FOR RURAL AND URBAN FAMILIES

2019 Iowa Farm Custom Rate Survey
Alejandro Plastina, Extension Economist & Ann Johanns, Extension Program Specialist

Many Iowa farmers hire some custom machine work in their farm business or perform custom work for others. Others rent machinery or perform other services. The Iowa Farm Custom Rate Survey was mailed to 349 people by the U.S. Postal Service and 183 people via email in early February 2019. The information below is based on 121 responses and 3,716 custom rates provided by Iowa farmers, custom operators, and farm managers. Twenty percent of the respondents perform custom work, 10 percent hire work done, 47 percent indicated doing both, 2 percent indicated doing none, and 21 percent did not indicate whether they perform or hire custom work.

For each type of work, the average rate from the survey, the median, and the range are shown. The average is calculated as the simple average of all responses. The median is the middle number among the ordered responses (from smallest to largest). The reported range excludes the minimum and the maximum values to avoid reporting extreme values.

The reported rates are expected to be charged or paid in 2019, and they include fuel and labor (unless otherwise noted). The average price for diesel fuel was assumed to be $2.94 per gallon. This rate schedule is intended only as a guide. Actual custom rates may vary according to availability of machinery in a given area, timeliness, operator skill, field size and shape, crop conditions, and the performance characteristics of the machine being used. Rental rates for some machinery items are shown in the last section of this report, along with a worksheet for estimating rental rates for other items. Here are some examples:

<table>
<thead>
<tr>
<th>Tillage</th>
<th>Average Charge</th>
<th>Median Charge</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disk/chiseling, / acre</td>
<td>$19.70</td>
<td>$19.50</td>
<td>$14.25 - 25.00</td>
</tr>
<tr>
<td>Vertical tillage, / acre</td>
<td>$18.55</td>
<td>$18.00</td>
<td>$12.00 - 26.00</td>
</tr>
<tr>
<td>Strip tillage, / acre</td>
<td>$21.55</td>
<td>$20.00</td>
<td>$18.00 - 27.00</td>
</tr>
<tr>
<td>Subsoiling (8 to 15 in. deep), / acre</td>
<td>$22.85</td>
<td>$22.00</td>
<td>$17.00 - 28.50</td>
</tr>
<tr>
<td>V-ripping (over 15 in. deep), / acre</td>
<td>$23.45</td>
<td>$23.00</td>
<td>$17.00 - 30.00</td>
</tr>
<tr>
<td>V-ripping with tandem disk, / acre</td>
<td>$24.60</td>
<td>$23.55</td>
<td>$16.00 - 36.00</td>
</tr>
</tbody>
</table>

For a complete report go to [https://www.extension.iastate.edu/agdm/crops/pdf/a3-10.pdf](https://www.extension.iastate.edu/agdm/crops/pdf/a3-10.pdf) or contact your local Extension office.
Maple Syrup Production

Maple syrup (a uniquely American crop) is one of our oldest agriculture commodities. The Northeast US and Canada are at the center of the maple world. Iowa has a few commercial producers in the Northeastern part of the state. The number of hobby "sugar makers" continues to grow, in part, because there are now several equipment manufacturers who specialize in producing hobby scale maple evaporators as well as the small quantities of essential components needed to make high quality syrup (taps, buckets, etc). More information on maple supplies can be found online at www.forestry.iastate.edu.

Making maple syrup is a very labor intensive process. Each potential producer must carefully analyze their individual situation and scale production accordingly. The best advice is to start small with minimal investments and grow in production size as you learn the maple trade and have a better understanding of all that is involved.

Maple species
The first step along the road to making maple syrup is to identify if you have maples trees that are large enough to tap. Maple syrup can be made from all maple species (sugar maple, black maple, red maple, silver maple and boxelder) but they are not created equally. Sugar and black maple sap has higher sugar concentrations, (2-3%), than silver maple (1.5-1.75%), and box elder (1%). Why does the type of maple species matter? The "Rule of 86" in sugar making states that at 1% sugar concentration you would need to collect and reduce, on average, 86 gallons of raw sap to make one gallon of finished syrup. At 2% sugar concentration you would only need to boil off 43 gallons of sap to make one gallon of syrup. Unless you want to spend days - instead of hours boiling the sap down into syrup, you should always aim to tap the sweetest trees available!

