

## Alternative & Specialty Crops

For growers in the Midwest, anything other than corn and soybeans can be considered an alternative crop. Alternative crops such as small grains (oats, wheat, rye, barley) and oilseed crops (canola, safflower, sunflower) can be grown as part of a crop rotation on large acreages. Legume crops such as alfalfa and dry beans can help build soil by hosting bacteria

### Labor Hours for Fruit & Vegetable Specialty Crops

Financial records from 2008 through 2011 were collected from specialty crop farmers in Minnesota as part of a USDA-funded Specialty Crop Block Grant. The records included the farmers' reports of time requirements to plant and manage various crops:

Specialty Crop	Labor Hours/Acre/Year
Apples (avg.)	160
Apples (2011)	236
Blueberries	482
Cantaloupe	161
Grapes	186
Pumpkins	70
Raspberries	138
Strawberries	235
Mixed Vegetables	287
AVERAGE	217 (round: 220)

A charge for these labor hours is already included in the calculation of net income per acre per year for fruit and vegetable specialty crops, so you would not reduce the net income figure based on these hours of labor. The labor hours are shown here to illustrate that the time commitment is high, and there is a risk of not always getting all necessary tasks done in time to prevent crop losses.

#### Reference:

**Minnesota Specialty Crops, An Analysis of Profitability and Performance:** Minnesota Department of Agriculture  
[www.mda.state.mn.us/~media/Files/food/organicgrowing/specialtycrop2012.ashx](http://www.mda.state.mn.us/~media/Files/food/organicgrowing/specialtycrop2012.ashx)

on their roots that “fix” atmospheric nitrogen into the soil.

Alternative crops in the rotation can help reduce disease and insect problems, as well as diversify a farming operation to spread income out more evenly during the year.

“Specialty” crops like fruits, vegetables, and nuts; and even more unusual specialty enterprises like agritourism and aquaculture (fish farming) can be quite profitable. Fresh fruit and vegetables can return up to \$18,000 in net income per acre, or sometimes even significantly more; for example, \$54,000 per acre for heirloom tomatoes. However, these high-dollar estimates do not include marketing costs (1). Based on farmers' financial reports from 2008 through 2011 in Minnesota, average net income was about \$1,800 per acre for mixed vegetable

production and \$2,200 for strawberry production (2), so a figure of \$2,000/acre/year net income for mixed fruit and vegetable production is used in the costs and benefits table.

Specialty crop operations do not require the large acreages typically seen for grain and forage production operations. A hundred acres would be considered a large vegetable farm in the Midwest. A vegetable or fruit operation in which the farmers sell directly to the public typically involves fewer than 30 acres. This presents an opportunity for a larger-acreage farm to split off smaller parcels that could support one or several new specialty crop farmers.

If alternative crops are something that you want to encourage for the future as part of a crop rotation or if you want to foster a beginning specialty crop farm on your land, then farm transition process should include enterprise budgeting to determine likely cash flows of the future farm(s) and the farmer's ability to pay the rental, lease, or sale price that you want for your property. Your farm's distance from potential markets should be a consideration in deciding whether this is a reasonable option to pursue for your property. Direct-marketing farm operations generally do better when they are close to large urban markets, for instance.

Specialty crops are often a riskier option than cash grain crops. While some Federal crop insurance options are available for some specialty crops, the insurance options are generally much better established and easier to use for cash grains. Some specialty crops are more sensitive to weather variations, diseases, and pests than grains are. Crop protection chemicals (herbicides, insecticides, and fungicides) that are available to grain producers are often not labeled for use on specialty crops. Limited available crop protection tools increases the risk of crop yield reduction or loss of salable product. High labor requirements per acre are also a type of risk. With specialty crops on small acreage, the time required per acre is high and failure to get necessary tasks done in the time window required by the crop can lead to losses.

The farm transition plan should include recognition of all these risks as potential costs and barriers to a new farmer starting up an enterprise. It is also true that the potential profits from a specialty crop can be much greater per acre than from a cash grain crop. Rent, lease, or sale terms can be structured so that the retiring farmer or landowner shares in the risks, but also in the potential rewards from a lucrative specialty crop.

## **Uninsured/Under-insured Risk**

For some specialty crops, it is difficult, very costly, or even impossible to obtain crop insurance. Some specialty crop farmers who have access to insurance still choose to assume all of the risk of loss rather than pay high crop insurance premiums.

Specialty crop farmers have risk due to production costs: they may spend money to plant and tend a crop, but not end up with a crop to sell. These figures show only the lost production costs that have to be made up from somewhere if the crop fails; they don't include lost profit that the farmer may have been counting on to cover family living expenses. These costs are estimates that may not apply to a particular farm's situation.

Iowa State University Extension's Ag Decision Maker spreadsheets for vegetable crops show figures based on a 100' x 4' bed. The table below shows expenses per acre. The per-acre figure was calculated thus:

- $100' \times 4' = 400$  square feet
- 1 acre = 43,560 square feet
- $43,560 \text{ square feet} / 400 \text{ square feet} = 108.9$  beds/acre
- Reduce the figure to 100 beds/acre to allow for space between beds or other non-planted areas.

*continued on next page ...*

**Uninsured/Underinsured Risk, continued (pg. 2)**

Pre-harvest production costs per bed x 100 = Pre-harvest production costs per acre:

<b>Specialty Crop</b>	<b>Annual crop pre-harvest production costs per acre</b>
Asparagus	\$5,227
Basil	\$5,149
Specialty Green Beans	\$5,056
Carrots	\$2,831
Eggplant	\$5,951
Garlic	\$9,879
Salad Greens	\$2,013
Snow Peas	\$6,148
Potatoes	\$5,118
Sweet Potatoes	\$3,255
Red Raspberries*	\$2,946
Strawberries*	\$1,902
Cherry Tomatoes	\$6,722
Heirloom Tomatoes	\$6,722
AVERAGE	\$4,923 (round: \$5,000)
*Includes annual production costs plus one-year value of establishment costs. The total establishment costs are amortized over 10 years for raspberries and over three years for strawberries.	

