

# AGRICULTURAL ALTERNATIVES

## Red Raspberry Production

Raspberry production can be a good fit for small farms, as a small planting of raspberries can provide significant income and equipment needs are quite modest. Raspberry plantings should fruit for at least five years and occasionally produce for more than ten years. However, raspberries should be considered a “high stakes” crop. Initial investment in a planting is relatively high, good management skills are needed to produce a quality product, and substantial labor is required. Costs involved in establishment are primarily those related to land preparation, planting, and installation of a trellis and irrigation system. Raspberries also have a short shelf life, but demand for raspberries is usually excellent and high prices can be obtained.

Raspberries come in two basic types: red and black. Yellow raspberries are a mutation of red or black raspberries, and purple raspberries are a cross between red and black raspberries. Red raspberries have chilling requirements that limit their production to cooler regions of the United States. An estimated 75 percent of all domestically grown raspberries are of the red variety, and most of these are processed.

Raspberries are produced either in open field or protected culture systems such as high tunnels. This publication is written with the assumption that the crop will be produced in the field. Under high-tunnel production, growers have the potential to produce higher yields and better quality fruit, but they must also consider the significant costs for the tunnel and higher level of management required.

The leading raspberry producing states are Washington, Oregon, and California, with a combined acreage of more than 15,000 acres. Michigan, Pennsylvania, New York, and Ohio are similar to one another in acreage and production (each state has between 400 and 600 acres). Canada is a



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major producer of red raspberries, with most of the production located in British Columbia and Ontario. Red raspberries also are widely produced in northern Europe and the Southern Hemisphere.

## Marketing

Fresh-market raspberries usually are sold in half-pint clamshells (hinged plastic containers). Six basic marketing alternatives are available to the raspberry grower: wholesale markets, cooperatives, local retailers, roadside stands, pick-your-own operations, and processing firms. Because raspberries are so perishable, they are well suited to marketing channels where a short period of time is spent in the “pipeline” from the producer to the consumer, such as roadside stands and pick-your-own operations.

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With the wholesale option, either the grower or a shipper can take the crop to the market. Shippers generally sell and transport the raspberries for a predetermined price. This marketing alternative is subject to the greatest price fluctuations. Marketing cooperatives generally use a daily pooled cost and price, which spreads price fluctuations over all participating producers. Local retailers are another possible market, but you must take the time to contact produce managers and provide high-quality raspberries when stores require them. Roadside stands (either your own or another grower's) and pick-your-own operations provide opportunities to receive higher-than-wholesale prices for your fruit, but you may have some additional expenses for advertising, building and maintaining a facility, and providing service to your customers. With pick-your-own operations, you save on harvest costs, but you must be willing to accept that some of the crop will not be harvested.

Depending on your location, processors may or may not be a marketing option. Traditional processors are less likely to contract with small-acreage growers, and, historically, processing prices have been more volatile than fresh-market prices. Recently, however, there has been an increased interest in locally produced raspberries for their use in fruit wines, which can be an outlet for excess fruit. Fruit can also be frozen for later use in locally produced value-added processed products. For more information on marketing, consult *Agricultural Alternatives: Fruit and Vegetable Marketing for Small-scale and Part-time Growers* and *Agricultural Alternatives: Developing a Roadside Market*.

Prices growers have reported obtaining for fresh-market red raspberries vary tremendously depending on location—from as little as \$1.50 per pound pick-your-own in rural locations, to as high as \$5.00 per ready-picked half-pint clamshell in locations near population centers. Processed raspberry prices in traditional outlets typically have been only one-third to one-half that obtained for fresh-market berries. Potential growers should conduct a quick survey of local prices for red raspberries before establishing their plantings.

## Production Considerations

While high prices can be obtained for red raspberries, these delicate fruits are susceptible to numerous diseases and insects (including spotted wing drosophila, a new invasive fruit fly that infests the fruit), require a great deal of labor for hand-harvesting fresh-market fruit (machine harvest is an option only for berries that will be processed), and have a very short shelf life. Therefore, the production of a good crop from year to year requires careful management.