SAP COLLECTION
After identifying your maple trees, the next step in sap collection is to purchase spiles (taps, spouts) and buckets. These should be sanitized with a weak clorox solution prior to use and rinsed thoroughly. If you are using the "old" style of spiles they will require a 7/16th inch drill bit, where as the new "health" spiles are smaller and only require a 19/64th inch drill bit. Trees are normally tapped on the south or west side of the tree trunk to take advantage of the warming that occurs as the sun hits the bark. The hole should be drilled at a slight upwards angle to help the sap flow from the tree and 0 20 40 60 80 123456 Gallons of Raw Sap Sap Concentration oBrix (% sugar) Sap needed to produce 1 gallon of finished syrup Sugar Maple Silver Maple should only extend 1.5 - 2 inches into the tree. If you use a cordless drill, be sure to go slow and use a slow speed wood bit. Too fast and you can actually burn, or cauterize, the inside of the tap hole, which can greatly reduce the volume of sap you will get. If your tree has been tapped in the past Do Not place a new tap hole directly above or below the old hole. It is recommended that you move two inches to the right or left and two inches up or down to tap "new" white wood. Each year, continue to move around the tree in the same direction and you will always tap good sap producing areas.

Tapping Guidelines:
1 tap for trees 10-15 inches in diameter,
2 taps for 16-20 inch trees,
3 taps for 21-25 inch trees and,
4 taps for trees ≥ 25 inches in diameter.

Trees are usually tapped before the sap begins to run; thus care needs to be taken when you drive the spile into the frozen tree. Driven too hard, the tree's cambial layer will crack causing a loss of sap and a delay in the healing process. Sap collection generally begins in Iowa in late February or early March and lasts for approximately three weeks. The season may be shorter if you are tapping silver maple trees, which have a tendency to break bud and begin to grow before sugar maples. No matter what species of maple tree you tap, once a tree breaks bud, the chemistry of the sap changes and the syrup will have an "off" flavor. This flavor is commonly referred to as "buddy" syrup. Once this happens, the season is over.
Spring Manure Issue for Small Unpermitted Dairies and Open Beef Feedlots
Angela Rieck-Hinz, ISU Extension Program Specialist

Spring is often a sloppy, wet, muddy scene on Iowa dairies and beef feedlots. While pastures may be greening up with the sun and moisture, snowmelt and rain runoff from cow yards and farmsteads can cause some challenges for manure management. This is the time of year you should consider spending some time doing a self assessment of your cow yards, feedlots, manure storage structures, stockpiles, manure loading areas and feed storage areas to make sure that manure nutrients and effluent from feedstuffs is not reaching a water of the state.

Best Management Practices Dairy and beef feedlot producers should employ all best management practices to reduce off-site movement of nutrients from feedlots, cow yards, manure stockpiles and feed storage areas.

- Divert clean water from entering the cow yard or open lot with use of gutters for roofs, or terraces or clean water diversions for surface water.
- Scrape lots frequently to avoid a build-up of manure solids
- Carefully locate stockpiles and mortality compost piles to prevent runoff.
- Keep feedstuffs dry. Prevent runoff of silage effluent
- Clean-up spilled manure, feed, silage and bedding. For the complete article go to http://www.agronext.iastate.edu/immag/info/springmanureissues.pdf

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Preparing Garden Soil for Spring Planting
Richard Jauron, ISU Extension Horticulturalist

AMES, Iowa – Although snow is on the ground in much of Iowa, spring is upon us. It’s time to think about planting gardens, but before that happens, proper care must be taken to ensure the soil is ready for growth. That means fertilizing soil, testing it and, perhaps, applying materials like lime.

To determine the garden’s fertility needs, submit a soil sample to a soil testing laboratory in fall or early spring. Apply and incorporate the recommended type and amount of fertilizer into the top 6 to 8 inches of soil prior to planting. If the fertility level of the soil is unknown, apply and incorporate one pound of 10-10-10 or a similar analysis fertilizer per 100 square feet.

Advertisements for gypsum sometimes claim that gypsum will help loosen heavy, clay soils and improve soil drainage. However, the addition of gypsum to lawns and gardens in Iowa is of little benefit. Gypsum is chiefly used to amend sodic soils. Sodic soils are found mainly in arid regions of the western United States.

