

Notes:

The gross income ranges could be higher or lower depending upon the mix of the products sold and the exact combination of markets. Typically, mixed vegetable farms would have three to five different buyers to not rely primarily on one market/buyer. The net income ratio probably varies somewhat between the higher and lower end of the range of gross income. However, marketing costs decrease dramatically as you move from the higher to the lower end of the range. Marketing costs for institutional sales could be 75 percent lower than for direct to consumer sales.

To attain \$30,000 net farm income – approximately 4½ acres at \$19,000 gross income per acre (\$6,650 net income); approximately 7 acres at \$12,000 gross income per acre (\$4,200 net income); and approximately 12 acres at \$7,000 gross income per acre (\$2,450 net income). Equipment needs would be very similar for all farms. However, additional equipment would likely be purchased by the 12 acre farm in lieu of hiring more labor, particularly if it is focusing on six to eight crops. Total capital outlay would be the same for the 4½-7 acre farm, as outlined in the CSA model (land purchase would be more expensive for the 7 acre farm than the CSA model 5 acre farm). Total capital outlay for the larger 7 acre farm would likely be \$20,000 higher to purchase a larger, 65-90 hp tractor and more implements. The increase in land costs would be the major difference between the smaller and larger farms.

3. Individual Fruits (standards):

1-3 fruits per farm (more specialized)

Gross income per acre:

- Strawberries - \$10,000 - \$12,000
- Raspberries - \$4,000 - \$6,000
- Apples - \$5,000 - \$10,000
- Aronia - \$16,000 - \$18,000

Labor as a percentage of production cost:

- Strawberries and raspberries: 50-60%
- Apples: 60-65%
- Aronia berries: 70-80% (hand harvested);
10-20% (mechanical harvested)

Net income ratio: 40%

Equipment needs: 35-60 hp tractor, sprayer and/or other miscellaneous implements (tiller, irrigation systems, etc.)

Notes:

Gross income and labor production costs can vary a great deal with fruits, depending upon if you have u-pick options. U-pick would lower both gross income and cost and, assumingly, the net income ratio would remain in the 40 percent range. Density of planting, varietal differences (some have much higher prices) and marketing outlet (direct to consumer versus institutional or wholesale) also play into where the farmer ends up in the gross income per acre range. Lastly, there is a time lag between when fruit bushes or trees are planted and when they can be harvested: one year after planting for strawberries, three or more for raspberries and aronia berries, and three to seven years for apples.

To attain \$30,000 net farm income – for strawberries, it would take approximately 7 acres at \$11,000 gross income per acre (\$4,400 net income); for raspberries, it would take 15 acres at \$5,000 gross income per acre (\$2,000 net income); for apples, it would take approximately 12½ acres at \$6,000 gross income per acre (\$2,400 net income); and, for aronia berries, it would take approximately 4½ acres at \$17,000 per acre (\$6,800 net income). It is unlikely that anyone would have that many acres of raspberries. Rather, raspberries are typically part of a mix of fruit enterprises consisting of other berries. The market for aronia berries is limited by the number of buyers, so some caution should be taken when calculating an economic return over the life of an aronia bush (up to 20 years) when markets may not exist for that time period. Capital outlay varies somewhat beyond the 35-60 hp tractor that seems to be a staple with fruit and vegetable farms. Aronia berry harvesters are available and can save an enormous amount of time. The ability to share the cost among various berry growers should be analyzed as part of the business planning process.

4. Organic Row Crops (standards):*Gross income per acre:*

- Corn – 150 bushels @ \$9 = \$1,350
- Soybean – 40 bushels @ \$20 = \$800
- Oats with alfalfa – 80 bushels @ \$4 = \$320; plus \$200 for hay and straw; \$520
- Alfalfa – 4 tons @ \$120 = \$480
- Average four-crop gross income per acre = approximately \$790 per acre

Labor as a percentage of total production costs: less than 5% (average of 1.8 hours per acre)*Net income ratio:* 35%**Notes:**

Yields for organic production are typically 15-20 percent less than conventional yields in the same geographic area. Conventional yields for this example were assumed to be 180 bushels for corn and 50 bushels for soybeans. Equipment needs vary somewhat by size of farm, crop rotation utilized, other enterprises involved in (livestock enterprises) and other factors. However, tractor and combine sizes are typically smaller than conventional farms. Organic prices are typically contracted as FOB, the farm indicating the buyer picks up the transportation costs. Intensity of management and timeliness of farming operations are at a higher level than conventional farming. Like the conventional commodity markets, organic grain and forage prices have had significant movement over the past few years. However, organic grain prices seem to keep approximately a 60 percent premium price.

To attain \$30,000 net farm income – the organic producer using this four-crop rotation would need to farm approximately 110 acres at \$790 gross income per acre (\$275 net income).

