

Tillage Custom Rates

BMP CHALLENGE generally uses custom rates from a Purdue University program called WinMax, available for free online at <http://www.agry.purdue.edu/max/>. WinMax has a fairly complete listing of calculated costs for tillage practices, among others. However, local costs may vary and participants or crop advisors may ask for permission to use other custom rates.

Below is a comparison of custom rates from several sources, including the WinMax program, Iowa State University, the University of Minnesota and Ohio State University. Although these custom rates are available, BMP CHALLENGE asks that custom rate selections be made from only one location for all calculations.

The following rates comparisons are intended to supply the trainer, crop advisor, farmer or other interested person with information showing the relative consistency of most calculations. For more detailed lists of information, please see the full custom rate sheets, included.

2006 WinMax versus 2006 Iowa State University Custom Rates

| Tillage Description | | Rate Comparisons | | | Rate Difference |
|-------------------------|----------------------|------------------|---------|-----------------|-----------------|
| Max Name | IA Name | Max Rate | IA Rate | IA Range | (StDev) |
| Shred (rotary of flail) | Chopping Cornstalks | \$ 7.86 | \$ 8.00 | \$5.00 - 12.00 | \$ 0.10 |
| Plow | Plowing, moldboard | \$ 10.79 | \$12.40 | \$9.50 - 15.10 | \$ 1.14 |
| Chisel (4" points) | Plowing, chisel | \$ 11.09 | \$11.80 | \$9.00 - 15.00 | \$ 0.50 |
| Chisel | Disk/chiseling | \$ 10.60 | \$12.50 | \$9.50 - 14.00 | \$ 1.34 |
| Subsoiler | Subsoiling (8-15") | \$ 13.23 | \$13.85 | \$9.70 - 18.00 | \$ 0.44 |
| V-Ripper | V-rip (> 15") | \$ 10.11 | \$15.10 | \$11.00 - 21.00 | \$ 3.53 |
| N/A | V-rip w/ tandem disk | -- | \$14.85 | \$12.00 - 18.00 | -- |
| Disk harrow (tandem) | Disking, tandem | \$ 9.45 | \$ 9.05 | \$6.00 - 14.00 | \$ 0.28 |

| | | | | | |
|--------------------------------|-------------------------|----------|---------|----------------|---------|
| Disk (offset) | Disking, offset | \$ 8.09 | \$10.60 | \$8.50 - 15.00 | \$ 1.77 |
| Spike tooth harrow | Harrowing | \$ 4.37 | \$ 5.75 | \$4.00 - 8.00 | \$ 0.98 |
| Soil finisher | Soil finishing | \$ 6.06 | \$ 9.20 | \$6.50 - 12.50 | \$ 2.22 |
| Cultivate (field) | Field cultivating | \$ 8.12 | \$ 8.45 | \$5.50 - 12.00 | \$ 0.23 |
| N/A | Rock Picking | -- | \$11.30 | \$10 - 12.50 | -- |
| Cultivate (rows) | Cultivating | \$ 6.95 | \$ 7.50 | \$5.00 - 10.00 | \$ 0.39 |
| Cultivate (ridge-till) | Cultivating, ridge-till | \$ 10.01 | \$10.00 | \$8.50 - 11.00 | \$ 0.01 |
| Rotary hoe | Rotary hoeing | \$ 5.29 | \$ 5.70 | \$4.00 - 8.00 | \$ 0.29 |
| Strip-till w/ deep-placed fert | N/A | \$ 10.21 | -- | -- | -- |
| | | | | Average | \$ 0.94 |

2006 Winmax versus 2005 University of Minnesota Custom Rates

| Tillage Description | | Rate Comparisons | | Rate Difference |
|-------------------------|-------------------------|------------------|----------|-----------------|
| Max Name | MN Name | Max Rate | MN Rate | (StDev) |
| Shred (rotary of flail) | Stalk Shredder | \$ 7.86 | \$ 7.02 | \$ 0.59 |
| Plow | Moldboard Plow | \$ 10.79 | \$ 12.67 | \$ 1.33 |
| Chisel (4" points) | Chisel Plow | \$ 11.09 | \$ 4.94 | \$ 4.35 |
| Chisel | Chisel Plow, Front Disk | \$ 10.60 | \$ 7.30 | \$ 2.33 |
| Subsoiler | Subsoiler | \$ 13.23 | \$ 14.17 | \$ 0.66 |
| V-Ripper | V-Ripper | \$ 10.11 | \$ 7.22 | \$ 2.04 |

