

Minimum Tillage Corn Planting Studied By County Agri. Teacher

The advantages of "Minimum Tillage" for corn are not in higher yields but in time saved, reduction of production costs, lessening of soil compaction and erosion, weed control and soil temperature changes, according to Joseph McGahen, a teacher of vocational agriculture at Manheim Central High School.

McGahen on a year's leave of absence from the high school last week presented a paper during a seminar at the Pennsylvania State University in which he pointed out the advantages of working corn ground as little as possible.

In his presentation McGahen said strictly speaking minimum tillage means the use of the fewest possible number of field operations to prepare the soil for planting seeds. A reduction in the number of trips over a field in preparing a seedbed will obviously save time, labor and production costs. But the question remains will these savings be offset by a reduction in yield?

McGahen's paper titled "Minimum Tillage For Corn" undertook to answer this question as well as how important the other benefits really are. Are the advantages of improved soil structure and soil and water conservation, reduced weed control problems and increased soil temperatures gained with minimum tillage enough to overcome the disadvantages?

McGahen said his interest in the problem stemmed from the growing concern in the factors which seemed to be limiting yields, plus the efficiency aspects of minimum tillage.

He cited research data from all 48 states which showed the greatest limiting factor in corn yields as low fertility which accounted for limiting production in 16 per cent of the projects. Rainfall was the limiting factor in 14 per cent of the cases and plant population figured in reduced yields in 13 per cent of the trials.

In fourth position in the list of limiting factors was poor cultural practices which was a factor in 11.7 per cent of the research plots.

Poor fertility can be corrected by soil testing and application of fertilizer. Rainfall can be supplemented by irrigation, and plant population can be adjusted easily.

Tillage is one of the poor cultural practices contributing to lowered yields, McGahen said.

He listed five types of minimum tillage studied:

1. Limited, plowing followed by not more than one discing or harrowing and one cultivation.

2. Wheel track planting, no tillage after plowing. (a) tractor wheels make the seedbed. (b) planter wheels make the seedbed.

3. Plow plant planter is usually attached to the plow. Backer wheels of the planter

make the seedbed.

4. Mulch tillage field is disced or chisled and then planted.

5. Till planter consists of a set of shallow sweeps, deep sweeps, a rotary hoe and a planter unit.

McGahen, during work he

had done at Manheim as well.

Plowing at least once during a four year rotation resulted in higher yields than previous rotations with the prevailing secondary seedbed preparation appeared to be not only wasteful of time and power, but actually from the standpoint of corn yields.

In two thirds of the tests he found, minimum tillage and power, but actually from the standpoint of corn yields. (Continued on Page 14)



OFFICERS OF THE LANCASTER COUNTY Ayrshire-Jersey-Brown Swiss 4-H dairy club after their election Monday night are as follows: Seated L. to R., R. Edwin Harnish, Christiana R1, secretary; Joyce Kreider, Quarryville R1, president and representative to County 4-H Council; Jean Kreider, Quarryville R1, treasurer. Standing, L. to R., Barbara Kupp, Manheim R3, song leader; Charlotte Weidler, Quarryville R1, news reporter; Marilyn Harnish, Quarryville R2, vice president, and James Esbenshade, Quarryville R2, game leader. Not present for picture was Lucille Kreider, song leader.

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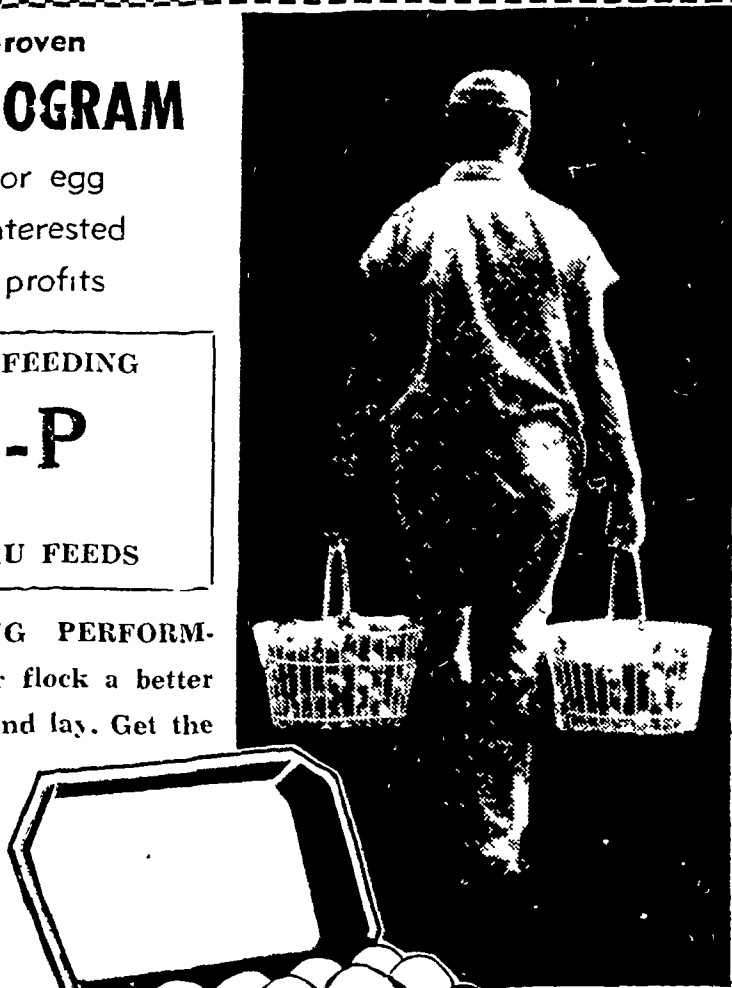
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