**Reference:**

**Ag Decision Maker, Iowa Fruit and Vegetable Production Budgets. Craig Chase.**  
Iowa State University Extension.

[www.extension.iastate.edu/agdm/crops/html/a1-17.html](http://www.extension.iastate.edu/agdm/crops/html/a1-17.html)

<b>Alternative &amp; Specialty Crops</b>			
	<b>- Column</b>	<b>+ Column</b>	
<b>Qualitative Benefits of the Practice</b>	<b>Cost of Implementation and Potential Income Loss</b>	<b>Potential Income Gain and Reduced/Avoided Costs</b>	<b>Your Judgment: Value Per Acre of This Practice on Your Land</b>
<p>May reduce pesticide use</p> <p>More profitable choice than corn &amp; soybeans on some soils and in some climates (3)</p> <p>Choice of a suitable alternative crop can reduce or eliminate irrigation water use in dry climates. Restricting irrigation benefits water conservation efforts.</p> <p>Increased species diversity on the landscape</p> <p><b>The numbers in this table are broad estimates, and you should adjust them for your farm's conditions.</b></p>	<p>Risk of uninsured or under-insured loss of production costs for specialty fruit or vegetable crop: \$5,000/acre/year (<i>See Uninsured/Under-insured Risk text box</i>)</p> <p>High labor requirements per acre of specialty fruit/vegetable crop; average of 220 hours/acre/year (<i>See Labor Hours text box; 2</i>)</p> <p>Loss of net income from cash grain crop on the alternative or specialty crop acres: \$230/acre/year. (<i>See Cash Grain Profitability Calculation text box on page 4</i>).</p> <p>If dryland acres, loss of income from corn/soybean is about \$80/acre/year (3)</p>	<p>Specialty fruit and vegetables have widely varying income potential.</p> <p>\$2,000/acre/year, net income for mixed fruit and vegetable production; range of \$1,200 to \$18,100 or potentially higher (note high-end figure does not include marketing costs) (1, 2)</p> <p>Heirloom tomatoes, net income of \$54,000/acre/year, not including marketing costs (1)</p> <p>Dry beans, net income of \$200/acre/year (3)</p> <p>Confectionary sunflowers, net income of \$184/acre/year (3)</p>	<p>Potential income gain and costs avoided: +</p> <p>Potential income loss and costs to pay: -</p> <p>Your judgment on value to your farm of qualitative benefits: +</p> <p>Value to society or environment: +</p> <p>Add up the total net value per acre per year:</p> <p>Multiply by number of acres devoted to the practice:</p> <p>Multiply by a time frame (5 years? 10 years?)</p> <p>Total value over time:</p>

## References:

(1) **Ag Decision Maker, Iowa Fruit and Vegetable Production Budgets.** Craig Chase. Iowa State University Extension. [www.extension.iastate.edu/agdm/crops/html/a1-17.html](http://www.extension.iastate.edu/agdm/crops/html/a1-17.html)

(2) **Minnesota Specialty Crops, An Analysis of Profitability and Performance:** Minnesota Department of Agriculture  
[www.mda.state.mn.us/~media/Files/food/organicgrowing/specialtycrop2012.ashx](http://www.mda.state.mn.us/~media/Files/food/organicgrowing/specialtycrop2012.ashx)

(3) **Projected 2012 Crop Budgets, North Central North Dakota.** December 2011. Andrew Swenson and Ron Haugen. North Dakota State University Extension Service.  
[www.ag.ndsu.edu/pubs/agecon/ecguides/nc2012.pdf](http://www.ag.ndsu.edu/pubs/agecon/ecguides/nc2012.pdf) (accessed 8/19/13)

## Further Resources:

**Crop Insurance Options for Specialty, Diversified and Organic Farmers.** 2012. Jeff Schahczenski. Appropriate Technology Transfer for Rural Areas (ATTRA).  
<https://attra.ncat.org/attra-pub/summaries/summary.php?pub=413>

*This publication reviews federally subsidized crop insurance, with special attention to options available to specialty, diversified, and organic farmers. It gives special attention to understanding whole-farm revenue insurance options, which may be of particular interest to growers of diverse specialty and organic crops and livestock.*

**Alternative Agronomic Crops.** 2000. Patricia Sauer and Preston Sullivan. Appropriate Technology Transfer for Rural Areas (ATTRA).  
<https://attra.ncat.org/attra-pub/summaries/summary.php?pub=84>

*This publication provides an overview of the considerations involved in selecting, cultivating, and marketing alternative agronomic crops. Many additional resources for alternative crop information are referenced in this publication.*

**Horticulture Crops as Alternative Crops.** Appropriate Technology Transfer for Rural Areas (ATTRA).  
<https://attra.ncat.org/horticultural.html>

*This series of six publications offers detailed information on production of specific horticultural crops, focusing on sustainable and organic production methods for traditional produce and also introducing a range of alternative crops and enterprises. It includes information on strategies for more sustainable greenhouse and field production of everything from lettuce to trees.*

**Organic Risk Management.** 2010. Editors: Kristine Moncada and Craig Sheaffer. University of Minnesota.

[www.organicriskmanagement.umn.edu/alternative\\_crops.pdf](http://www.organicriskmanagement.umn.edu/alternative_crops.pdf)

*This online manual is intended as a guide for organic and transitioning producers in the Upper Midwest. It includes a lot of good, basic agronomic and soil science information that is useful for non-organic farmers as well.*