In Soybeans, There Is No Equivalent Crop, And The Protein Content Per Hectare Is Higher Than Soybeans And Peas In Terms Of Grain Size. The Digestibility Of Protein Is 77-92% And Its Absorption By The Body Is 84-100%. [4], [5]

Due To The Fact That The Norms Of Fertilization Of Soybean Varieties Recommended For Sowing For Irrigated Soil Conditions Of The Republic Are Not Fully Developed On A Scientific Basis, Soybean Crops Do Not Fully Meet The Requirements Of The Industry. , There Is A Need To Scientifically Substantiate The Impact Of Factors On The Growth And Development Of Shade, Productivity And Grain Quality Indicators, Taking Into Account Their Biological Properties And The Development Of Agricultural Technology.

The Purpose Of The Study: Cultivation Of Soybean Varieties Such As Domestic Tomaris Man-60, Oyjamol, Foreign Amigo, Selekta-201 As The Main Crop Is To Study The Optimal Norms And Timing Of Feeding Them With Mineral Fertilizers.

Research Results: Field Experiments Were Carried Out In 2018-2020 In The Conditions Of Irrigated Gray Soils Of The Experimental Field "Central" Of The Scientific Research Institute Of Cereals And Legumes Under Irrigated Conditions. In This Case, The Norms And Timing Of Planting Local Varieties Of Soybeans Tomaris Man-60, Oyjamol And Foreign Amigo, Selekta-201 As The Main Crop And Feeding Them With Mineral Fertilizers Were Studied.

Field Experiment Consists Of 5 Options, Option 1 Without Nitrogen Fertilizer (Control), Option 2 Nitrogen Fertilizer In Pure Form 60 Kg / Ha, Option 3 Nitrogen Fertilizer In Pure Form 90 Kg / Ha, Option 4 Nitrogen Fertilizer In Pure Form 120 Kg / Ha, Option 5 Was Studied Against The Background Of Nitrogen Fertilizer In The Amount Of 150 Kg / Ha In Pure Form, Phosphorus Fertilizer In The Amount Of 90 Kg / Ha In Pure Form, Potassium Fertilizer In The Amount Of 60 Kg / Ha In Pure Form. [6]

Phosphorus And Potassium Fertilizers From Mineral Fertilizers Were Given In The Preparation Of The Soil Before Planting 100 Percent Of The Established Annual Norm. 30-35% Of The Annual Norm Of Nitrogen Fertilizer Was Applied At The Stage Of Shade Shading, The Remaining 65-70% At The Stage Of Flowering. [7]

The Main Laboratory Analysis Of The Experiment Was Conducted In The Laboratory Of The Institute "Plant Physiology, Grain Quality And Biochemistry".

In The Field Experiment, Phenological Observations Were Made On The Growth And Development Phases Of Soybean Plants In The Study Of The Norms And Timing Of Feeding Soybean Varieties With Nitrogen Mineral Fertilizers. [8]

1. The Effect Of The Application Of Nitrogen Fertilizers At Different Rates On The Growth And Development Of Soybean Varieties And The Day Of The Growing Season

In The Field Experiment, Shade Irrigation Works Depending On Soil-Climatic Conditions, Soil Moisture And Crop Growth And Development Conditions, Once In The Shade Shading Stage, Twice In The Flowering-

Budding Stage, Once In The Ripening Stage Of Grain In Legumes, Long-Growing Varieties, Ie Tomaris Man-60 And Oyjamol Cultivars Were Irrigated Once More Than Other Experimental Varieties. [9]

According To Table 1, The Seeds Of Soybean Varieties Sown On April 20, 2020 Were Fully Harvested On April 30 For 10 Days. In Plants, The Release Of 3 Leaves Fell On May 7 In All Varieties. In Plants, The Mowing Period Was May 15 In Amigo, May 16 In Selekta-201, And May 17 In Tomaris Man-60 And Oyjamol. There Was No Significant Difference Between The Varieties In Terms Of Plant Development Until The Mating Season. Only The Amigo Variety Was Found To Be 1-2 Days Earlier Than Other Varieties.

