



# WINTER WHEAT

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## for ILLINOIS

EACH YEAR varieties of winter wheat are tested in the northern, central, and southern sections of Illinois in order to determine which ones are best adapted to each section. This circular reports the performance of these varieties in 1944-45 and gives the latest recommendations concerning those best adapted to these different sections.

While one year's tests are of interest, it takes several years to provide a proper basis for estimating yielding capacity — the more years, the greater the reliability. At Urbana in central Illinois, for example, Pawnee has averaged .7 bushel above Tenmarq (Table 1), but this is not proof that Pawnee is a better variety than Tenmarq, for Pawnee has been grown only three years whereas Tenmarq has been in the tests for fifteen years. We do know that both are good varieties.

Also, while capacity to yield well is important, it should not be the sole basis for choice of a variety to grow. The variety chosen should also resist lodging and as many as possible of the major diseases, and it should produce grain of good milling and baking quality.

### Best Varieties for Different Sections

The winter wheat varieties recommended for the different sections of Illinois are shown in Table 1 in bold type. These varieties are recommended because of their good yields, the high quality of their grain for commercial use, the availability of the seed, and their general desirability for the section indicated.

Among the recommended varieties are a few that are susceptible to mosaic. This disease, however, does not occur in northern Illinois and is found in only a few fields in the central and southern sections.

Table 1.—COMPARATIVE YIELDS of Commercial Wheat Varieties Tested Three Years or More, and Varieties Recommended (Recommended varieties are in bold type)

NORTHERN ILLINOIS	Yield above (+) or below (-) average of all varieties	CENTRAL ILLINOIS	Yield above (+) or below (-) average of all varieties	SOUTHERN ILLINOIS	Yield above (+) or below (-) average of all varieties
	<i>bu.</i>		<i>bu.</i>		<i>bu.</i>
1. Kawvale.....	+4.0	1. Kawvale.....	+5.8	1. Fulcaster.....	+3.4
2. Blackhawk.....	+2.9	2. Pawnee*.....	+3.9	2. Brill.....	+2.0
3. Minturki.....	+2.3	3. Blackhawk*.....	+3.4	3. Blackhawk*.....	+1.4
4. Ioturk.....	+2.0	4. Tenmarq*.....	+3.2	4. Kawvale.....	+1.2
5. Pawnee.....	+1.4	5. Brill.....	+2.8	5. Fairfield.....	+1.0
6. Wisconsin 2.....	+ .6	6. Clarkan*.....	+2.3	6. Clarkan*.....	+ .8
7. Marmin.....	+ .5	7. Cheyenne*.....	+1.8	7. Wabash.....	+ .7
8. Prairie.....	+ .3	8. Wisconsin 2.....	+1.3	7. Thorne.....	+ .7
9. Ilred.....	+ .1	9. Prairie.....	+1.3	9. Goens.....	+ .3
10. Turkey.....	0	10. Ilred.....	+ .8	10. Trumbull.....	- .1
11. Tenmarq.....	- .2	11. Fairfield.....	+ .7	10. Fulhio.....	- .1
12. Brill.....	- .4	12. Turkey.....	+ .3	12. Prairie.....	-1.0
13. Clarkan.....	- .7	13. Wabash.....	+ .2	13. Fultz.....	-1.1
14. Cheyenne.....	- .8	14. Marmin*.....	- .4		
15. Thorne.....	-1.1	15. Goens.....	- .5		
16. Fairfield.....	-1.2	15. Minturki.....	- .5		
17. Comanche.....	-3.8	17. Comanche.....	- .8		
		18. Fulhio.....	-1.0		
		19. Fulcaster.....	-2.1		
		20. Trumbull.....	-2.2		
		21. Thorne.....	-5.1		

\*Susceptible to mosaic disease. Reaction to mosaic is not indicated for northern Illinois because this disease does not occur there.

## Yields in 1944-45

Tho the 1944-45 season was a good one for wheat it was not typical for Illinois. The different varieties responded quite differently to the conditions of this season. Turkey and varieties of Turkey origin, for example, which usually give good yields, fell down considerably. Pawnee, Kawvale, and Purdue 14, on the other hand, which have yielded well in other years, also did well this season.

**Northern Illinois.** Yields were unusually high in northern Illinois, and the quality of the grain was excellent. The results are shown in Table 2. The tests on this field were made in small plots consisting of three drill

rows each. The rows were 22 feet long and 8 inches apart. Only the middle row was harvested. The varieties were arranged in random order in each of the five replications. The preceding crop was corn. The wheat was sown September 22 and harvested July 17. Prior to seeding, 400 pounds of 0-20-0 fertilizer an acre was drilled in the soil.

