Stook or Stack Threshing.

An investigation of considerable interest to grain growing farmers was conducted by professors Hay and Parker of the Minnesota Experiment Station, the results of which were published in bulletin 97. Liberal excerpts are made from this bulletin when the discussion touches upon the comparative cost of stack and stook threshing, which we trust our readers will follow with interest. This discussion is as follows:

It is a well-known fact that stacking largely prevents the deterioration in the quality of all small grains. Wheat, oats, and barley, when threshed from the stack, have better color, plumper kernels, and a smaller percentage of sprouted and weather-damaged seeds than when threshed from the shock. It costs more, however, to stack and stack-thresh the grain than to thresh directly from the shock, and it is a much disputed question whether the benefits of stacking are sufficient to pay for the additional cost. Statistics on this problem are shown in the Tables, and have especial merit in that they have been collected from farms in the same neighborhood where wages and prices paid for threshing are the same.

WHEAT THRESHING—COST PER ACRE.

MARSHALL (LYON COUNTY)

Item	Shock-threshed Acres	Shock-threshed Total Cost	Shock-threshed Cost per Acre	Stacked and stack-threshed Acres	Stacked and stack-threshed Total Cost	Stacked and stack-threshed Cost per acre
Labor stacking				2,259,22	$1,097.13	$0.486
Labor Threshing				1,104,64	271.57	.212
Threshing bill				1,104.64	797.06	.722
Total						1.454
HALSTAD (NORMAN COUNTY)						
Labor stacking				1,869.19	$ 83.78	$0.441
Labor, threshing	531.13	$226.31	$0.426	718.05	143.23	.199
Threshing, bill	531.13	24.44	.385	718.05	244.90	.341
Total			.811			.981

NOTE.—Rate per bushel paid to owner of machine was 5c at Marshall and 3½c at Halstad. At Marshall the owner of the machine furnished a larger proportion of the threshing crew than at Northfield or Halstad.

OATS THRESHING—COST PER ACRE.

NORTHFIELD (RICE COUNTY)

Item	Shock-threshed Acres	Shock-threshed Total Cost	Shock-threshed Cost per Acre	Stacked and Stack-threshed Acres	Stacked and Stack-threshed Total Cost	Stacked and Stack-threshed Cost per Acre
Labor, stacking				1,028.44	$788.81	$0.767
Labor, threshing	1,278.4	$1,315.41	$1.09	1,028.44	650.41	.632
Threshing, bill	1,278.4	1,107.09	.866	1,028.44	890.00	.865
Total			1.895			2.264
MARSHALL (LYON COUNTY)						
Labor, stacking				918.81	$596.13	$0.649
Labor, threshing				603.76	187.58	.317
Threshing, bill				603.76	760.74	1.260
Total						2.226
HALSTAD (NORMAN COUNTY)						
Labor, stacking				426.38	$194.73	$0.457
Labor, threshing	130.69	$56.40	$0.432	168.20	39.20	.233
Threshing, bill	130.69	70.80	.542	168.20	80.48	.478
Total			.974			1.168

NOTE.—Rate per bushel paid to owner of machine was 2c at Northfield, 3c at Marshall, and 2c at Halstad.

BARLEY THRESHING—COST PER ACRE.

NORTHFIELD (RICE COUNTY)

Item	Shock-threshed Acres	Shock-threshed Total Cost	Shock-threshed Cost per Acre	Stacked and stack-threshed Acres	Stacked and stack-threshed Total Cost	Stacked and stack-threshed Cost per acre
Labor, stacking				128.93	$72.89	$0.565
Labor, threshing	113.08	$97.30	$0.860	113.42	60.59	.534
Threshing, bill	72.11	44.66	.619	128.93	72.84	.565
Total			1.497			1.664
MARSHALL (LYON COUNTY)						
Labor, stacking				787.03	$450.50	$0.572
Labor, threshing				534.60	148.30	.259
Threshing bill				750.18	819.94	1.093
Total						1.924
HALSTAD (NORMAN COUNTY)						
Labor, stacking				258.79	$120.81	$0.467
Labor, threshing	127.90	$76.37	$0.597	142.77	28.24	.198
Threshing bill	127.90	64.86	.507	142.77	55.34	.388

NOTE.—Rate per bushel paid to owner of machine was 2c at Northfield, 2c at Halstad, and 3½c at Marshall.

LABOR—COST PER ACRE OF THRESHING GRAIN.