The Transition Of Shade Varieties To The Flowering Period Was Observed In The Range Of 8-9 Days After Flowering. The Transition To The Flowering Period Was Observed On May 23 In Amigo, May 24 In Selekta-201, May 25 In Tomaris Man-60 And May 26 In Oyjamol. The Formation Of Pods In Plant Tubers Was Observed On May 29-30 In The Amigo Variety, On May 30-31 In The Selekta-201 Variety, On May 31-June 1 In The Tomaris Man-60 Variety And On June 1-3 In The Oyjamol Variety.

During The Full Ripening Period Of The Shade, It Was Observed That There Were Sharp Differences In The Results Obtained Between The Varieties And Variants. In The Amigo Variety, Full Ripening Was Observed At 107 Days In The Control (Fertilizer-Free) Variant, While The Full Ripening Period Was Delayed By 2-3 Days For Every 30 Kg Of Nitrogen Fertilizer And 113 Days When The Nitrogen Fertilizer Rate Was Increased To 150 Kg / Ha. Similarly, In The Selekta-201 Variety, The Growth Period Was Found To Be Between 112 And 118 Days In Accordance With The Feeding Norms. [10]

In The Control (Fertilizer-Free) Variant Of The Tomaris Man-60 Variety, The Growth Period Was 136 Days, And The Growth Period Was 142 Days When The Amount Of Nitrogen Fertilizer Was Increased To 150 Kg / Ha. In The Control (Fertilizer-Free) Variant Of Oyjamol Variety, The Growth Period Was 142 Days, While When The Nitrogen Fertilizer Rate Was Increased To 150 Kg / Ha, The Growth Period Was Extended To 148 Days.

The Experiment Found That In 2020, The Growth Period Of Soybean Varieties Increased By 5-6 Days When The Amount Of Nitrogen Fertilizer Was Increased From The Control (Without Fertilizer) Option To The Nitrogen Fertilizer Rate Of 150 Kg / Ha Every 30 Kg / Ha.

An Increase In The Nitrogen Fertilizer Application Rate Per Hectare For Soybean Varieties From 60 Kg To 150 Kg Resulted In A Corresponding Increase In Plant Biomass, Resulting In A Slight Delay In Grain Ripening And A Shortening Of The Growing Season For Soybean Varieties To 6 Days.

Tomaris Man-60 Variety Of Shade In The Experimental Area

Oyjamol Variety Of Soybean. Selekta-201 Variety Of Soybean. Amigo Variety Of Soybean.

2. Influence Of Application Of Nitrogen Fertilizer At Different Rates On Dynamics Of Biometric Indicators Of Soybean Varieties.

According To The Results Of Phenological Observations And Biometric Measurements Carried Out In The Soybean Cultivars Of 2020 In The Conducted Field Experiments, On June 1, 2020 No Significant Differences Were Observed In The Variants Along The Plants. Table 2 Accordingly, The Plant Height Was 23.2-24.8 Cm In Tomaris Man-60, 19.8-20.9 Cm In Oyjamol And 21.9-22.5 Cm In Selekta-201 As Of June 1. , In The Amigo Variety, 27.2–29.1 Cm. Table 2

When Measuring Plant Height On July 1, The Control (Fertilizer-Free) Variant Was 72.9 Cm In Tomaris Man-60, 60.6 Cm In Oyjamol, 65.8 Cm In Selekta-201 And 69.9 Cm In Amigo. When The Norm Of Nitrogen Fertilizers Is 60 Kg / Ha, The Plant Height Is 74.0 Cm In Tomaris Man-60, 61.2 Cm In Oyjamol, 66.7 Cm In Selekta-201 And 70.4 Cm In Amigo. In 5 Variants Of More Than 150 Kg / Ha, The Plant Height Was 76.1, Depending On The Variety; 64.0; 69.6; 72.7 Cm Was Noted.

Table 1

The Effect Of The Application Of Nitrogen Fertilizers At Different Rates On The Growth And Development Of Soybean Varieties And The Day Of The Growing Season.

