

TIME REQUIREMENTS
AND COSTS OF SOME
FARM OPERATIONS
ON STRIP-CROPPED
AND
NON-STRIP-CROPPED FIELDS

Adapted from a thesis
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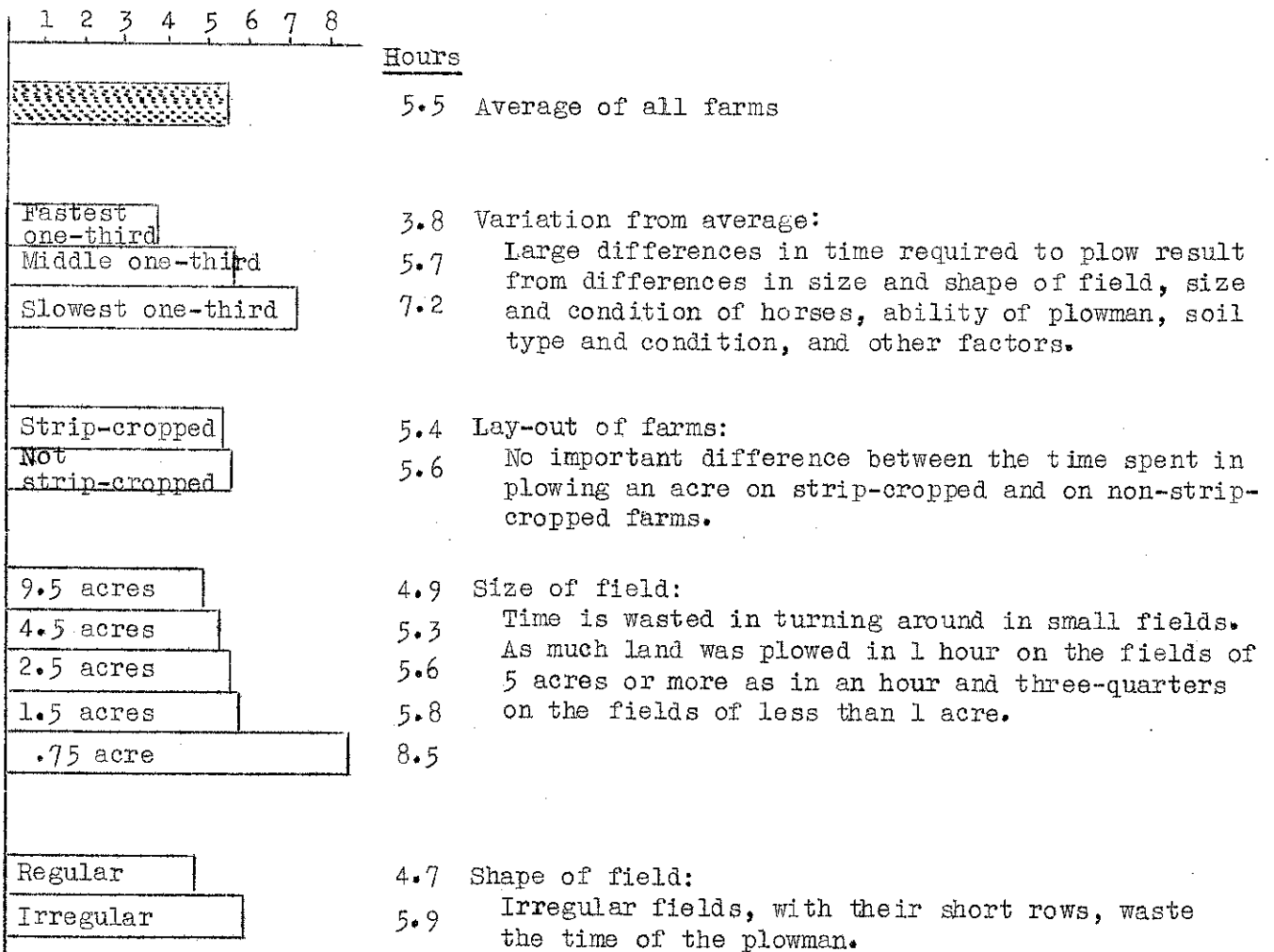
Records of time spent were kept by 130 Steuben, Schuyler, and Livingston County farmers during the summer of 1939. The Soil Conservation Service supervised the work on the 75 strip-cropped farms; high school agricultural teachers supervised the work on the 55 non-strip-cropped farms. This analysis is based on the 21 records kept on strip-cropped farms and the 23 records kept on non-strip-cropped farms that were found to be most complete.