### Site Selection

Red raspberries grow best on sunny sites with well-drained soil. Poorly drained soils usually have high clay content and low (less than 2 percent) organic matter content. The slope of the site should be no greater than 12 percent. Water may run off of a sloping site, but this does not necessarily mean that the

soil is well drained. The soil pH should be between 6.0 and 6.5. Soil tests should be conducted in the fall before spring planting. Soil test kits can be obtained from your local extension office. Do not use a site that was very recently in sod because it can harbor grubs and wireworms that can damage the raspberry roots. Also, red raspberry plantings should not follow *Verticillium*-susceptible crops, such as peppers, eggplant, tomatoes, potatoes, or strawberries. Soil that has been used to grow these crops should be either cropped for 5 to 8 years with a non-*Verticillium*-susceptible crop or fumigated before planting. Depending on the previous use of the land, a nematode survey may be recommended. If nematodes are present, a cover crop of rapeseed plowed under and used as a green manure may be an option for fumigation. Cover cropping for at least a year with rye or sudangrass is a highly recommended practice that will help control weeds prior to planting the raspberries. The cover crop can also be plowed under to provide additional organic matter, especially in heavier soils.

### Growth Habit

The red raspberry plant has one of two growth habits: summer bearing or everbearing.

- **Summer-bearing (also referred to as floricanefruiting)** are the most common type of raspberry in the bramble family. The individual canes of brambles are biennial, while the root systems are perennial. In the first year of planting, vegetative canes are produced. The following year, these same canes flower and produce fruit. While they are flowering and fruiting, new vegetative canes (“suckers”) are produced from buds on the roots and grow throughout the summer. These canes then bear the next year’s crop. Fruiting canes die shortly after producing that year’s crop. Therefore, a mature raspberry planting has two types of canes: vegetative canes that originated during the current year (primocanes), and fruiting canes that originated during the previous year (floricanes). Fruit usually is harvested in mid-summer. Summer-bearing plants must be pruned by hand during the dormant season.
- **Everbearing (also referred to as primocanefruiting or fall-bearing)** raspberries produce primocanes that are capable of flowering and fruiting in the same year that they are produced. Once the cane reaches its mature length, it begins fruiting at the tip, with progressively lower flower buds breaking on the cane as the season proceeds. Because the canes don’t reach their mature length until mid-summer, fruiting is later than for summer-bearing raspberries. Fruiting usually begins in late August and continues until a hard frost or freeze. The canes of primocane-bearing raspberry plants are usually mowed to the ground every winter because the next year’s crop does not require the previous season’s canes. However, if the canes are not removed, they will produce a small summer crop from previously unbroken fruit buds low on the cane and, hence, are sometimes referred to as “everbearers.”

Some commonly grown cultivars of summer-bearing red raspberries are Boyne (early season), Nova (mid-season), and Taylor (late season). Commonly grown primocane-bearing cultivars are Caroline and Joan J, which begin producing in mid- to late August; and Heritage, which begins producing in early September. The presence of spotted wing drosophila is making production of fall fruit on everbearers exceedingly difficult, so growers are encouraged to choose summer-bearing varieties, which are largely finished fruiting by the time this pest is present.

## Planting

Both summer-bearing and everbearing cultivars readily produce new shoots from the roots (called “suckering”). New plantings are established by taking advantage of the plants’ ability to produce suckers. Red raspberries usually are planted 24 inches apart in rows that are 8 to 12 feet apart. Spacing decisions depend on the size of your equipment. Tissue-cultured plantlets or nursery-matured stock of cultivars appropriate to the site should be purchased from a reputable nursery. Plant in May after the danger of hard frost has passed. Four inches of clean straw mulch (about 2 tons of straw per acre) should be applied immediately after planting. This practice has been shown to greatly increase plant vigor and survival rates. However, straw mulch should be used only during the establishment period because excessive moisture under the mulch of established plantings can increase incidence of root-rotting diseases. Plants will produce many suckers in the first year. Rows should be mowed to keep the row width to about 12 inches at the base of the planting.