Num-Ber	Ofvarieties Name	Vari-Ants	Planteddate,	Sprouting, Date	3 Date Of Formation Of The Talic Leaf	Budding, Date	Flowering, Date	Pod, Date	Harvest, Date	Growth Period, Days
1	Tomaris Man-60	1	20.04.20	30.04.20	7.05.20	17.05.20	25.05.20	31.05.20	13.09.20	136
		2	20.04.20	30.04.20	7.05.20	17.05.20	25.05.20	31.05.20	15.09.20	138
		3	20.04.20	30.04.20	7.05.20	17.05.20	25.05.20	1.06.20	16.09.20	139
		4	20.04.20	30.04.20	7.05.20	17.05.20	25.05.20	1.06.20	17.09.20	140
		5	20.04.20	30.04.20	7.05.20	17.05.20	25.05.20	1.06.20	19.09.20	142
2	Oyjamol	1	20.04.20	30.04.20	7.05.20	17.05.20	26.05.20	1.06.20	19.09.20	142
		2	20.04.20	30.04.20	7.05.20	17.05.20	26.05.20	2.06.20	21.09.20	144
		3	20.04.20	30.04.20	7.05.20	17.05.20	26.05.20	2.06.20	22.09.20	145
		4	20.04.20	30.04.20	7.05.20	17.05.20	26.05.20	3.06.20	23.09.20	146
		5	20.04.20	30.04.20	7.05.20	17.05.20	26.05.20	3.06.20	25.09.20	148
3	Selekta-201	1	20.04.20	30.04.20	7.05.20	16.05.20	24.05.20	30.05.20	20.08.20	112
		2	20.04.20	30.04.20	7.05.20	16.05.20	24.05.20	30.05.20	22.08.20	114
		3	20.04.20	30.04.20	7.05.20	16.05.20	24.05.20	31.05.20	23.08.20	115
		4	20.04.20	30.04.20	7.05.20	16.05.20	24.05.20	31.05.20	24.08.20	116
		5	20.04.20	30.04.20	7.05.20	16.05.20	24.05.20	31.05.20	26.08.20	118
4	Amigo	1	20.04.20	30.04.20	7.05.20	15.05.20	23.05.20	29.05.20	15.08.20	107
		2	20.04.20	30.04.20	7.05.20	15.05.20	23.05.20	29.05.20	17.08.20	109
		3	20.04.20	30.04.20	7.05.20	15.05.20	23.05.20	30.05.20	18.08.20	110
		4	20.04.20	30.04.20	7.05.20	15.05.20	23.05.20	30.05.20	19.08.20	111
		5	20.04.20	30.04.20	7.05.20	15.05.20	23.05.20	30.05.20	21.08.20	113

When The Measurements Were Made On August 1, The Control (Without Fertilizer) Variant Was 95.9 Cm In Tomaris Man-60, 99.2 Cm In Oyjamol, 73.2 Cm In Selekta-201 And 75.2 Cm In Amigo. When The Norm Of Nitrogen Fertilizers In The Variant Is 60 Kg / Ha, The Plant Height Is 97.3 Cm In Tomaris Man-60, 99.9 Cm In Oyjamol, 75.7 Cm In Selekta-201, 76.4 In Amigo, Compared To The Non-Fertilized Control Variant. Height Was 1.4 Cm In Tomaris Man-60, 0.7 Cm In Oyjamol, 2.5 Cm In Selekta-201 And 1.2 Cm In Amigo. In 5 Variants, Where The Norm Of Nitrogen Fertilizers Was Increased From 30 Kg To 150 Kg / Ha, The Plant Height Was 99.4 According To The Variety; 101.9; 79.2; It Was Noted That It Was 78.8 Cm. Compared To The Non-Fertilized Control Variant, The Plant Height Was 3.5 Cm In Tomaris Man-60, 2.7 Cm In Oyjamol, 6.0 Cm In Selekta-201 And 3.6 Cm In Amigo.

In The Experiment, It Was Observed That With The Increase Of The Rate Of Nitrogen Fertilizers On The Options, The Plant Height Increases. This Figure Was Unique In Each Of The Shade Varieties. In The Experimental Soybean Varieties, The Plant Height Was 3.5 Kg / Ha In The Tomaris Man-60 Variety, 2.7 Cm In The Oyjamol Variety, 6.0 Cm In The Selekta-201 Variety, And 3.6 Cm In The Amigo Variety. Was Found In Scientific Studies.