A group of 75 farmers cooperating with the College in a study of costs and returns found that on their farms during 1939, the cost of an hour of labor was 30 cents, one horse working for one hour cost 19 cents, and a tractor cost 49 cents per hour. These rates were used in estimating the cost of farm operations. The cost of the equipment was based on a study of 438 farms by J. P. Hertel.

A brief summary of the results is presented in the following seven pages. A more complete report is available from the Soil Conservation Service upon request.

Plowing with two horses

Hours per acre



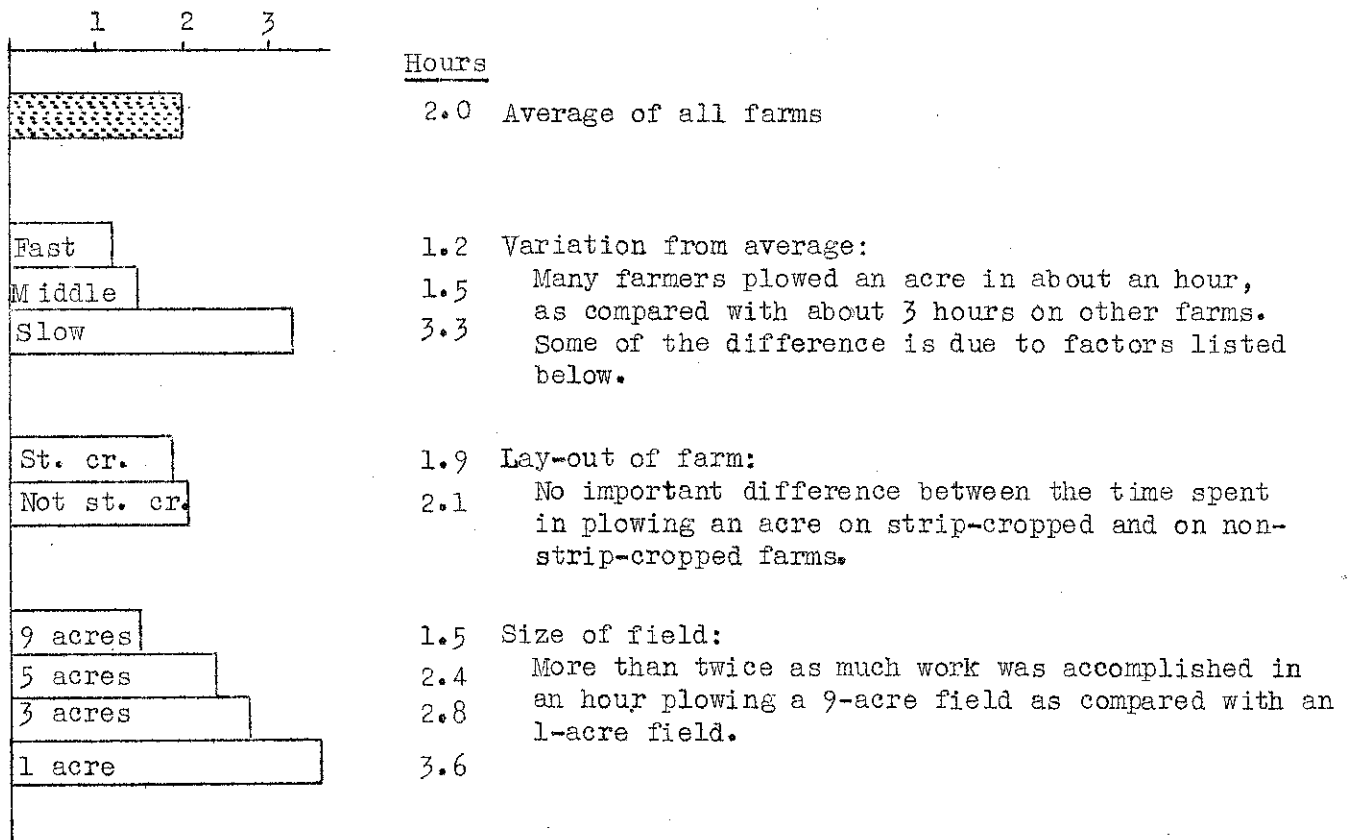
Many of the costs of keeping horses are hidden. But they are none-the-less real, "out-of-pocket" costs. The home-grown oats are paid for in terms of seed, fertilizer, wages to the hired man, taxes for the land on which the oats are grown, repairs for the grain drill, etc. If horses are charged a reasonable share of the overhead costs of operating the farm, the average cost of plowing a 10-acre field with horses is about \$41.