Crop	Route.	Shock-threshed	Stacked and stack-threshed
Wheat	Marshall	.....	$0.732
Wheat	Halstad	$0.426	.640
Oats	Northfield	1.029	1.399
Oats	Marshall	.....	.966
Oats	Halstad	.432	.690
Barley	Northfield	.860	1.099
Barley	Marshall	.....	.831
Barley	Halstad	.597	.665

TABLE XLI.—COST PER BUSHEL OF THRESHING GRAIN.

Wheat	Marshall	.....	$0.101
Wheat	Halstad	$0.074	.101
Oats	Northfield	.043	.052
Oats	Marshall	.....	.053
Oats	Halstad	.036	.049
Barley	Northfield	.048	.059
Barley	Marshall	.....	.062
Barley	Halstad	.044	.054

The Tables illustrate in a general way the comparative cost of shock-threshing grain per acre and stack-threshing grain. The cost is less under both methods at Halstad than at Marshall or Northfield, on account of the more powerful and efficient machinery employed and on account of smaller yields making a smaller threshing bill. A comparison on the basis of cost per acre is not absolutely exact and conclusive unless the yield per acre is the same for those fields threshed from the shock and from the stack in any community. The comparative cost of threshing grain by different methods, to be absolutely exact, should be determined by the varying amounts of labor necessary to the different methods, the cash cost per acre (based upon yield and rate paid per bushel for threshing) being a constant factor in each case. In the actual work of collecting statistics on this subject it is impossible to secure records from an acreage of grain threshed from the shock where the yield per acre will be exactly the same as from another acreage stacked and stack-threshed. To avoid this difficulty the cost of threshing grain by various methods may be placed on a more comparable basis by considering the labor cost per acre alone or by reducing the entire cost to the cost per bushel instead of the cost per acre. The labor cost of threshing a crop of grain by any method will not vary with yield to the same extent that the cash cost or threshing bill will vary. The amount of labor per acre involved in threshing a 40-bushel crop of oats, for example, will vary but little from the amount necessary to thresh a 50-bushel crop, whereas the cash cost or threshing bill varies by 2c. per bushel with every bushel of difference in yield. Thus, labor cost forms an equitable basis for the comparative study of methods of threshing grain as illustrated in Table XL, providing the various methods are compared in the same farming regions. The comparative cost of threshing grain per bushel by various methods is shown in Table XLI. Here the cash cost of threshing is a constant factor for each method, and, by reducing the amounts of labor per acre necessary to each method to the basis of amounts per bushel and adding this to the cash cost per bushel, a more accurate comparison of methods is made than when comparisons are made on the acreage basis.

The Table XLI indicates the fact that the additional cost of stacking and stack-threshing wheat, oats and barley can be met, and in some cases exceeded, by a difference of one grade in the quality of the grain marketed. The average difference in price between No. 1 Northern wheat and No. 2 Northern is about 2c., and the difference in the cost per bushel of threshing wheat from the shock and from the stack is approximately 2¾c., as indicated by the statistics collected at Halstad. The average difference in price between No. 3 or No. 4 malt barley and No. 1 feed barley is 2c. to 4c. per bushel, and the difference in the cost per bushel of threshing barley from the shock and from the stack is 1.1c. at Northfield and 1c. at Halstad.

The possibility of improving the grade of grain enough to pay for the additional cost of stacking and stack-threshing depends in any locality upon the availability of machines, the availability of labor, and the climatic conditions prevailing at harvest. Intelligent stacking of grain during a majority of Minnesota harvests is cheap insurance against bleached, sprouted, and bin-burnt grain. If the weather is favorable and a machine can be put in the field as soon as the grain is fit to thresh, a slight saving will be made as compared with stacking and stack-threshing. On the other hand, if the shocks must weather for several days or in some cases several weeks before a machine can be obtained, the loss in grade is considerable, and stacking the grain would have been profitable.

On the majority of small farms in Minnesota the labor question must also be taken into consideration, in discussing the relative merits of shock and stack-threshing. At stacking time a small crew with the home teams can stack the grain, while if the grain is to be threshed out of the shock a large crew and a large number of teams must be had at a very busy season. If a rainy spell comes at this season of the year, the minute the grain is dry stacking can begin with the regular help, whereas if shock-threshing is to be done the grain must stay out and risk another wetting while the machine and the necessary labor are being brought together. Exchanging help for shock-threshing usually prevents early fall plowing, a practice which is very important in Minnesota with all stubble land not seeded to grass.

The conclusion may be drawn that for a majority of Minnesota farms producing grain under the prevailing conditions of climate, availability of labor and machines, stacking and stack-threshing of grain is better farm management than shock-threshing. This is particularly true of all grain intended for seed.