Rapid Growth Of Shade Plant Was Observed In June And July, And It Was Found That The Shade Plant Grew By An Average Of 35-40 Cm Per Month.

As A Result Of Experimental Observations Of Legumes Formed In Soybean Varieties, Observations Made On June 1, 2020 Revealed That In All Variants Of The Experiment, No Legumes Were Formed In Plants At All.

Observations Made On 1 July In The Experimental Field Yielded Data That Differed From One Variant To Another In The Formation Of Pods In Soybean Varieties. In The Control Variant Without Nitrogen Fertilizer, The Average Number Of Plants Per Plant Of Tomaris Man-60 Was 26.8 Units, In The Variant With Nitrogen Fertilizer 60 Kg / Ha - 27.8 Units, In The Variant With Nitrogen Fertilizer - 90 Kg / Ha, 28.6 Units, Nitrogen Fertilizer 120 Kg / Ha Yielded 28.8 Grains, And Nitrogen Fertilizer Yielded An Average Of 30.0 Grains Per 150 Kg / Ha Crop.

It Was Found That The Number Of Pods Formed In Oyjamol, Selekta-201 And Amigo Varieties Of The Shade In The Experiment Was Similar To The Above.

In Soybean Varieties, The Highest Yields Of Legumes Per Bush By This Time Were Observed In The Amigo Variety. In The Control Variant Of This Variety, 36.1 Seeds Were Formed As Of July 1, 36.8 Units In The Variant Of Nitrogen Fertilizer 60 Kg / Ha, 37.8 Units In The Variant Of Nitrogen Fertilizer 90 Kg / Ha, 38 Units In The Variant Of Nitrogen Fertilizer 120 Kg / Ha. , 4 Pieces, In The Variant Given Nitrogen Fertilizer 150 Kg / Ha, It Was Found That On Average 38.6 Pieces Of Legumes Were Formed In One Bush Plant.

Experimental Observations Show That As The Rate Of Nitrogen Fertilizer Increases, So Does The Number Of Pods In The Bush. As Of August 1, In The Control Variant Of The Experiment It Was Found That 76.2 Pods Of Soybean Were Formed In One Bush Of Tomaris Man-60 Variety, In The Variant Of Nitrogen Fertilizer 60 Kg / Ha 79.2 Units Or 3.0 Units Compared To Control, Nitrogen Fertilizer 90 Kg / 80.4 Units In The Variant Given Or 4.2 Units In The Variant Given To Control, 81.6 Units In The Variant Given In Nitrogen Fertilizer 120 Kg / Ha Or 5.4 Units In The Variant Given In Control, 82.5 Units In The Variant Given In Nitrogen Fertilizer 150 Kg / Ha Or In Relation To Control It Was Found That 6.3 Large Pods Were Formed. Although Experiments Have Shown A Steady Increase In The Number Of Pods Produced Per Plant As A Result Of Increasing The Rate Of Nitrogen Fertilization Of Soybeans, Despite The Fact That The Nitrogen Fertilizer Rate Was Increased From 120 Kg / Ha To 150 Kg / Ha In 5 Variants, 30 Kg Of Pure Fertilizer Per Hectare It Was Found That The Formation Of Pods In The Plant Increased By Only 1.1 Units. [10]

This Means That There Is A Limit To The Amount Of Nitrogen Fertilizer That Can Be Fed To A Soybean Crop. (P_2O_5-90kg, K_2O-60kg, N-120kg) It Was Observed That The Efficiency Of Using Mineral Fertilizers Given To Plants Decreased After Reaching That Limit, And The Effect Of Fertilizers Was Not Noticeable In Plant Development.