Cost per acre

5.5 man hours at 30 cents	\$1.65
11 horse hours at 19 cents	2.09
Cost of the plow	.33
Total	<u>4.07</u>

Plowing with a tractor

Hours per acre



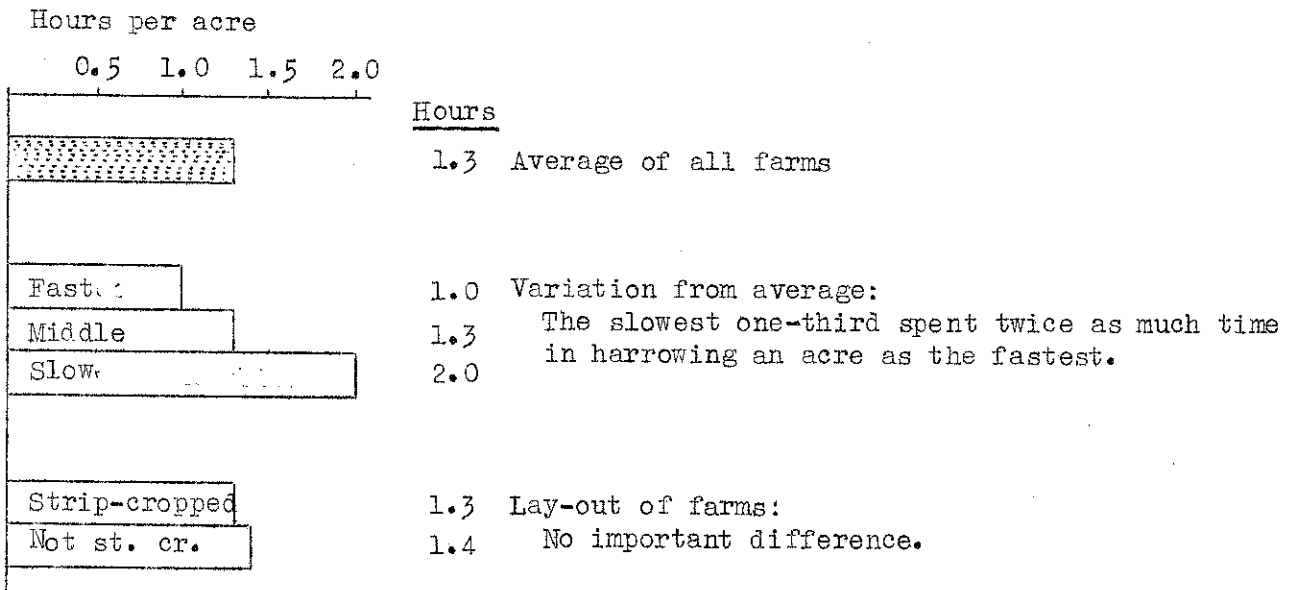
Plowing with a tractor is much less expensive than plowing with horses because of the saving in man labor and because it costs less to operate a tractor for 2 hours than a team for $5\frac{1}{2}$ hours. However, many farmers who already made their investment in land and buildings for producing and storing feed for the horses would be unwise to replace them with tractor power.