## Irrigation

Irrigation is highly recommended and will help ensure a more consistent crop from year to year. Trickle irrigation is greatly preferred over overhead irrigation because it adds water directly to the root zone and does not wet the fruit. Also, very little water is lost from evaporation. More information on irrigation can be found in *Agricultural Alternatives: Irrigation for Fruit and Vegetable Production* and *Agricultural Alternatives: Drip Irrigation for Vegetable Production*.

## Pest Control

Several insects and diseases can injure or destroy raspberries. Therefore, monitoring and controlling pests is important. Some pests, such as spotted wing drosophila, affect the fruit, while others, such as cane borers, attack the plant. Pest management involves many aspects of production, with pesticide application being only one. Try to use all available practices to reduce the potential for disease and insect damage. Many pest problems can be avoided through proper site selection, crop rotation, variety selection, soil treatment, and by planting disease-free plants.

Weeds must be controlled in a raspberry planting. Raspberries have shallow root systems, which puts them at a disadvantage when competing for water and nutrients.

Some weeds also harbor insects and disease. The first steps in weed management are to avoid sites with persistent weed problems and eliminate weeds before planting. Mulch and herbicides can be used to control weeds after establishment. A permanent slow-growing sod such as hard fescue is recommended to suppress weeds between the rows.

## Harvest and Storage

With summer-bearing red raspberries, the first significant crop is usually obtained during the third year after planting. Primocane-bearing plants usually yield a significant crop in the second year. At maturity (about four years old), plants should produce about 5,000 pounds of fruit per acre, though not all will be harvested in pick-your-own fields. Because of the extremely short shelf life of red raspberries, good postharvest practices are essential.

Red raspberries must be picked and handled very carefully. The fruit must be firm, well colored, and insect and rot free. If harvested at the proper time and handled carefully, raspberries will remain in good condition for several days. Because the fruit is fragile, it should be picked and packed directly into containers without further sorting. Pickers must be closely supervised and instructed to harvest only high-quality fruit. The fruit should be harvested at least once every three days, with adjustments made to the picking schedule based on weather conditions.

Proper postharvest handling of raspberries is essential if you are to be a successful marketer. Cooling the berries to remove field heat and improve shelf life is especially important. Harvesting early in the day while temperatures are cool and then precooling the fruit before shipment significantly extends shelf life.

## Environmental Impacts

In the normal course of operations, farmers handle pesticides and other chemicals, may have manure to collect and spread, and use equipment to prepare fields and harvest

### Initial Resource Requirements

- Land: 1 acre
- Labor
  - Land preparation: 3 hours
  - Establishment: 60–70 hours
  - Production (year 1): 20–30 hours
  - Production (mature): 45–55 hours
  - Custom harvest labor (mature): \$7,000–\$7,500
- Capital
  - Land preparation: \$200–\$400
  - Red raspberry plants: \$1,800–\$2,000
  - Trellis: \$3,500–\$4,000
  - Trickle irrigation: \$800

crops. Any of these routine on-farm activities can be a potential source of surface water or groundwater pollution. Because of this possibility, you must understand the regulations to follow concerning the proper handling and application of chemicals and the disposal and transport of waste. Depending on the watershed where your farm is located, there may be additional environmental regulations regarding erosion control, pesticide leaching, and nutrient runoff. Contact your soil and water conservation district, extension office, zoning board, state departments of agriculture and environmental protection, and your local governing authorities to determine what regulations may pertain to your operation.