Table 2

Biometric Indicators Of Shade Varieties Application Of Nitrogen Fertilizers At Different Rates Effect On The Dynamics

Variants	**Of Sort Name**	**Plant Height Average, Cm.**			**In A Bush Plant The Number Of Pods Is Average, Pcs.**	
		1 June	**1 July**	**1 Avgust**	**1 July**	**1 Avgust**

1	Tomaris Man-60	23,2	72,9	95,9	26,8	76,2
	Oyjamol	19,8	60,6	99,2	12,0	64,7
	Selekta-201	21,9	65,8	73,2	34,9	46,0
	Amigo	27,2	69,9	75,2	36,1	46,3
2	Tomaris Man-60	23,8	74,0	97,3	27,8	79,2
	Oyjamol	19,9	61,2	99,9	12,6	66,9
	Selekta-201	22,1	66,7	75,7	36,5	51,1
	Amigo	27,9	70,4	76,4	36,8	52,8
3	Tomaris Man-60	24,3	74,7	98,1	28,6	80,4
	Oyjamol	20,6	61,8	100,2	13,4	68,2
	Selekta-201	22,1	68,0	76,4	37,2	53,0
	Amigo	28,8	71,7	77,4	37,8	54,2
4	Tomaris Man-60	24,6	75,4	98,5	28,8	81,6
	Oyjamol	20,8	63,0	100,9	13,6	69,4
	Selekta-201	22,2	69,1	78,3	37,5	55,6
	Amigo	28,9	72,3	78,4	38,4	55,6
5	Tomaris Man-60	24,8	76,1	99,4	30,0	82,5
	Oyjamol	20,9	64,0	101,9	14,5	70,0
	Selekta-201	22,5	69,6	79,2	38,2	56,7
	Amigo	29,1	72,7	78,8	38,6	56,6

3. Norms And Duration Of Feeding With Mineral Fertilizers Soybean Varieties Effect On Grain Yield.

The Following Results Were Obtained In 2018-2020 On The Basis Of Field Experiments On The Application Of Different Standards Of Mineral Fertilizers In The Feeding Of Soybean Varieties Tomaris Man-60, Oyjamol, Selekta-201, Amigo In The Experimental Plot "Central" Of The Grain And Legume Research Institute. Was Obtained. Table 3

According To The Results Of Field Experiments On The Application Of Different Standards Of Mineral Fertilizers For 2018-2020 On The Study Of Agronomic Techniques For The Cultivation Of Soybean Varieties In The Main Areas, The Average Yield Of Tomaris Man-60 Was 25.4 Ts / Ha. Nitrogen Fertilizer Yield Was 30.0 Ts / Ha In 2 Variants Applied At 60 Kg / Ha, Which Is 4.6 Ts / Ha More Than The Control. 7 Ts / Ha More, Nitrogen Fertilizer Rate 120 Kg / Ha In 4 Variants 35.1 Ts / Ha More Than Control 9.7 Ts / Ha More, Nitrogen Fertilizer Rate 150 Kg / Ha In 5 Variants Average 35.6 Ts / Ha It Was Found That 10.2 Ts / Ha More Grain Was Grown Than In The Control.