Cost per acre

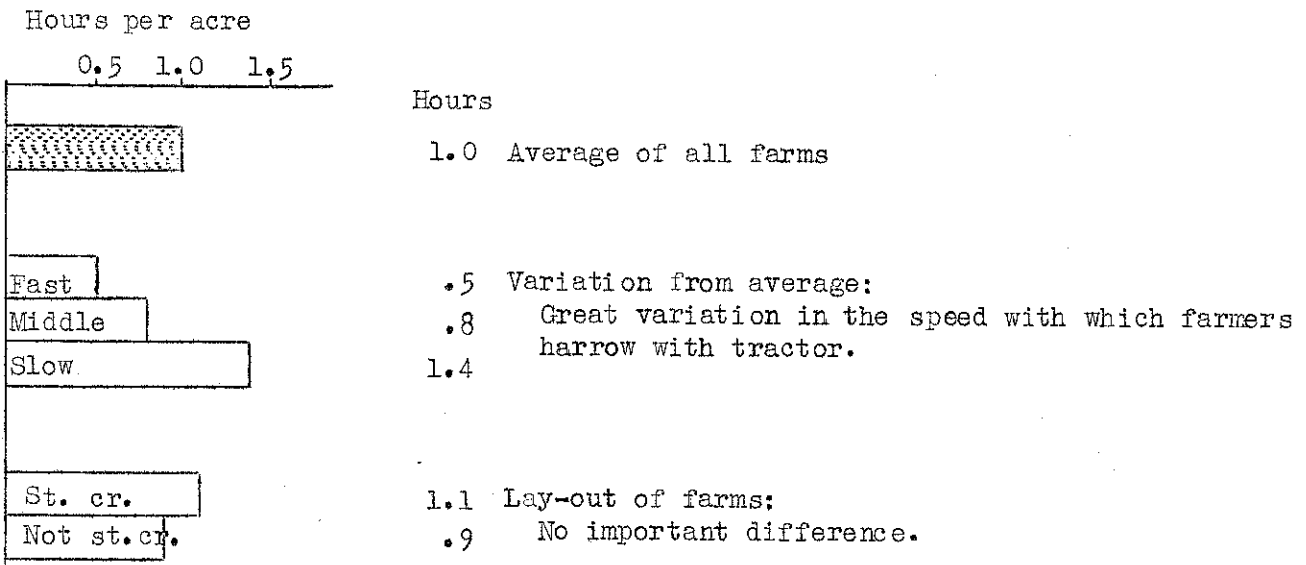
2.0 man hours at 30 cents	\$.60
2.0 tractor hours at 49 cents	.98
Cost of the plow	.49
Total	<u>2.07</u>