## Good Agricultural Practices and Good Handling Practices

Good Agricultural Practices (GAP) and Good Handling Practices (GHP) are voluntary programs that you may wish to consider for your operation. The idea behind these programs is to ensure a safer food system by reducing the chances for foodborne illnesses resulting from contaminated products reaching consumers. Also, several major food distribution chains are beginning to require GAP- and GHP-certified products from their producers. These programs set standards for worker hygiene, use of manure, and water supply quality.

These practices require an inspection from a designated

third party, and there are fees associated with the inspection. Prior to an inspection, you will need to develop and implement a food safety plan and designate someone in your operation to oversee this plan. You will need to have any water supply used by your workers or for crop irrigation and pesticide application checked at least twice each year. A checklist of the questions to be asked during the inspection can be found at [www.ams.usda.gov/fv/gapghp.htm](http://www.ams.usda.gov/fv/gapghp.htm). For more information about GAPs and GHPs, contact your local extension office or your state's Department of Agriculture.

## Risk Management

You should carefully consider how to manage risk on your farm. First, you should insure your facilities and equipment. This may be accomplished by consulting your insurance agent or broker. It is especially important to have adequate levels of property, vehicle, and liability insurance. You will also need workers compensation insurance if you have any employees. You may also want to consider your needs for life and health insurance and if you need coverage for business interruption or employee dishonesty. For more on agricultural business insurance, see *Agricultural Alternatives: Agricultural Business Insurance*.

Second, check to see if there are multi-peril crop insurance programs available for your crop or livestock enterprises. There are crop insurance programs designed to help

## Sample Red Raspberry Budget

Summary of costs per acre for land preparation

Item	Quantity	Unit	Price	Total	Your estimate
<b>Variable costs</b>					
<b>Custom operations</b>					
Soil test	1	acre	\$13.00	\$13.00	_____
Moldboard plowing	1	acre	\$24.90	\$24.90	_____
Disk and harrow	1	acre	\$20.00	\$20.00	_____
Grass seeding (cover crop)	1	acre	\$14.90	\$14.90	_____
Fertilizer and lime	1	acre	\$52.00	\$52.00	_____
Herbicides	1	acre	\$13.43	\$13.43	_____
Seed	1	acre	\$8.75	\$8.75	_____
<b>Labor</b>					
Operator labor	0.55	hour	\$15.00	\$8.25	_____
Hired labor	0.5	hour	\$13.50	\$6.75	_____
Fuel	1.75	gal	\$3.50	\$6.13	_____
Repairs and maintenance	1	acre	\$3.78	\$3.78	_____
Interest on operating capital	1	acre	\$3.89	\$3.89	_____
<i>Total variable costs</i>				\$175.78	_____
<b>Fixed costs</b>					
Equipment	1	acre	\$6.24	\$6.24	_____
Land	1	acre	\$200.00	\$200.00	_____
<i>Total fixed costs</i>				\$206.24	_____
<b>Total costs</b>				\$382.02	_____

You should monitor local markets and contact suppliers to determine current prices for all items contained in this sample budget.



farmers manage both yield risk and revenue shortfalls. However, individual crop insurance coverage is not available for all crops. If individual coverage is not available for what you grow, you may be able to use the AGR/AGR-Lite program to insure the revenue of your entire farm operation. To use AGR-Lite you must have five years of Internal Revenue Service (IRS) Schedule F forms. For more information concerning crop insurance, contact a crop insurance agent or check the Pennsylvania crop insurance education website at [extension.psu.edu/business/crop-insurance](http://extension.psu.edu/business/crop-insurance).

Finally, the USDA Farm Service Agency has a program called the Noninsured Assistance Program (NAP) that is designed to provide a minimal level of yield risk protection for producers of commercial agricultural products that don't have multi-peril crop insurance coverage. NAP is designed to reduce financial losses when natural disasters cause catastrophic reduction in production. NAP coverage is available through your local USDA Farm Service Agency office. The application fee for this program may be waived for eligible limited-resource farmers.

