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HIGH CROP YIELDS AND PROFITS FROM FARMING

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## HIGH CROP YIELDS AND PROFITS FROM FARMING

Crop yields have a direct bearing upon farm profits. Granting that there are many factors affecting crop yields and crop prices that are beyond the control of the individual farmer, it is still true that those men whose crop yields are somewhat above the average for their localities make the largest profits. This is true in all parts of the country and for all crops as is shown by the following table covering 3130 farms in 12 states. This table shows the average labor income on farms having poor crop yields, medium or average yields and good crop yields. In each case farm account book records were kept on these farms for from 3 to 7 years and dependable averages secured. Labor income is what the farm operator earns for his labor and skill as manager after paying all expenses and deducting 5 per cent interest on the capital invested in the business.

Area	No. of farms.	Labor income		
		Average of farms with		
		Poor yields	Medium yields	Good yields
Gloucester County, N. J.....	125	\$515	\$933	\$1,609
Frederick County, Md.....	150	181	371	531
Chester County, Pa.....	502	508	892	1,129
Mercer County, Pa.....	349	129	305	423
Washington County, Ohio.....	25	165	284	364
Clinton County, Indiana.....	100	193	523	890
Lenawee County, Michigan.....	453	224	517	765
Dane County, Wisconsin.....	60	266	407	531
Tama County, Iowa.....	210	676	1,309	2,118
Warren County, Iowa.....	184	233	725	936
Barry and Lawrence Counties, Mo.	244	120	355	652
Palouse Area, Wash. and Idaho....	246	119	434	750
Skagit County, Wash.....	202	49	147	214
Sumter County, Ga.....	280	57	1,124	2,230

Other factors no doubt contribute to make the profits greatest on farms having high crop yields, but the fact that all of these areas show the same general tendency indicates the importance of

of this factor. However there is a point beyond which it does not pay to increase crop yields. For instance, the application of commercial fertilizers, notably phosphorus, will often increase the acre yield of crops in South Dakota, but the additional bushels of grain so produced will not sell for enough to pay the cost of the fertilizer. This means that one should not strive to grow 100 bushels of corn or 50 bushels of wheat regardless of cost, but that his greatest net profit will result from yields 10 to 25 per cent higher than the average for his neighborhood.

#### Relation of Yield per Acre to Cost per Bushel

One of the outstanding facts in all cost of production studies is the wide variation in costs on different farms in the same locality. This is well illustrated by the following table which shows the yield per acre, the acre cost and the bushel cost of producing wheat on 28 farms in Spink County in 1918.

Total cost per acre	Cost per bushel	Yield per acre
\$23.84	\$1.15	20.8
22.86	1.39	16.4
22.42	1.79	12.6
22.10	2.01	11
23.92	2.03	11.8
25.58	2.03	13.1
27.20	2.15	12.7
19.33	2.18	8.8
26.11	2.25	11.6
27.15	2.30	11.8
23.43	2.39	9.8
25.35	2.48	10.6
20.33	2.63	7.7
24.43	2.66	9.2
21.05	2.68	7.8
21.15	2.71	7.8
24.12	2.82	8.6
32.70	3.03	10.8
30.68	3.10	9.9
22.71	3.13	7.2
22.60	3.30	6.8
29.25	3.35	7.8
26.02	3.42	7.6
23.55	3.90	6
23.28	3.98	5.8
27.32	4.11	6.6
27.95	4.49	6.2
23.10	4.54	5.1

We find the acre cost varying here from \$19.33 to \$32.70, the yield varying from 5.1 bushels to 20.1 bushels and the bushel cost ranging from \$1.15 to \$4.54 per bushel. In 1918 the cost of the labor and materials entering into the production of wheat was high. Prices were also high, and, if the man whose acre cost was highest (\$32.70) has obtained a yield equal to the state average for that year (19 bushels), his cost per bushel would have been only \$1.73 and he could have made a good profit at prevailing prices. We must conclude that of all the factors affecting profits from the growing of crops, the yield per acre is most important.

#### Cost of Growing Wheat in 1921

The following figures are an average of six farms in Faulk and Hand Counties and are given here by courtesy of the State Department of Agriculture.

Labor and Materials	Cost
Man Labor, 3.75 hours at 26¢.....	\$0.98
Horse Labor, 10.16 hours at 15¢.....	1.52
Tractor Labor, .3 hours at \$2.....	.60
Seed, 1.26 bushels at \$1.50.....	1.89
Twine, .36 pounds at 18¢.....	.06
Heading.....	.10
Threshing, Cash.....	.55
Threshing, Meals and Special Labor.....	.15
Machinery Cost.....	1.60
Overhead.....	.58
	<u>\$8.03</u>
Land Charge, 6% of \$61.67.....	3.70
Total Cost per Acre.....	<u>\$11.73</u>
Yield per acre - 6 bushels.	
Cost per bushel.....	1.96

A higher yield per acre will mean a slightly higher charge for threshing, but the other items of expense will remain practically unchanged. If these men had secured a yield of 8.6 bushels,



the ten-year average for Faulk and Hand Counties, their bushel cost would have been \$1.36. If they had secured a yield equal to the state average for that year (9.1 bushels), their bushel cost would have been \$1.29. If they had secured a yield equal to the five-year average for the state (11.0 bushels), their wheat would have cost them \$0.98 per bushel. The relation between yield per acre and cost per bushel is apparent.

Since high crop yields are such an important factor affecting profits it may be well to consider some of the things that influence them. Crop yields are often reduced by factors beyond human control such as hail, frost, drought, and excessive rainfall. Some of the other factors are listed below and may profitably be discussed at club meetings.

Suggested Topics for Discussion at Club Meetings

1. Soil preparation.
2. The best adapted varieties for the locality.
3. The importance of clean seed.
4. Seed testing.
5. Seed treatment to prevent smut.
6. Early seeding.
7. Control of grasshoppers and other insects.
8. Barberry eradication and the prevention of rust.

NOTE: Some good bulletins on these topics that may be had by writing to the Extension Service, State College, Brookings, are:  
"Certification of Farm Seeds" (deals with standard varieties);  
"The Rag-Doll Seed Tester", Farmers' Bulletin No 948;  
"Cereal Smuts and the Disinfection of Seed Grain", Farmers Bul. 939;  
"Grasshoppers, Cutworms, and Army Worms, and their Control", Ext. Circular 38;  
"Destroy the Common Barberry", Farmers' Bulletin No. 1058.