Harrowing

Two horses



Tractor

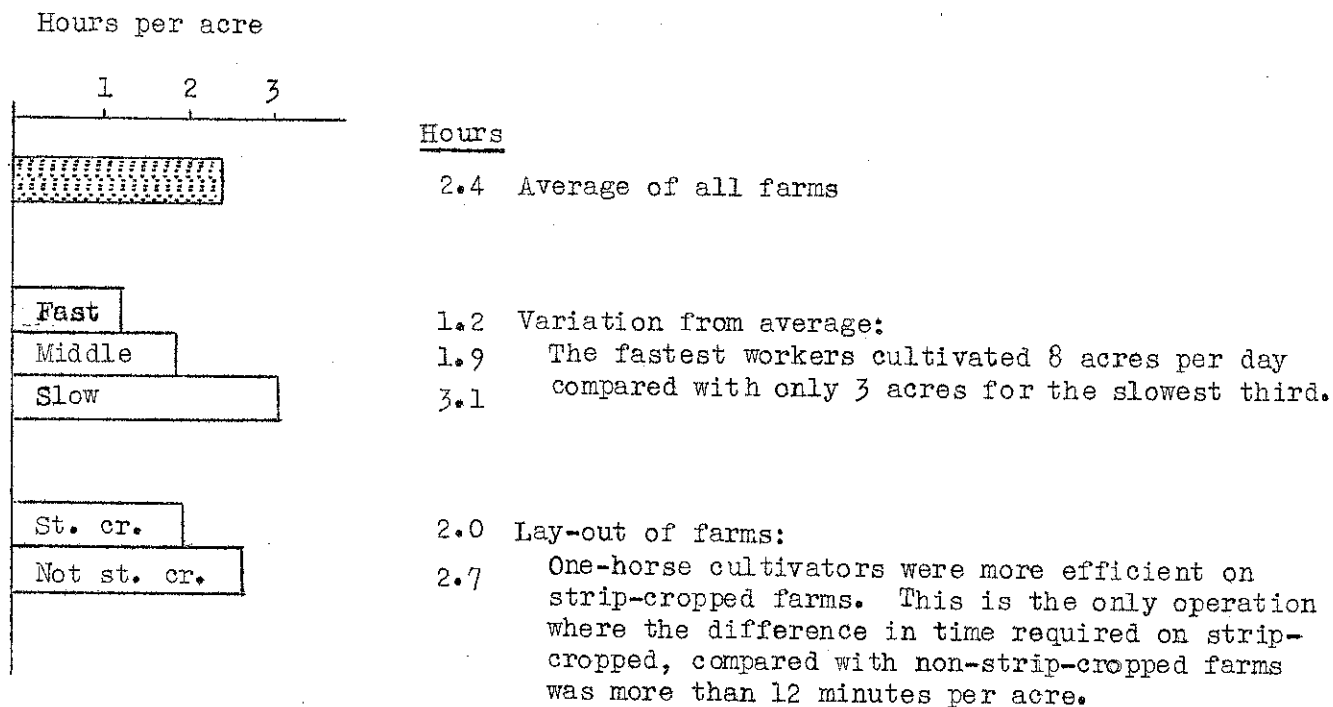


The cost of power to harrow an acre is about the same with horses as with tractor. The lower cost of doing the work with a tractor is due to the saving in man labor.

Cost of harrowing per acre

<u>Two horses</u>		<u>Tractor</u>	
1.3 man hours at 30 cents	\$.39	1.0 man hour at 30 cents	\$.30
2.6 horse hours at 19 cents	.49	1.0 tractor hour at 49 cents	.49
Cost of harrow	.06	Cost of harrow	.05
Total	<u>.94</u>	Total	<u>.84</u>

Cultivating with one horse

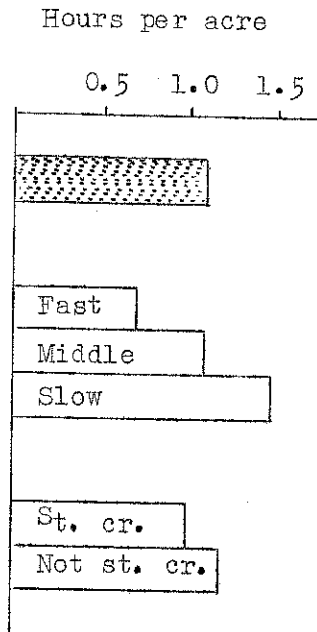


The cost of cultivating an acre once was \$1.26

Cost per acre

2.4 man hours at 30 cents	\$.72
2.4 horse hours at 19 cents	.46
Cost of cultivator	.08
Total	<u>1.26</u>

Drilling grain with two horses



Hours

1.1 Average of all farms

.7 Variation from average:

