

The Effect Of Sowing Terms On The Breeding Characteristics Of Foreign And Local Autumn Soft Wheat Varieties

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Annotation: The Most Important Component Of Wheat Cultivation Agrotechnology Is The Correct Determination Of The Optimal Timing Of Winter Wheat Varieties For Each Variety In The Soil-Climatic Conditions Of Each Region. Adherence To Science-Based Planting Times Is One Of The Key Factors In Obtaining An Abundant And Quality Crop From Grain.

Key Words: Winter Wheat, Varietal, Sowing Time, Non-Grain, Protein, Gluten, Grain Transparency, Crop Structure, Yield, Seed, Germination, Accumulation, Germination, Ripening, Ripening.

Introduction. The Food And Agriculture Organization Of The United Nations (Fao) Has Lowered Its Grain Processing Forecasts For 2020 Over The Past Three Months, Yet Global Grain Production Is Still Up 1.3 Percent Year-On-Year At 2,742. Million Tons.

In Wheat-Growing Countries Of The World, Special Attention Is Paid To Research On The Development Of Optimal Timing And Norms Of Sowing And Feeding Of Winter Wheat, As Well As Irrigation Procedures. Global Climate Change Requires The Creation Of New Varieties And Ridges Of Wheat Resistant To Stressors, As Well As The Improvement Of Specific Agricultural Practices. Improving The Yield Of Winter Wheat Grain And Its Quality, Ie Viticulture, Can Be Achieved Primarily Through The Use Of Proper Agronomic Techniques And Resource-Saving, High-Efficiency Technologies.

Winter Wheat Sowing In Each Region Is Carried Out At Optimal Times, Depending On The Soil Climatic Conditions, Ensures Even Seed Germination, Transition To A State Of Preparation For The Winter Dormancy Period During The Autumn Growth, Normal Wintering And High Yields [2].

When Planted Too Early, Using The Hot Air Temperature In The Fall And Insufficient Moisture In The Soil, The Wheat Can Suffocate As A Result Of Growing And Thickening, And It Can Get Cold In The Winter. In Addition, Wheat In Such Areas Is Also Affected By Rust Disease. When Planted In The Evening, The Wheat Enters A Dormant Period Without A Well-Developed Root System And A State Of Preparation For Winter. In This Case, Some Of The Wheat Gets Cold, And The Rest Comes Out Of The Snow Weak And Thin, Making It Resistant To The Adverse Factors Of The External Environment. Seeds Sown Too Late May Not Germinate At All.

Only When Autumn Cereal Crops Are Sown At The Optimal Times For The Region Will The Seeds Germinate Evenly, The Plant Will Develop Strongly, Accumulate Well, Be Well Prepared For Winter, And Be Able To Withstand Severe Winter Frosts.

The Purpose Of The Study. New Promising Domestic And Foreign Winter Soft Wheat Varieties Are To Study The Effects Of Their Planting Times On Plant Growth, Development, Crop Structure, Grain And Straw Yields, Gluten, Protein Content, Non-Crop Properties, And Cost-Effectiveness Under Irrigated Conditions.

The Object Of Research Is The Foreign "Alekseich", "Vexa", "Gurt", Local "Aziz", "Navbahor", "Uzbekistan-25" Of Winter Soft Wheat Belonging To Different Groups Of Origin In The Meadow Soils Of The Experimental Field Of The Research Institute Of Grain And Legumes. " Varieties Were Obtained.

Experimental Results And Analysis. Field Experiments Were Conducted In 2019-2020 In The Area Allocated For The Department Of Grain Crops Agrotechnics Of The Central Field Experimental Site Of The

Research Institute Of Grain And Legumes Of Andijan District. Promising Foreign Varieties Of Winter Wheat "Alekseich", "Vexa", "Gurt", Local "Aziz", "Navbahor", "Uzbekistan-25" Are Planted Here.

The Field Experiment Was Based On An Agro-Technical System Placed On An Area Vacated By Legumes. In The Autumn, In The Second Decade Of September, The Experimental Field Was Plowed To A Depth Of 25-30 Cm With A Mtz 1221 Overturned Plow Tractor, Cleared Of Plant Debris And Leveled Using A Long-Barreled Land Leveler, Then A Rake.