Table 2.—NORTHERN ILLINOIS (Mt. Morris): Performance of Winter Wheat Varieties Grown in 1944-45

Variety	Yield per acre	Erect plants	Test weight	Variety	Yield per acre	Erect plants	Test weight
	<i>bu.</i>	<i>perct.</i>	<i>lb.</i>		<i>bu.</i>	<i>perct.</i>	<i>lb.</i>
1. Pawnee	59.3	85	61.5	13. Illinois 40-1205	50.4	79	61.7
2. Purdue 14	58.1	57	59.5	14. Comanche	50.2	49	58.3
3. Illinois 40-679	57.5	88	60.2	15. Minturki	49.5	64	60.3
3. Illinois 37-1146-3	57.5	84	60.8	16. Ioturk	48.1	28	61.5
5. Tenmarq	55.7	85	58.0	17. Turkey	47.8	45	60.3
5. Kawvale	55.7	68	59.5	18. Marmin	47.4	77	61.0
7. Ilred	54.3	48	60.8	19. Brill	46.9	53	60.1
8. Cheyenne	54.1	57	58.8	20. Wisconsin 2	46.3	47	60.5
9. Illinois D-85	53.4	70	62.3	21. Blackhawk	46.2	62	62.0
10. Prairie	52.4	77	60.8				
11. Newcaster	51.6	57	61.5	Difference necessary for significance	2.6		
12. Clarkan	51.3	76	62.5				

Central Illinois. As growing conditions in 1944-45 favored a heavy straw growth, considerable lodging of the winter wheat on this field occurred in parts of the test field. The crop was of good quality, however, in general, and yields were good (Table 3).

Table 3.—CENTRAL ILLINOIS (Urbana): Performance of Winter Wheat Varieties Grown in 1944-45

Variety	Yield per acre	Erect plants	Test weight	Variety	Yield per acre	Erect plants	Test weight
	<i>bu.</i>	<i>perct.</i>	<i>lb.</i>		<i>bu.</i>	<i>perct.</i>	<i>lb.</i>
1. Pawnee	41.7	70	59.9	15. Trumbull	33.8	53	55.7
2. Illinois D-85	40.3	70	61.8	16. Brill	33.7	40	58.0
3. Illinois 40-679	39.4	69	57.0	17. Illinois 37-1146-3	33.6	46	59.4
4. Purdue 14	36.9	42	56.0	18. Goens	33.5	64	59.7
4. Fairfield	36.9	68	56.6	19. Illinois 40-1205	32.9	58	61.6
6. Blackhawk	36.8	41	60.1	20. Marmin	32.6	46	58.2
7. Prairie	36.6	88	56.0	21. Comanche	32.2	38	57.2
7. Clarkan	36.6	79	60.4	22. Wabash	31.9	37	58.0
9. Cheyenne	36.3	41	57.5	23. Cache	31.8	55	56.6
10. Kawvale	35.9	37	54.8	24. Turkey	31.0	17	57.5
11. Tenmarq	35.5	67	56.4	25. Wisconsin 2	30.1	38	58.6
12. Trumbull-Fultz C.I.				25. Ilred	30.1	15	59.0
12220	35.3	76	55.8				
13. Newcaster	35.2	60	58.5	Difference necessary for significance	1.9		
14. Fulcaster	35.1	34	58.1				

The twenty-six varieties tested on this field were planted in 1/60-acre drill plots. Six plots of each variety were grown in a rotation of corn, oats, red clover, and wheat.

**Southern Illinois.** On the test field at Alhambra in southern Illinois yields were not high and the grain was only of fair quality. As all varieties were standing uniformly well at harvest, no record was made of the percentage of erect plants. The yields and test weights of the different varieties are shown in Table 4.

The 1944-45 winter-wheat seeding on this field followed soybeans. Altho seeding was done as late as October 13, all plants lived thru the winter and the early spring growth was good. Excessive and continual spring rains were unfavorable for stooling. Ripening was hastened by the wetness of the soil previous to harvest.

Table 4.—SOUTHERN ILLINOIS (Alhambra): Performance of Winter Wheat Varieties Grown in 1944-45

Variety	Yield per acre	Test weight	Variety	Yield per acre	Test weight
	<i>bu.</i>	<i>lb.</i>		<i>bu.</i>	<i>lb.</i>
1. Fulcaster.....	20.2	58.0	8. Trumbull.....	16.4	54.9
2. Fairfield.....	20.0	54.9	10. Prairie.....	15.0	54.8
3. Blackhawk.....	19.3	58.1	11. Illinois 40-679.....	14.2	55.0
4. Goens.....	19.2	58.1	12. Illinois 40-1205.....	13.4	58.5
5. Trumbull-Fultz C.I. 12220.....	18.6	55.7	13. Fultz.....	12.8	54.3
6. Illinois D-85.....	16.7	59.5			
7. Wabash.....	16.6	56.0	Difference necessary for significance.....	1.5	
8. Clarkan.....	16.4	58.6			

(Experiment Station and Extension circulars are numbered consecutively in the same series.)