

June 27, 2003

FEFO 03-11

NEW MACHINERY COST ESTIMATES AND PLANTING COST

New machinery cost estimates were released on *farmdoc* in June 2003. These cost estimates are calculated using an economic-engineering approach based on buying new equipment and holding all machines, except combines, for ten years (combines are held for seven years). Estimates for tractor, field, planting, forage, and combining operations are in the management section of *farmdoc* (http://www.farmdoc.uiuc.edu/manage/machinery/cost_estimates.html). In addition, online *Machinery Costs Tools* are available that allow users to change input so that costs more closely reflect operations on a particular farm.

Costs of Split-row Planters

A new planting operation was added to the 2003 cost estimates to account for costs on split-row planters. The split-row planter's costs are based on a "conventional" machine that has 30-inch rows for planting corn. Rows are added when planting soybeans so that row spacing is reduced to 15 inches. The split-rows are only used on soybeans so that additional costs associated with the split-rows are allocated only to soybean acres. Hence, the reported costs for split-row planters are only applicable to soybean acres. Costs for corn acres are based on a "conventional" machine.

The publication lists the costs for an 8-row conventional planter as \$8.10 per acre and the costs of a split-row planter as \$11.80 per acre (see Panel A of Table 1). These costs are calculated assuming that the 8-row planter covers 800 corn and soybean acres and the split-rows are used on 400 soybean acres (i.e., an assumption of a 50-50 corn-soybean rotation is made when calculating acres). The split-row planter includes costs for the base unit (\$27,600 of new investment) plus costs for the split-rows (\$12,200 of new investment).

An 800 acre farm that has a split-row planter would use the conventional planter estimate for corn (\$8.10 per acre) and the split-row planter for soybeans (\$11.80 per acre). Average costs over the entire 800 acres are \$9.95 (i.e., $(8.10 + 11.80) / 2$).

Planting System Costs

Costs contained within these publications can be used to compare the costs of different planting systems. For example, Panel B show costs for planting equipment that is typically used on a 1,200 acre farm planting 600 acres of corn and 600 acres of soybeans. Based on estimates in



Table 1. Per Acre Costs for Different Planters and Drills, Illinois, 2003.

	Costs Per Acre	Acres Covered
Panel A. 8-row planter, 15-foot drill ¹		
Conventional planter	\$8.10	800
Split-row planter	11.80	400
Grain drill	10.20	400
Conventional planter (reduced acres) ²	10.80	400
Panel B. 12-row planter, 25-foot drill ³		
Conventional planter	\$7.70	1200
Split-row planter	10.90	600
Grain drill ²	9.70	600
Conventional planter (reduced acres) ²	10.68	600
Panel C. 16-row planter ³		
Conventional planter	\$7.20	1600
Split-row planter	10.80	800

¹Unless otherwise noted, costs in Panel A are taken from Table 1 of *Machine Cost Estimates: Field Operations*, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, June 2003, available at:
http://www.farmdoc.uiuc.edu/manage/machinery/cost_estimates.html.

²Calculated using the online *Machine Cost Tool* at *farmdoc* :
http://www.farmdoc.uiuc.edu/manage/machinery/field_calculation_choice.html.
Defaults are used except for the acres input. The acres input is given by the value in the "Acres Covered" column.

³Unless otherwise noted, costs in this panel are taken from Appendix Table 1 of *Machine Cost Estimates: Field Operations*, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, June 2003, available at:
http://www.farmdoc.uiuc.edu/manage/machinery/cost_estimates.html.

Panel B, the costs of the following three planting systems are:

1. Plant both corn and soybean acres with a 12-row planter having 30-inch rows. Costs for all corn and soybean acres are based on the conventional planter and equal \$7.70 (Panel B of Table 1).
2. Plant corn with a 12-row planter and plant soybeans with split-rows. In this case, per acre costs for corn are \$7.70 (Panel B of Table 1), the costs associated with the conventional planter. Per acre costs for soybeans are \$10.90, the costs associated with the split-row planter. Average costs over all corn and soybean acres equal \$9.30.
3. Plant corn with a 12-row planter and plant soybeans with a drill. The costs of using a conventional 12-row planter for 600 corn acres are estimated at \$10.68. This estimate was obtained using *Machinery Cost Tool* available online at *farmdoc* (see http://www.farmdoc.uiuc.edu/manage/machinery/field_calculation_choice.html). The *Tool* contains defaults used for calculating costs for a 12-row planter covering 1,200 acre. The 1,200 acres covered default was changed to 600 acres in order to arrive at per acres costs of \$10.68. The average costs over all corn and soybean acres are the average of the corn and soybean costs and equal \$10.19.

Planting soybeans with a split-row planter or a drill is more expensive compared to planting all acres with a conventional planter. This occurs primarily because the system with only the conventional planter has lower investment than the other systems. Most likely, the additional costs associated with the split-row or drill systems would have to result in higher yields before the split-row or drill systems are economical compared to the one planter system.

Closing Comments

New machinery cost estimates have been released. These costs are useful for a number of purposes including setting custom rates and examining planting costs. The costs will vary depending on inputs used in calculating costs. New Online *Machinery Cost Tools* allow users to change inputs, thereby tailoring cost estimates more closely to match a particular farming operation.

These costs often are used to set custom rates. When used for this purpose, it is important to remember that the estimates only include costs. An additional margin should be built in to cover profit.

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