Oyjamol Variety Yielded An Average Of 19.7 Ts / Ha Of Grain Without Nitrogen Fertilizer (Control), While Nitrogen Fertilizer Yielded 23.7 Ts / Ha In 2 Variants Using 60 Kg / Ha, Which Is 4.0 Ts / Ha More Than The Control. Fertilizer Rate Was 90 Kg / Ha In 3 Variants, Yielding 25.4 Ts / Ha, Which Is 5.7 Ts / Ha More Than The Control, Nitrogen Fertilizer Rate Was 27.5 Ts / Ha In 4 Variants, Applied At 120 Kg / Ha, 7.8 Ts / Ha, The Norm Of Nitrogen Fertilizer Was 150 Kg / Ha In 5 Variants, Yielded 28.0 Ts / Ha, Which Is 8.3 Ts / Ha More Than In The Control, In The Variant Without Nitrogen Fertilizer (Control) Of Selekta-201, The Average Was 13.8 Ts / Ha. The Yield Of Nitrogen Fertilizers Was 17.8 Ts / Ha In 2 Variants Applied At 60 Kg / Ha, Which Is 4.0 Ts / Ha More Than The Control, And The Norm Of Nitrogen Fertilizers Was 20.2 Ts / Ha In 3 Variants At 90 Kg / Ha. Yield Was 6.4 Ts / Ha More Than The Control, Nitrogen Fertilizer Rate Was 120 Kg / Ha, In 4 Variants 21.9 Ts / Ha Yield Was 8.1 Ts / Ha More Than The Control, Nitrogen Fertilizer Rate Was 150 Kg / Ha Q In The 5 Variants, 22.3 Ts / Ha Was Harvested, Which Is 8.5 Ts / Ha More Than In The Control. In The Non-Nitrogen Fertilizer (Control) Variant, The Average Yield Was 10.9 Ts / Ha, While The Norm Of Nitrogen Fertilizer Was 60 Kg / Ha. In 2 Variants The Yield Was 15.1 T / Ha, Which Is 4.2 T / Ha More Than In The Control, The Norm Of Nitrogen Fertilizer Was Applied In 90 Kg / Ha, In 3 Variants The Yield Was 17.2 T / Ha, Which Is 6.3 T / Ha More Than In The Control. The Rate Of 120 Kg / Ha Was 18.6 Ts / Ha In 4 Variants And 7.7 Ts / Ha More Than The Control, The Norm Of Nitrogen Fertilizer Was 150 Kg / Ha In 5 Variants Of 19.1 Ts / Ha And 8.2 Ts. It Was Found That A Large Amount Of Grain Was Grown In The Amount Of / Ha.

The Results Of The Experiment Show That With The Increase In The Amount Of Nitrogen Fertilizer Applied To All Varieties Of Soybeans, An Increase In The Average Grain Yield From Soybean Varieties Was

Observed. In The Varieties Of Soybean Tomaris Man-60, Oyjamol, Selekta-201, Amigo, Compared To The Variant Without Nitrogen Fertilizer, In 2 Variants With 60 Kg Of Nitrogen Fertilizer Per Hectare, On Average 4.6; 4.0; 4.0; If 4.2 Quintals Of Grain Was Obtained, In The Remaining Variants The Rate Of Nitrogen Fertilizer Was Increased From 30 Kg Per Hectare To 2.1 In 3 Variants, Respectively, Compared To 2 Variants; 1.7; 2.4; 2.1 Quintals, 5.1 In 4 Variants Compared To 2 Variants; 3.8; 4.1; 3.5 Quintals, 5.6, Depending On The Variety, Compared To 2 Options In 5 Variants; 4.3; 4.5; It Was Found That 4.0 Quintals Of Grain Was Grown.

According To The Results Of 3 Years Of Field Experiments, When The Annual Rate Of Nitrogen Fertilizer Was Applied During The Mowing And Flowering Stages Of The Plant, 120 Kg / Ha Of Pure Nitrogen Fertilizer Was Applied To The Tomaris Man-60 Variety, With An Average Of 35.1 T / Ha In 4 Options And 150 Kg In 5 Options. When Nitrogen Fertilizer Was Applied, An Average Grain Yield Of 35.6 Ts / Ha Was Obtained. Although The Nitrogen Fertilizer Rate Was Increased To 30 Kg / Ha Compared To Option 4 In Option 5, It Was Found That The Average Grain Yield Obtained In Addition To Option 4 Was Only 0.5 Quintals Higher.

Thus, For The Tomaris Man-60 Variety, It Was Found That Applying The Nitrogen Fertilizer Rate Of 120 Kg / Ha In The Main Area Was The Best Option And Cost-Effective.

When Feeding Oyjamol Variety, The Average Yield Was 27.5 Ts / Ha In 4 Variants With 120 Kg / Ha Of Pure Nitrogen Fertilizer, And 28.0 Ts / Ha With 150 Kg Of Nitrogen Fertilizer In 5 Variants. Although The Nitrogen Fertilizer Rate Was Increased By 30 Kg / Ha Compared To Option 4 In Option 5, It Was Found That The Average Grain Yield Obtained In Addition To Option 4 Was Slightly More Than 0.5 Quintals. It Was Found That Applying The Nitrogen Fertilizer Rate Of 120 Kg / Ha Was The Best Option When Planting Oyjamol Variety In The Main Area.