1.1 The fastest third drilled the grain in about
1.5 one-half the time spent by the slowest third.

1.0 Lay-out of farms:

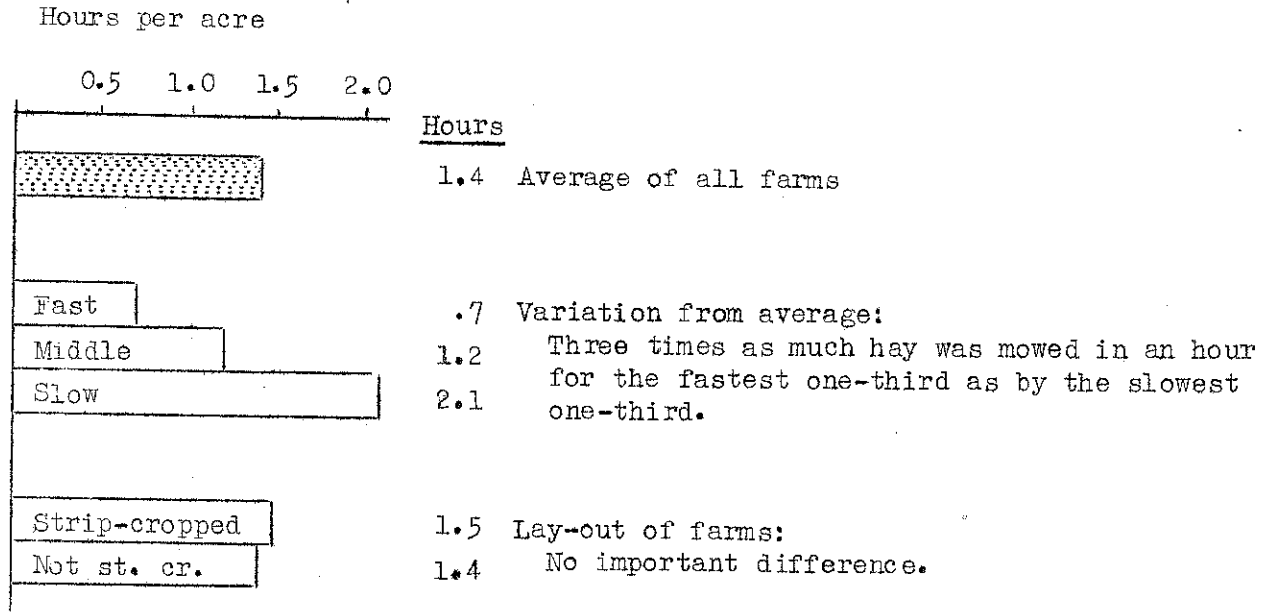
1.2 Not much of the difference in the rate of
drilling grain was associated with the lay-out
of the fields.

A man and team will drill about one acre of grain in 1.1 hours, or about 9 acres per day. The fastest workers drilled about 14 acres per day compared with about 7 acres for the slowest workers.