Core aeration is the best way to improve growing conditions for lawns established on clay soils. The core aerator should remove soil cores that are approximately three-fourths of an inch in diameter and 3 inches long. There should be 20 to 40 holes per square foot. April and September are the best times to aerate lawns in Iowa.

Vegetable and flower gardens can be improved by applying and incorporating organic matter, such as compost, well-rotted manure, or sphagnum peat moss, into the soil. Work the organic matter into the top 8 to 12 inches of soil.
Custom Farming: An Alternative to Leasing
By William Edwards, retired Extension Economist

Do you have the labor and machinery capacity to farm more acres, but do not want to lease more land? Would you like to reduce the financial risk exposure that you are carrying on leased crop land? Have you reached the payment limitation on one or more types of USDA commodity payments?

Are you a farm owner who does not want to invest in a full line of machinery? Are you fully employed away from the farm or retired?

An alternative to leasing farmland is custom farming. The custom operator agrees to perform all the machine operations on the owner’s land in exchange for a set fee or rate. The landowner pays for all seed, chemicals, and other inputs, and keeps all of the crop and commodity payments.

One obvious advantage to the custom operator is that little or no additional operating capital is needed. Fuel, lubrication, and repairs are usually the only added costs. In addition, custom farming offers a fixed return. Although the possibility of higher repair bills poses some risk, this is minor compared with the price and yield risks faced by a tenant. In a good year, of course, profits from custom farming will be smaller than under a conventional lease, but this is a common trade-off for reducing risk.

Landowners find advantages to custom farming as well. Owners with small acreages can make most of the production and marketing decisions without investing in a full line of machinery. There are no lease payments to collect, since the owner receives all of the crop. The owner would usually be considered a material participant for tax purposes, and would be entitled to all government payments.

Responsibilities
Although the concept of a custom farming agreement is simple, close communication between operator and owner is essential. First, an accurate count of the number of acres to be farmed and their location should be agreed upon and recorded. Soil maps and field measurements available from the Farm Service Agency are helpful. A monitor on the planter can be used to estimate the number of tillable acres.

Second, the field operations to be performed need to be agreed upon. This will depend on the crop, field conditions, and conservation practices to be followed. The number and timing of operations can be left somewhat flexible, in order to adjust for varying weather and pest conditions. The agreement can specify how much freedom the custom operator has to modify the original plan, but communication with the owner is important. The operator may have the added responsibility to monitor weeds and insects throughout the summer, and suggest actions to combat them.

Time of harvesting should be a mutual decision between owner and operator. The moisture level of the crop must be checked closely. If the custom operator also has crops to harvest, varieties with different maturities should be used, to avoid harvesting bottlenecks. Some contracts call for the custom operator to take charge of drying and handling grain into storage, as well. Even if this is done with the owner’s equipment, the operator can be paid a fixed rate per bushel for managing the drying and storage facilities.

Contracts
In all cases it is advisable to prepare a written contract. This doesn’t need to be an elaborate legal document. Simply discuss and record the important points. This can avoid misunderstandings later, and provide evidence of the nature of the agreement for income and estate tax purposes. For further clarification the contract can specify that the operator is an independent contractor, not an employee, partner, or tenant of the owner. This limits the liability of the landowner. Timing of payments is negotiable, but many custom operators prefer to get paid at least twice a year, following spring operations and fall harvest. Summer weed control and hay harvesting operations may make a third payment desirable. The operator should submit a written itemized statement of work completed, dates, acres, and payment rates to the owner. The agreement may require payment to be made within a specified period after the statement is submitted.

Some contracts call for a single fixed rate per acre for all operations. However, many operators prefer to charge a separate rate for each operation performed. Many different combinations of tillage and weed control operations are possible. Conditions such as terraces, small and irregular fields, or special weed problems may justify a higher rate. Special factors such as timeliness, machine performance, and operator skill also can command higher custom rates. Some operators prefer to charge by the hour for harvesting, mowing, and spraying weeds. Drying charges are usually based on the number of bushels handled, and hauling rates typically vary with distance, as well.