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|---------------------------------------|---------------------------------|-----------------|-----------------|----------------|
| N/A | Comb Disk & V-Ripper | -- | \$ 10.72 | -- |
| Disk harrow (tandem) | Tandem Disk | \$ 9.45 | \$ 4.65 | \$ 3.39 |
| Disk (offset) | Offset Disk | \$ 8.09 | \$ 7.48 | \$ 0.43 |
| Spike tooth harrow | Roller Harrow | \$ 4.37 | \$ 3.74 | \$ 0.45 |
| Soil finisher | Disk, Field Cult Finish | \$ 6.06 | \$ 5.80 | \$ 0.18 |
| Cultivate (field) | Field Cultivator | \$ 8.12 | \$ 2.88 | \$ 3.71 |
| N/A | N/A | -- | -- | -- |
| Cultivate (rows) | Cultivator | \$ 6.95 | \$ 3.55 | \$ 2.40 |
| Cultivate (ridge-till) | Cultivator High Residue | \$ 10.01 | \$ 5.31 | \$ 3.32 |
| Rotary hoe | Rotary Hoe | \$ 5.29 | \$ 1.46 | \$ 2.71 |
| Strip-till w/ deep-placed fert | N/A | \$ 10.21 | -- | -- |
| | | | Average | \$ 1.99 |

2006 WinMax versus Ohio State University Custom Rates

| Tillage Description | | Rate Comparisons | | | Rate Difference |
|--------------------------------|-----------------------|------------------|-----------------|-----------------------|-----------------|
| Max Name | OH Name | Max Rate | OH Rate | OH Range | (StDev) |
| Shred (rotary of flail) | Stalk Chopper | \$ 7.86 | \$ 8.45 | \$4.44 - 12.50 | \$ 0.42 |
| Plow | Moldboard Plow | \$ 10.79 | \$ 14.75 | \$9.06 - 20.42 | \$ 2.80 |
| Chisel (4" points) | Chisel Plow | \$ 11.09 | \$ 13.15 | \$8.47 - 17.35 | \$ 1.46 |
| Chisel | Disk Chisel | \$ 10.60 | \$ 13.05 | \$8.76 - 17.35 | \$ 1.73 |

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|---------------------------------------|---------------------------------|----------|----------|------------------------|---------|
| Subsoiler | Sub-soiling | \$ 13.23 | \$ 16.35 | \$10.11 - 22.59 | \$ 2.21 |
| V-Ripper | V-Ripping | \$ 10.11 | \$ 15.85 | \$11.00 - 20.73 | \$ 4.06 |
| Disk harrow (tandem) | N/A | \$ 9.45 | -- | -- | -- |
| Disk (offset) | N/A | \$ 8.09 | -- | -- | -- |
| Spike tooth harrow | Harrow | \$ 4.37 | \$ 8.80 | \$4.00 - 13.62 | \$ 3.13 |
| Soil finisher | N/A | \$ 6.06 | -- | -- | -- |
| Cultivate (field) | N/A | \$ 8.12 | -- | -- | -- |
| Cultivate (rows) | Conventional Cultivation | \$ 6.95 | \$ 8.25 | \$5.00 - 12.07 | \$ 0.92 |
| Cultivate (ridge-till) | N/A | \$ 10.01 | -- | -- | -- |
| Rotary hoe | Rotary Hoeing | \$ 5.29 | \$ 6.20 | \$5.00 - 12.07 | \$ 0.64 |
| Strip-till w/ deep-placed fert | Strip Till | \$ 10.21 | \$ 15.35 | \$12.85 - 17.84 | \$ 3.63 |
| | | | | Average = | \$ 2.10 |