When Feeding Selekta-201 Variety, The Average Yield Was 21.9 Ts / Ha In 4 Variants With 120 Kg / Ha Of Pure Nitrogen Fertilizer, And 22.3 Ts / Ha In 150 Variants With 150 Kg Of Nitrogen Fertilizer In 5 Variants. Although The Nitrogen Fertilizer Rate Was Increased By 30 Kg / Ha Compared To Option 4 In Option 5, It Was Found That The Additional Grain Yield Obtained Compared To Option 4 Was Only 0.4 Quintals More. It Was Found That Applying The Nitrogen Fertilizer Rate Of 120 Kg / Ha Was The Most Effective Option When Planting Selekta-201 In The Main Area.

When Feeding The Amigo Variety, An Average Of 18.6 Ts / Ha Was Obtained In 4 Variants With 120 Kg / Ha Of Pure Nitrogen Fertilizer, And An Average Of 19.1 Ts / Ha With 150 Kg Of Nitrogen Fertilizer In 5 Variants. Although The Nitrogen Fertilizer Rate Was Increased By 30 Kg / Ha Compared To Option 4 In Option 5, It Was Found That The Additional Grain Yield Obtained Was 0.5 Quintals More. Thus, It Was Found That Applying The Nitrogen Fertilizer Rate Of 120 Kg / Ha Was The Best Option When Growing The Amigo Variety Of Soybean In The Main Area.

In Conclusion, It Should Be Noted That The Norm Of Mineral Fertilizers For Soybeans Is 90 Kg Of Pure Phosphorus Per Hectare And 60 Kg Of Potassium Per Hectare. Man-60 Variety Yielded An Average Of 35.1 T / Ha In 3 Years, Oyjamol Variety - 27.5 T / Ha, Selekta-201 Variety - 21.9 T / Ha, Amigo Variety - 18.6 T / Ha. Has Been Shown To Be An Effective Option As A Result Of Scientific Studies.

Table 3

Norms And Duration Of Feeding With Mineral Fertilizers Soybean Varieties Effect On Grain Yield. (2018-2020)

T/P	Of Sort Name	The Norm Of Mineral Fertilizers Is Kg / Ha In Pure Form	Yield By Years, Ts / Ha			Average Productivity, Ts / Ga	Thedifference, +,-
			2018year	2019year	2020year		
1	Tomaris Man-60	N-0; P-90; K-60.	25,2	26,3	24,7	25,4	-
		N-60; P-90; K-60.	30,4	31,3	28,5	30,0	4,6
		N-90; P-90; K-60.	32,7	33,5	30,1	32,1	6,7
		N-120; P-90; K-60.	35,8	36,7	32,8	35,1	9,7
		N-150; P-90; K-60.	36,3	37,1	33,5	35,6	10,2
2	Oyjamol	N-0; P-90; K-60.	19,8	19,5	19,7	19,7	-
		N-60; P-90; K-60.	24,9	22,6	23,6	23,7	4,0
		N-90; P-90; K-60.	26,8	24,5	24,8	25,4	5,7

		N-120; P-90; K-60.	28,7	26,9	26,9	27,5	7,8
		N-150; P-90; K-60.	29,1	27,4	27,4	28,0	8,3
3	Selekta-201	N-0; P-90; K-60.	12,5	15,5	13,4	13,8	-
		N-60; P-90; K-60.	18,3	19,4	15,6	17,8	4,0
		N-90; P-90; K-60.	21,6	21,7	17,4	20,2	6,4
		N-120; P-90; K-60.	22,0	23,8	19,8	21,9	8,1
		N-150; P-90; K-60.	22,5	24,1	20,3	22,3	8,5
4	Amigo	N-0; P-90; K-60.	10,1	11,4	11,2	10,9	-
		N-60; P-90; K-60.	15,7	15,0	14,6	15,1	4,2
		N-90; P-90; K-60.	18,4	16,6	16,7	17,2	6,3
		N-120; P-90; K-60.	18,8	18,2	18,9	18,6	7,7
		N-150; P-90; K-60.	19,0	18,9	19,4	19,1	8,2
1	Tomaris Man-60	Hcp (05)	0,84	0,33	0,20		
2	Oyjamol	Hcp (05)	1,32	0,57	0,22		
3	Selekta-201	Hcp (05)	0,46	0,35	0,15		
4	Amigo	Hcp (05)	0,71	0,42	0,14		

Conclusions.