Sowing Was Carried Out In The Ch-16 Grain Sowing Selection Plant With 4 Different Periods And 5 Million Germinated Seeds (Table 1).

Table 1

Variety Placement System By Planting Dates

Numbers	Sorts	Sowing Dates, Date			
		15-September	1-October	15- October	1-November
1	Alekseich	15-September	1-October	15- October	1-November
2	Vexa	15-September	1-October	15- October	1-November
3	Gurt	15-September	1-October	15- October	1-November
4	Aziz	15-September	1-October	15- October	1-November
5	Navbaxor	15-September	1-October	15- October	1-November
6	Uzbekistan-25	15-September	1-October	15- October	1-November

During The Growing Season, The Plant Was Irrigated, Fed, Weeded, And Cleaned Of Varietal Mixtures.

The Experimental Field Of The Scientific Research Institute Of Cereals And Legumes Was Given Mineral Fertilizers In The Amount Of N-180-210 Kg, P-90 Kg, K-60 Kg Per Hectare, On Average, In Pure Form. At The Beginning Of The Accumulation Period 100 Kg. Nitrogen Fertilizers Were Applied In The Amount Of 250 Kg In Early Spring During The Overwintering Period Of Plants, And 150 Kg At The Beginning Of The Germination Period. Phosphorus And Potassium Fertilizers Were Applied 100 Percent In The Fall Before The Main Treatment.

The Degree Of Germination Of Seedlings Of Winter Wheat Varieties Was Determined Primarily By The Biological Characteristics Of The Variety, As Well As The Timing Of Sowing. During This Period, The Fertilizer Standards And Irrigation Procedures Given In The Experimental System Had Not Yet Been Applied. Therefore, In The Reporting Year, Wheat Varieties Were Sown On September 15, October 1, October 15, 2019, November 1, 2019 In Accordance With The Experimental System, And 10 Days After Sowing Dates, Seed Germination Rate Was Determined And Continued Every 3 Days.

Differences In Planting Times Affect Plant Growth And Development Phases Differently, Affecting Plant Height, Spike Length, Number Of Spikes, Grain Weight Per 1000 Grains, And Other Indicators [3].

In The Egyptian State, The Effect Of Winter Wheat Sown On 3 Different Periods: November 25, December 10 And December 25 On The Yield Elements Has Been Studied. The Weight Of 1000 Grains At Sowing On November 25 Was 52.31-43.41 G. The Weight Of 1000 Grains At Late Sowing Was 44.08-36.59 G. The Yield Was Higher At Sowing On November 25, 2167.20 - 1429.13 Kg / Ha, And On December 25 At 923.30-611.13 Kg / Ha, A Decrease In Productivity In The Evening Was Found [7].

As A Result Of Observations Conducted To Study The Growth And Development Of Winter Wheat Sown In Bangladesh On 5 November, 15 November, 25 November, 5 December And 15 December 2012-2014, High Yields Were Observed When Sown On 25 November With A Grain Weight Of 52.10 G Per 1000 Grains And A Yield Of 4.30 T / Ha. The Lowest Rates Were Found When Planted On November 5 And Late December 15 [8].

Biometric Parameters Of Winter Wheat Varieties Selected For The Experiment Were Calculated Throughout The Growing Season.

As A Result Of The Study, Different Varieties Of Winter Wheat At Different Planting Times Showed Different Performance Based On The Specific Biological Characteristics Of Each Variety. (Table 2)

Table 2
Biometric Indicators Of Sown Varieties By Sowing Dates.