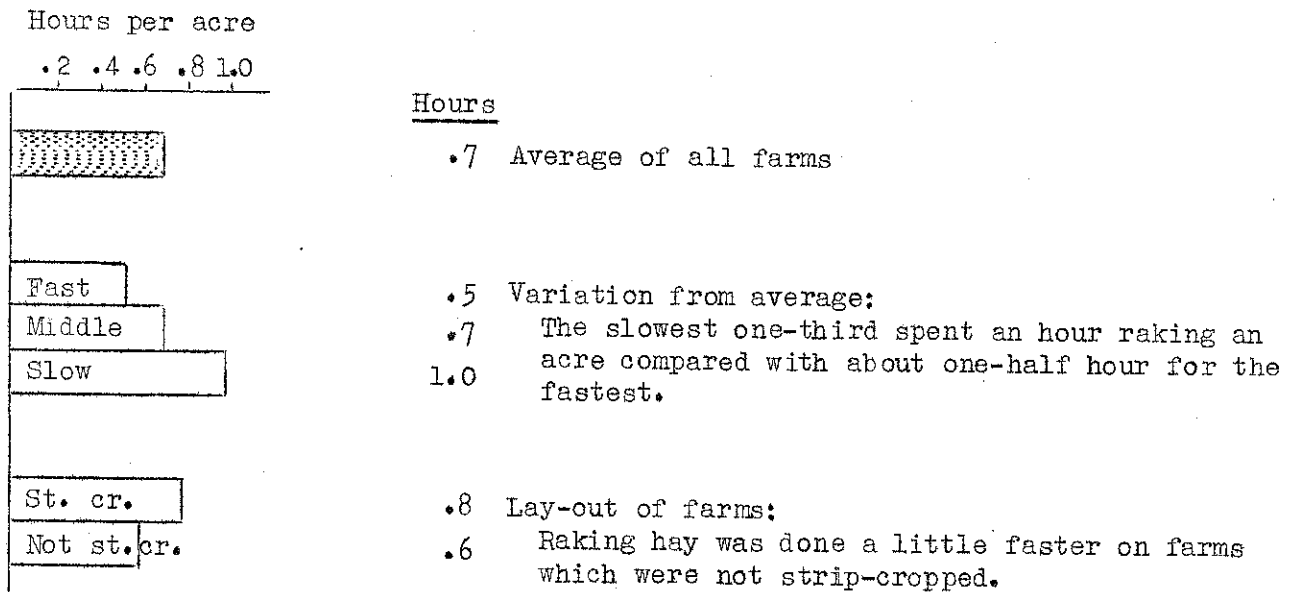
Cost per acre

1.1 man hours at 30 cents	\$.33
2.2 horse hours at 19 cents	.42
Cost of drill	.26
Total	<u>1.01</u>

Mowing hay with two horses



Raking hay with two horses



Wide tools, such as harrows, mowing machines, and rakes, work at a disadvantage on a strip-cropped field if one trip is made partly "empty".

Cost per acre

<u>Mowing hay with 2 horses</u>		<u>Raking hay with 2 horses</u>	
1.4 man hours at 30 cents	\$.42	0.7 man hour at 30 cents	\$.21
2.8 horse hours at 19 cents	.53	1.4 horse hours at 19 cents	.27
Cost of mower	.26	Cost of dump rake	.10
Total	<u>1.21</u>	Total	<u>.58</u>

SUMMARY

In the Bath area, the Soil Conservation Service has helped some farmers rearrange their fields. Narrow strips following the contours have replaced the typical, rectangular fields.

Time records kept by farmers who have "strip-cropped" fields have been compared with records kept by farmers who have the conventional-shaped fields.

A comparison of these records indicates that the narrow strip-cropped fields are worked as efficiently as the typical field. With some operations, such as cultivating, the advantage of a level pull seems to result in getting more work done. With wide tools, such as mowing machines and hay rakes, there was a slight disadvantage.

	Hours per acre						Cost per acre
	Average	By thirds			By lay-out		
		fast	middle	slow	strip	non-strip	
Plowing:							
2 horses	5.5	3.8	5.7	7.2	5.4	5.6	\$4.07
tractor	2.0	1.2	1.5	3.3	1.9	2.1	2.07
.....							
Harrowing:							
2 horses	1.3	1.0	1.3	2.0	1.3	1.4	.94
tractor	1.0	.5	.8	1.4	1.1	.9	.84
.....							
Cultivating, 1 horse	2.4	1.2	1.9	3.1	2.0	2.7	1.26
.....							
Drilling grain, 2 horses	1.1	.7	1.1	1.5	1.0	1.2	1.01
.....							
Mowing hay, 2 horses	1.4	.7	1.2	2.1	1.5	1.4	1.21
.....							
Raking hay, 2 horses	.7	.5	.7	1.0	.8	.6	.58

The average time required to perform these operations was combined with costs of man, horse, and tractor work on cost-account farms, to estimate the approximate costs per acre.