For the full article and a sample “custom Farming Contract” go to https://www.extension.iastate.edu/agdm/crops/pdf/a3-15.pdf
Didn’t get fall tillage completed, save money this spring
Dr Mark Licht is an assistant professor and extension cropping systems specialist with Iowa State University Extension and Outreach

The fall of 2018 was challenging for most farmers. It started with rainfall beginning in early September as the corn and soybean crop was maturing. While a good portion of the crop was harvested, rain and cold temperatures limited fall tillage operations. This presents an opportunity to save money on input costs this spring.

Soybean does not have a yield response to tillage. This is good news. There is no need to spend labor and fuel incorporating the corn residue. On top of that, spring tillage operations are not effective for breaking soil compaction. In fact, the opposite happens in normal spring conditions when soil moisture is plentiful. Spring tillage in wetter conditions leads to smearing of soil from the tillage knives or sweeps and diskng creates a compaction layer while sizing residue.

There may be a need for some spot tillage to fill ruts created during harvest. This should be limited to the areas with ruts in order to fill them in. Shallow tillage is adequate. Deep tillage will likely not reach the full depth of compaction and, because of spring soil moisture, will make the compaction problem worse.

The essential part of no-till planting is to ensure proper function of the planter. This is not different from any other tillage system. Confirm appropriate row unit down pressure, check seed placement depth, and ensure furrow closure. No-tilling corn and soybean does require more finesse but with some patience will provide dividends at harvest.

No-till planting soybean

I have talked to a couple farmers who have experience with no-tillage planting. It was unanimous that any planter purchased in the last 20 year can plant soybean into corn residue without any trouble, especially if the planter already has row cleaners. Nearly all planters have the ability to ensure appropriate down pressure and seed depth placement. Research from across Iowa shows that soybean yield is not influenced by tillage system. Therefore, no-till planting soybean into corn residue will yield similar to other tillage systems but also result in high economic returns.

No-till planting corn into soybean residue

Since soybean residue is fragile and less abundant than corn residue, today’s planters can easily move through the field with little to no reduction in typical planting speed. Row cleaners should be set to ‘tickle’ the soil which will easily move soybean residue out of the row. Using injected spring nitrogen to prepare a seedbed similar to strip-tillage is a good option but should be conducted 7 to 14 days ahead of planting and ideally have a gentle rain to avoid burning corn seedling roots.

Planting corn into corn residue

Planting corn into corn residue is a more complicated than no-tillage planting corn into soybean residue. In this situation, light tillage such as a rotary harrow or vertical tillage implement may be necessary. It is going to be really important to use row cleaners to move residue out of the row. Having the ability to use starter fertilizer can help lessen early season growth challenges often associated with corn following corn. If fall anhydrous was delayed, using RTK can be an effective way to form a tillage zone similar to strip-tillage. If doing this, be cautious of high nitrogen rates burning corn seedling roots. Waiting 7 to 14 days between anhydrous application and planting (and a gentle rain) along with injecting slightly deeper can reduce issues with this practice.

Tips:

1. Wait for fit soil conditions
2. Like any new practice: start slow to gain confidence that increase the speed
3. Set row cleaners to move residue, not make a trench
4. Check planter performance and seed placement often
Calendar of Events

MARCH
1  Fair Book Cover Contest Due, Butler County Extension, 7 pm
4  4-H Advisory Committee, Butler County Extension, 7 pm
6  CIC: Ornamental and Turfgrass Applicators, Butler County Extension, 9—11:30 am
6  Extension Council Meeting, Butler County Extension Office, 7 pm
9  4-H/FFA Swine Weigh In, Butler County Fairgrounds, 10 - 11 am
13  CIC: Certified Handlers, Butler County Extension, 9 - 11:30 am
17  4-H County Council Meeting, Butler County Extension, 4 pm

APRIL
3  Extension Council Meeting, Butler County Extension Office, 7 pm
7-13 National Volunteer Week
8  DUE: Swine Tagging forms due
8-13 ISU Extension and Outreach Week
11 Pre-Fair Leaders Meeting, Butler County Extension Office, 6:30 pm
17 Finances of Caregiving (1 of 5), Dumont Legion Hall, 508 Main St, Dumont, 1:00-3:00 pm (registration required)
19 Office Closed, Good Friday
27 Sheep/Meat Goat Weigh In, Butler County Fairgrounds, 9 - 11 am