5. Pasture Poultry (standards):*Gross income per meat animal:*

Sales price of \$2.75 - \$3.50 per pound; average dressed weight of 4½ lbs = \$12.38 - \$15.75

Feed as a percentage of total production costs: 40-45% (higher percentage if feeding organic)*Labor as a percentage of total production costs:* 20-25%*Production costs as a percentage of total costs:*

85-90%

Net income ratio: 15%**Notes:**

To attain \$30,000 net farm income – it would take approximately 14,300 birds sold at \$14.00 per bird (\$2.10 per bird net income). Most pasture poultry producers raise their birds seasonally. Each batch takes approximately eight weeks from start to finish, so three batches would be the limit for most places in Iowa. A typical batch size would be 200 birds divided into four groups, so a production season would provide sales of approximately 2,000 birds given a 20 percent death loss. Pasture poultry, therefore, is unlikely to be a single enterprise. Rather, it is likely to be teamed up with mixed vegetables as the manure from the chickens can be composted for fertility and the meat can be added to a CSA.

Costs for the moveable pens and other structural components are minimal (\$800 - \$1,000) for four smaller pens of 50 each. Processing is assumed to be conducted by a state certified locker plant.

6. High Tunnels – Mixed Vegetables (standards):

March – September usage

Various sizes – 30 x 72 or 2,160 square feet common

Number of crops varies – 8-10 common

Gross income:

- Varies by size of tunnel, utilization of space, etc.
- For a 30 x 72, gross income would be about \$9,600 or \$5.30 per square foot, with an 84% utilization

Labor hours: approximately 100 for everything, but varies by crop mix*Labor as a percentage of production costs:* 40-45%*Net income ratio:* 55% (\$5,300/ 30 x 72 tunnel, or \$2.45 per square foot) – assuming CSA model*Net income ratio:* 40% (\$3,800/ 30 x 72, or \$1.75 per square foot) – assuming farmers market model*Equipment needs:* rototiller (or borrow) and by hand

Notes:

To attain \$30,000 net farm income – approximately six to eight 30 x 72 tunnels would be needed. The number of tunnels is a range because the net income ratio will vary substantially by the marketing outlet chosen; marketing costs could be between \$1,500 (CSA model) and \$3,000 (farmer's market model) per year. One person could easily complete all the tasks within one high tunnel. Given the additional time that could be utilized prior to March and after September, one individual could complete the work in several high tunnels. Total capital outlay for a 30 x 72 is approximately \$7,000 or \$3.24 per square foot. It is possible, based upon the crop mix, to incur a utilization rate of over 100 percent, particularly if you are growing fall crops and harvesting into early December. Moveable high tunnels are becoming more popular, allowing twice the square footage to be utilized. Moveable high tunnels are more expensive, \$16,000 - \$20,000, but if gross revenue can be maintained at \$5.00 per square foot, it could reach \$18,200 or more depending upon the crop mix. With a net income ratio of 55 percent, net income could be \$10,000 per tunnel or more. In general, net income from fixed high tunnels is only slightly less than 1 acre of field ground for mixed vegetables.

7. High Tunnels – Single Crop (standards):

March – September usage

Various sizes – 30 x 72 or 2,160 square feet common

Gross income per tunnel:

- Cucumbers - \$3,000 - \$3,500
- Peppers, Bell - \$4,000 - \$4,500
- Tomatoes - \$9,000 - \$10,000

Labor as a percentage of production cost:

- Cucumbers, Peppers, Bell: 30-35%
- Tomatoes: 40-45%

Net income ratio:

- Cucumbers – often are not profitable after taking into consideration marketing costs
- Bell Peppers – 10% (\$400 per tunnel), assuming institutional markets (\$0.20 per sq ft)
- Tomatoes - 55% (\$5,200 per tunnel), assuming institutional markets (\$2.40 per sq ft)

Equipment needs: rototiller (or borrow) and by hand

Notes:

To attain \$30,000 net farm income – approximately six 30 x 72 tunnels would be needed if tomatoes are grown. Bell peppers and cucumbers are not as profitable and would require a substantially higher number to attain the income goal. Marketing costs are assumed to be \$1,500 per tunnel. Marketing costs per tunnel could be reduced with multiple tunnels as a large percentage of the marketing cost would be transportation. One person could easily complete all of the tasks within one high tunnel. Given the additional time that could be utilized prior to March and after September, one individual could complete the work in several high tunnels. Total capital outlay for a 30 x 72 tunnel is approximately \$7,000 or \$3.24 per square foot. It is possible, based upon the crop mix, to incur a utilization rate of over 100 percent, particularly if you are growing fall crops and harvesting into early December or planting companion crops. Moveable high tunnels are becoming more popular, allowing twice the square footage to be utilized. Moveable high tunnels are more expensive, \$16,000 - \$20,000, but if gross revenue can be maintained at \$5.00 per square foot, it could reach \$18,200 or more depending upon crop mix. With a net income ratio of 55 percent, net income could be \$10,000 per tunnel or more. In general, net income from fixed high tunnels is only slightly less than 1 acre of field ground.

... and justice for all

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