Custom Rate Comparison, All

| Tillage Description | | | | Rate Comparisons | | | | | | Rate Difference |
|--------------------------------|-------------------------|-------------------------|--------------------------|------------------|---------|-----------------|---------|---------|-----------------|-----------------|
| Max Name | IA Name | MN Name | OH Name | Max Rate | IA Rate | IA Range | MN Rate | OH Rate | OH Range | (StDev) |
| Shred (rotary or flail) | Chopping Cornstalks | Stalk Shredder | Stalk Chopper | \$ 7.86 | \$ 8.00 | \$5.00 - 12.00 | \$ 7.02 | \$ 8.45 | \$4.44 - 12.50 | \$ 0.60 |
| Plow | Plowing, moldboard | Moldboard Plow | Moldboard Plow | \$10.79 | \$12.40 | \$9.50 - 15.10 | \$12.67 | \$14.75 | \$9.06 - 20.42 | \$ 1.63 |
| Chisel (4" points) | Plowing, chisel | Chisel Plow | Chisel Plow | \$11.09 | \$11.80 | \$9.00 - 15.00 | \$ 4.94 | \$13.15 | \$8.47 - 17.35 | \$ 3.64 |
| Chisel | Disk/chiseling | Chisel Plow, Front Disk | Disk Chisel | \$10.60 | \$12.50 | \$9.50 - 14.00 | \$ 7.30 | \$13.05 | \$8.76 - 17.35 | \$ 2.60 |
| Subsoiler | Subsoiling (8-15") | Subsoiler | Sub-soiling | \$13.23 | \$13.85 | \$9.70 - 18.00 | \$14.17 | \$16.35 | \$10.11 - 22.59 | \$ 1.36 |
| V-Ripper | V-rip (> 15") | V-Ripper | V-Ripping | \$10.11 | \$15.10 | \$11.00 - 21.00 | \$ 7.22 | \$15.85 | \$11.00 - 20.73 | \$ 4.12 |
| N/A | V-rip w/ tandem disk | Comb Disk & V-Ripper | N/A | -- | \$14.85 | \$12.00 - 18.00 | \$10.72 | -- | -- | \$ 2.92 |
| Disk harrow (tandem) | Disking, tandem | Tandem Disk | N/A | \$ 9.45 | \$ 9.05 | \$6.00 - 14.00 | \$ 4.65 | -- | -- | \$ 2.66 |
| Disk (offset) | Disking, offset | Offset Disk | N/A | \$ 8.09 | \$10.60 | \$8.50 - 15.00 | \$ 7.48 | -- | -- | \$ 1.65 |
| Spike tooth harrow | Harrowing | Roller Harrow | Harrow | \$ 4.37 | \$ 5.75 | \$4.00 - 8.00 | \$ 3.74 | \$ 8.80 | \$4.00 - 13.62 | \$ 2.25 |
| Soil finisher | Soil finishing | Disk, Field Cult Finish | N/A | \$ 6.06 | \$ 9.20 | \$6.50 - 12.50 | \$ 5.80 | -- | -- | \$ 1.89 |
| Cultivate (field) | Field cultivating | Field Cultivator | N/A | \$ 8.12 | \$ 8.45 | \$5.50 - 12.00 | \$ 2.88 | -- | -- | \$ 3.12 |
| N/A | Rock Picking | N/A | N/A | -- | \$11.30 | \$10 - 12.50 | -- | -- | -- | -- |
| Cultivate (rows) | Cultivating | Cultivator | Conventional Cultivation | \$ 6.95 | \$ 7.50 | \$5.00 - 10.00 | \$ 3.55 | \$ 8.25 | \$5.00 - 12.07 | \$ 2.08 |
| Cultivate (ridge-till) | Cultivating, ridge-till | Cultivator High Residue | N/A | \$10.01 | \$10.00 | \$8.50 - 11.00 | \$ 5.31 | -- | -- | \$ 2.71 |
| Rotary hoe | Rotary hoeing | Rotary Hoe | Rotary Hoeing | \$ 5.29 | \$ 5.70 | \$4.00 - 8.00 | \$ 1.46 | \$ 6.20 | \$5.00 - 12.07 | \$ 2.17 |
| Strip-till w/ deep-placed fert | N/A | N/A | Strip Till | \$10.21 | -- | -- | -- | \$15.35 | \$12.85 - 17.84 | \$ 3.63 |
| | | | | | | | | | Average = | \$ 2.44 |

Further Information

For more information on any of the above listed rates, or for source information please visit the following websites.

WinMax

<http://www.agry.purdue.edu/max/>

Iowa State University Extension *

<http://www.extension.iastate.edu/agdm/crops/html/a3-10.html>

University of Minnesota Extension Service

www.extension.umn.edu/distribution/businessmanagement/DF6696.pdf

Ohio State University Extension

<http://ohioline.osu.edu/ae-fact/pdf/0011.pdf>

or

<http://aede.osu.edu/Programs/FarmManagement/>

* 2007 numbers currently available, with only minor changes in averages and ranges.