The Following Conclusions Can Be Drawn From The Results Of Scientific Research On The Norms And Timing Of Feeding Soybean Varieties With Mineral Fertilizers In Field Experiments In 2018-2020 Under Irrigated Conditions.

1. Amigo Variety Of Soybean Planted In The Main Areas Ripened In 107 Days, Selekta-201 Variety In 112 Days, Tomaris Man-60 Variety In 136 Days, Oyjamol Variety In 142 Days. It Was Found That Increasing The Nitrogen Fertilizer Rate For Soybeans From 60 Kg To 150 Kg Prolongs The Growth Period Of Soybean Varieties By 5-7 Days And Delays Ripening Of The Crop By Up To A Week With Increasing Nitrogen Fertilizer Rate As A Result Of Increased Plant Biomass.

2. In The Experiment, It Was Observed That As A Result Of Increasing The Rate Of Feeding Soybeans With Nitrogen Fertilizers, A Steady Increase In The Number Of Pods Formed In A Single Plant. However, In The Variant Where The Nitrogen Fertilizer Rate Was Increased From 120 Kg / Ha To 150 Kg / Ha, It Was Found That The Formation Of Legumes On A Single Plant Increased By Only 1.1 Units, Despite The Fact That More Than 30 Kg Of Pure Fertilizer Was Applied Per Hectare. Hence, It Has Been Studied That There Is A Certain Limit To The Increase In The Rate Of Nitrogen Fertilizers Applied To Soybean Plant Nutrition. (N-120 Kg, P_2o_5-90 Kg, K_2o-60 Kg)

3. The Norm Of Mineral Fertilizers For Soybeans Is 90 Kg Of Pure Phosphorus Per Hectare And 60 Kg Of Potassium Per Hectare. The Most Economically Viable Option Is To Harvest Grain With An Average Yield Of 35.1 T / Ha, Oyjamol 27.5 T / Ha, Selekta-201 21.9 T / Ha, Amigo 18.6 T / Ha In 3 Years. Identified As A Result Of Scientific Research.

List Of Used Literature.

1. Resolution Of The President Of The Republic Of Uzbekistan Dated March 14, 2017 No Pd-2832 "On Measures To Increase The Sowing Of Soybeans And Soybeans In The Country In 2017-2021." Resolution Of The President Of The Republic Of Uzbekistan Dated March 14, 2017 No Pd-2832.
2. Ka Timiryazev "Agriculture And Plant Physiology". Moscow. 1957 327 Pp.
3. La Spizhevskaya, Mt Tozhiev “Study Of The Physical Properties Of Soil During The Cultivation Of Fine-Fiber Cotton After Various Combinations Of Agricultural Crops”. Scientific Works. Union Of Nihi. Toshkent. Issue 18, 1970, Pp. 23-24
4. A. Babich. “Soybeans For Feed”. M. 1974
5. Gg Lavrinenko "Soy". Moscow. 1978 189 Pp.
6. Dospekhov B.A. Field Experiment Technique, Moscow. 1985 Year

7. Kh.N. Ataboeva. Soy. Toshkent. 2004 Th. 96 Bet.
8. Gs Posypanov Et Al. Crop Production. M. 2007.
9. R.I.Siddikov, M.Mannopova, A.Mansurov, A.A.Muminov, Z.Yaqubov. Recommendation On "Shade Cultivation In The Country On The Basis Of Innovative Technologies." Andijan Publishing House Llc. 2018. 28 Pages.
10. Aa Mominov, U. Ergashev Kh.Urinboev Influence Of Doses Of Used Mineral Fertilizers On The Yield Of Soybean Varieties. Actual Problems Of Modern Science, Moscow. No. 1 (110), 2020, Pp. 90-93.