



# AGRONOMIC CROP SCIENCE REPORT

Research

Extension

## STEPHENS WHEAT

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The Oregon Agricultural Experiment Station on March 9, 1977, released this new, high-yielding, semi-dwarf, soft white wheat in cooperation with the Agricultural Experiment Station of Idaho and Washington. It was developed from a cross between Nord Desprez and Pullman Selection 101. Liberal quantities of Foundation Seed are in production and will be allocated for seed increase plantings in fall 1977.

Stephens is a high-yielding, semi-dwarf, awned, soft white cultivar which seems to have a wide range of adaptation to the winter wheat regions of the Pacific Northwest. Its release is for state-wide adaptation; but its best performance is in the Willamette Valley, the driest of the summer-fallow regions, and some of the irrigated regions in Oregon (see table). Its soft white milling and baking qualities are generally better than other commercial cultivars. Both its milling score and cookie diameter are particularly high.

Stephens has better resistance to stripe rust (including the Skagit Valley race) than any commercial variety with the exception of Luke. It is resistant to leaf rust and common bunt. It is moderately resistant to mildew and moderately susceptible to septoria. It is less susceptible to yield losses from cercospora than other soft white cultivars. Stephens is susceptible to dwarf bunt, flag smut, and snow mold.

Stephens was developed by Oregon Agricultural Experiment Station workers.

Yield of winter wheat cultivars at various lower-yielding eastern Oregon locations.

	Moro	Pilot Rock	Rew Farm	Arlington	Heppner	Condon	<i>Average</i>
							(bushels per acre)
Stephens 1/	45.2	32.5	32.2	29.3	27.1	29.3	32.6
McDermid	39.3	34.3	29.4	30.4	30.4	29.0	32.1
Hyslop	40.7	32.8	29.5	29.3	30.2	23.8	31.0
Faro	42.7	30.8	30.2	30.2	27.4	24.3	30.9
Luke	38.8	30.1	29.0	29.8	28.2	27.4	30.6
Nugaines	41.5	27.4	29.4	29.8	27.9	25.2	30.2
Rew	39.8	31.1	29.5	27.6	26.9	20.7	29.3
Paha	38.6	29.4	27.4	28.2	27.6	21.9	28.8
Wanser	34.2	30.3	27.5	28.1	26.0	25.5	28.6

1/ Tested in 1975 and 1976 only.

SOME AGRONOMIC DATA FOR STEPHENS  
IN COMPARISON TO HYSLOP, McDERMID, NUGAINES, AND DAWS  
WHEN GROWN AT CORVALLIS, PENDLETON, AND ONTARIO, OREGON

	<u>Stephens</u>	<u>Hyslop</u>	<u>McDermid</u>	<u>Nugaines</u>	<u>Daws</u>
<u>Heading Date</u> (days from planting)					
Corvallis	148	150	147	152	151
Pendleton	157	159	157	160	161
Ontario	221	224	221	223	--
<u>Plant Height</u> (inches)					
Corvallis	45	45	47	39	47
Pendleton	36	37	35	35	36
Ontario	37	37	38	35	--
<u>Lodging</u> (percent)					
Corvallis	5	35	15	0	0
Pendleton	0	0	0	0	0
Ontario	0	0	2	0	--
<u>Test Weight</u> (pounds per bushel)					
Corvallis	61	61.1	61.2	61.3	60.8
Pendleton	59.8	60.5	61.1	62.1	60.1
Ontario	58.1	58.9	59.0	59.1	--

YIELD OF WINTER WHEAT CULTIVARS  
AT VARIOUS HIGHER YIELDING EASTERN OREGON LOCATIONS

Variety	Non-irrigated				<i>Average</i>
	Pendleton	Weston	LaGrande <u>1/</u>	Enterprise	
	(bushels per acre)				
Stephens <u>2/</u>	76.7	73.3	72.3	60.0	70.6
McDermid	76.9	75.4	60.8	62.7	69.0
Hyslop	77.1	74.4	62.8	59.7	68.5
Luke	74.1	73.3	66.7	59.1	68.3
Faro	75.1	72.1	66.3	54.7	67.0
Nugaines	75.5	72.6	60.5	56.9	66.4
Paha	68.0	66.0	63.4	54.8	63.0

Variety	Irrigated		<i>Average</i>
	Pendleton	Summerville	
	(bushels per acre)		
Hyslop	99.1	87.8	93.4
Nugaines	93.0	87.0	90.0
McDermid	94.0	81.0	87.5
Stephens <u>2/</u>	97.4	73.9	85.6
Luke	89.0	74.1	81.6
Paha	66.2	72.9	69.6

1/ No test in 1976

2/ Tested in 1975 and 1976 only

YIELD OF WINTER WHEAT CULTIVARS  
AT VARIOUS OREGON EXPERIMENT STATIONS

	Stephens	Hyslop	McDermid	Nugaines	Luke	Daws	Paha	Faro	Moro
	(bushels per acre)								
<u>Corvallis</u>									
1974	110.8	119.3	92.8	86.4	--	107.0	88.4	92.7	81.6
1975	136.5	104.4	108.5	92.5	--	125.6	89.5	81.5	51.4
1976	133.4	119.4	111.3	78.9	--	110.5	86.9	63.7	66.6
<i>Average</i>	<i>126.9</i>	<i>114.4</i>	<i>104.2</i>	<i>85.9</i>	<i>--</i>	<i>114.4</i>	<i>88.3</i>	<i>79.3</i>	<i>66.5</i>
<u>Moro</u>									
1974	48.6	43.7	38.1	43.7	41.0	46.3	38.0	43.4	30.9
1975	64.7	57.1	44.6	57.1	48.9	48.6	47.7	58.5	33.3
1976	50.5	48.6	51.3	53.8	51.4	51.3	48.5	50.8	44.8
<i>Average</i>	<i>54.6</i>	<i>49.8</i>	<i>44.7</i>	<i>51.5</i>	<i>47.1</i>	<i>48.7</i>	<i>44.7</i>	<i>50.9</i>	<i>36.3</i>
<u>Pendleton</u>									
1974	87.8	91.4	98.7	92.8	95.6	93.6	79.9	84.2	68.8
1975	88.2	90.5	84.4	84.2	85.1	81.4	81.8	90.0	72.4
1976	68.2	67.6	67.5	69.0	66.3	66.5	48.4	67.2	51.8
<i>Average</i>	<i>81.4</i>	<i>83.2</i>	<i>83.5</i>	<i>82.0</i>	<i>82.3</i>	<i>81.4</i>	<i>70.0</i>	<i>80.5</i>	<i>64.3</i>
<u>Madras</u>									
1974	114.7	107.6	111.7	103.9	107.8	--	83.4	--	--
1975	129.2	127.9	129.0	116.6	108.3	--	105.9	--	--
1976	103.2	113.9	87.2	105.5	95.3	--	77.5	--	--
<i>Average</i>	<i>115.7</i>	<i>116.5</i>	<i>112.3</i>	<i>102.5</i>	<i>103.8</i>	<i>--</i>	<i>88.9</i>	<i>--</i>	<i>--</i>
<u>Ontario</u>									
1974	134.6	137.9	146.2	131.0	--	--	--	--	--
1975	141.4	138.4	149.2	129.5	--	--	--	--	--
1976	155.4	147.8	161.9	143.1	--	--	--	--	--
<i>Average</i>	<i>143.8</i>	<i>141.4</i>	<i>152.4</i>	<i>134.5</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>