Sorts	Sowing Dates	1 M ² Number Of Seedlings In The Area, Pcs	Plant Height , Sm	Ear Length , Sm	Number Of Ears Per Ear, Pcs	Number Of Grains Per Ear, Pcs	Grain Weight Per Grain, Gramm	1000 Pcs Grain Weight, Gramm	Biometric Yield, Ts / Ha.
Alekseich	15.09.2019	440	86,1	8,1	16	33	1,25	41,5	73,9
	01.10.2019	437	87,1	8,1	17	34	1,23	41,8	76,3
	15.10.2019	443	86,1	8,0	15	35	1,45	41,5	80,0
	01.11.2019	422	86,0	7,9	16	31	1,35	41,0	66,3
Gurt	15.09.2019	423	93,3	8,4	17	34	1,24	41,9	74,5
	01.10.2019	430	93,7	8,6	17	34	1,28	42,0	75,6
	15.10.2019	441	94,7	8,7	18	35	1,23	42,2	80,0
	01.11.2019	443	93,0	8,2	16	31	1,30	40,0	67,3
Vexa	15.09.2019	426	94,0	8,7	18	35	1,22	41,5	76,4
	01.10.2019	428	94,7	8,8	18	36	1,20	41,5	78,8
	15.10.2019	437	94,9	8,8	18	36	1,20	42,0	81,2
	01.11.2019	443	94,1	8,2	17	33	1,24	40,6	72,7
Uzbekistan-25	15.09.2019	447	84,3	7,4	17	33	1,24	40,2	72,5
	01.10.2019	448	86,4	7,7	18	35	1,17	40,8	78,2
	15.10.2019	452	86,3	7,7	18	36	1,44	40,7	79,8
	01.11.2019	434	85,2	7,4	17	33	1,25	40,2	70,8
Navbaxor	15.09.2019	440	93,6	9,0	18	35	1,10	38,1	72,0
	01.10.2019	443	95,5	9,2	18	36	1,12	39,9	78,0
	15.10.2019	440	95,6	9,5	19	36	1,37	38,3	74,4
	01.11.2019	441	94,1	8,5	17	33	1,20	39,2	72,1
Aziz	15.09.2019	421	85,4	7,5	16	32	1,29	41,0	68,3
	01.10.2019	426	86,5	7,3	16	32	1,28	41,3	69,3
	15.10.2019	432	87,3	7,3	17	33	1,28	41,5	72,8
	01.11.2019	430	87,3	7,0	16	31	1,35	41,0	67,4

In Comparison With The Observed Varieties, In Alekseich Variety The Weight Of One Grain In The 3rd Term, The Number Of Grains In One Ear, Biometric Yield, In The 2nd Term The Weight Of 1000 Grains, In The 4th Term The Weight Of One Grain In The 4th Term, In The 3rd Term The Weight Of One Grain Number, 1000 Grains, Biometric Yield, Vexa Variety, Number Of Grains In 2-3 Heads In 2-3 Terms, 1000 Grains In 3 Terms, Biometric Yield, Uzbekistan-25 Variety, 3 Grains In 3 Terms, Number Of Grains In One Grain, Biometric Yield, 1000 Grains In The 2nd Term, Navbahor Variety In 2-3 Terms, Number Of Grains In The 2nd Term, 1000 Grains In The 3rd Term, Biometric Yield, Aziz Variety In The 3rd Term, Number Of Grains In The 1st Term, Biometric Yield, 1000 Grains

Weight, The Weight Of A Single Grain In The 1st Period Showed Higher Performance Than The Options Planted In The Remaining Periods. The Biometric Yield Of The Above Options, Which Recorded The Best Results, Was Also High.

As A Result Of Correct Determination Of Sowing Dates, It Was Observed That The Biological Yield Increased By 9-10 Ts / Ha, Which Was Higher In The Variants Sown In The 2nd And 3rd Periods By Varieties.

Grain Quality Is The Product Of Many Indicators. It Varies Depending On The Wheat Navigation, Climate And Applied Agrotechnical Measures. Important Quality Indicators Of Flour And Flour Products From Wheat Grain Are Determined By The Amount Of Protein And Gluten, Grain Nature, Grain Transparency, Gluten Deformation Index [6].

Starch Granules Give The Transparency Of Wheat Grains. Transparency Decreases In Conditions Of Excess Moisture, Lack Of Nitrogen. When Flour Is Extracted From A Transparent Grain, The Kernel Is Easily Separated, And The Flour Has High Non-Baking Properties. The Quality Of Gluten In Grain Is Characterized By Its Color, Elongation And Elasticity. Gluten Is A Succulent Substance That Remains During The Washing Of Dough After Washing Out Starch, Klechatka And Water-Soluble Substances. Gluten Is A Substance With Very Important Physical Properties Such As Viscosity And Elasticity [5].

Therefore, Determining The Effect Of Agro-Technical Measures Applied To Winter Wheat Varieties On Grain Quality Indicators Was One Of The Important Tasks Of Our Research. In Addition, In Order To Study The Effect Of Different Sowing Times On The Non-Yield Characteristics Of Foreign Local Varieties Of Winter Wheat, Grain Quality Indicators For Each Variant And Return - Gluten Content, Group, Gluten Deformation Index, Grain Nature, Grain Gloss Were Analyzed In The Laboratory (Table 3).

Table 3
Influence Of Sowing Dates On Grain Technological Quality Indicators Of Autumn Soft Wheat Varieties.

Num-Bers	Sort Name	Sowing Time	Grain Natura G/L	Transparency,, %	The Amount Of Gluten, %	Gluten Deformation Index	Group
1	Alekseich	15.09.19	800	55,0	28,0	80,0	2
		01.10.19	820	65,0	30,2	75,0	1
		15.10.19	830	65,0	32,2	75,0	1
		01.11.19	750	55,0	26,0	80,5	2
2	Gurt	15.09.19	785	55,5	26,3	105,0	3
		01.10.19	787	55,0	27,3	85,0	2
		15.10.19	780	56,5	27,6	77,0	2
		01.11.19	750	52,5	26,0	105,0	3
3	Vexa	15.09.19	790	69,0	27,0	85,0	2
		01.10.19	820	69,5	28,5	75,0	1
		15.10.19	830	69,0	30,0	75,0	1
		01.11.19	750	53,0	26,5	84,2	2
4	Uzbekistan-25	15.09.19	800	55,5	26,0	85,2	2
		01.10.19	800	60,0	27,7	80,0	2
		15.10.19	820	60,0	28,7	75,0	1
		01.11.19	750	53,5	27,3	85,5	2
5	Navbaxor	15.09.19	810	52,5	27,5	85,0	2
		01.10.19	830	65,0	28,8	75,0	1
		15.10.19	830	65,0	28,8	75,0	1
		01.11.19	780	50,0	26,5	100,0	3
6	Aziz	15.09.19	810	54,5	27,0	85,0	2
		01.10.19	810	65,0	29,0	75,0	1
		15.10.19	826	65,5	32,0	75,0	1

		01.11.19	800	58,0	27,0	85,2	2
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This Means That Too Early Or Too Late Sowing Has An Effect On Grain Quality, With A Certain Decrease In Grain Nature And Gluten Content, Which In Turn Has Led To An Increase In Grain Gluten Deformation Index.

From The Results Of The Experiment It Can Be Concluded That:

As A Result Of Correct Determination Of Sowing Dates, It Was Observed That The Biological Yield Increased By 9-10 Ts / Ha, Which Was Achieved In The 2nd And 3rd Periods.

In Terms Of Grain Quality Indicators For The Studied Varieties, Gurt Showed The Best Results In Terms Of Grain Quality Indicators In All Varieties Except The Cultivar Planted In The 3rd Term. As A Result, A Grain Belonging To The 1st Group Was Formed.

In Short, In Order To Improve The Quality Of Grain, To Improve The Non-Binding Properties Of Grain, The Alekseich Variety Was Used In The 2nd Term (01.10.2019) And The 3rd Term (15.10.2019), The Gurt Variety In The 2nd Term (01.10.2019) And The 3rd Term (15.10.2019). 2019y), Vexa Variety 2nd Term (01.10.2019y) And 3rd Term (15.10.2019), Uzbekistan-25 Variety 3rd Term (15.10.2019), Navbahor Variety 2nd Term (01.10.2019) And In The 3rd Term (15.10.2019), It Is Recommended To Sow The Aziz Variety In The 2nd Term (01.10.2019) And The 3rd Term (15.10.2019).

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