## Sample Budgets

Included in this publication are five annual budgets for red raspberry production. The first summarizes the costs of land preparation, the second covers establishment of the red raspberry planting, and the third summarizes costs and returns for the year after planting. The fourth summarizes the costs and returns for a mature (four-year-old) red raspberry planting for retail marketing. Intermediate production years (years two and three) are not included. These years would have fewer receipts and lower harvest costs than a mature planting. The fifth budget summarizes costs and returns for a pick-your-own operation. These sample budgets should help ensure that all costs and receipts are included in your calculations. While the budgets are calculated for one acre of production, a beginning grower should start much smaller. Costs and returns are often difficult to estimate in budget preparation because they are numerous and variable. Therefore, you should think of these budgets as an approximation and then make appropriate adjustments in the "Your

### Sample Fresh-market Red Raspberry Budget

Summary of income and expenses for the planting/establishment year

Item	Quantity	Unit	Price	Total	Your estimate
<b>Variable costs</b>					
<b>Custom operations</b>					
Fertilizer spreading	1	acre	\$10.70	\$10.70	_____
Moldboard plowing	1	acre	\$24.90	\$24.90	_____
Disk and harrow	1	acre	\$20.00	\$20.00	_____
Post driving	1	acre	\$100.00	\$100.00	_____
Grass seeding	1	acre	\$14.90	\$14.90	_____
Fertilizer and lime	1	acre	\$102.00	\$102.00	_____
Plants	2,200	plants	\$0.83	\$1,826.00	_____
Grass seed	4.3	pounds	\$2.30	\$9.89	_____
Insecticides	1	acre	\$24.43	\$24.43	_____
Mulch (straw)	1	acre	\$160.00	\$160.00	_____
<b>Irrigation</b>					
Drip tape	4,350	feet	\$0.03	\$130.50	_____
Trellis installation	1	acre	\$3,743.00	\$3,743.00	_____
<b>Labor</b>					
Operator labor	0.83	hour	\$15.00	\$12.45	_____
Seasonal labor	65.5	hours	\$12.00	\$786.00	_____
Fuel*	39.5	gal	\$3.50	\$138.25	_____
Repairs and maintenance	1	acre	\$101.56	\$101.56	_____
Interest on operating capital	1	acre	\$161.00	\$161.00	_____
<i>Total variable costs</i>				\$7,365.58	_____
<b>Fixed costs</b>					
Equipment*	1	acre	\$254.98	\$254.98	_____
Land	1	acre	\$200.00	\$200.00	_____
Irrigation	1	acre	\$240.00	\$240.00	_____
<i>Total fixed costs</i>				\$694.98	_____
<b>Total costs</b>				\$8,060.56	_____

\*Includes irrigation system.

You should monitor local markets and contact suppliers to determine current prices for all items contained in this sample budget.

## Sample Fresh-market Red Raspberry Budget

Summary of income and expenses for the year after planting for hand-harvesting

Item	Quantity	Unit	Price	Total	Your estimate
<b>Variable costs</b>					
<b>Custom operations</b>					
Fertilizer spreading	1	acre	\$10.70	\$10.70	_____
Plant analysis kit	1	acre	\$25.00	\$25.00	_____
Fertilizer and lime	1	acre	\$18.00	\$18.00	_____
Herbicides	1	acre	\$105.40	\$105.40	_____
Insecticides	1	acre	\$79.47	\$79.47	_____
Fungicides	1	acre	\$328.70	\$328.70	_____
Trellis maintenance	1	acre	\$82.00	\$82.00	_____
Operator labor	3.5	hours	\$15.00	\$52.50	_____
Seasonal labor	16.5	hours	\$12.00	\$198.00	_____
Harvest labor	1,000	½ pint	\$0.70	\$700.00	_____
Packaging					
Clamshell	1,000	½ pint	\$0.11	\$110.00	_____
Clamshell flats	84	½ pint	\$0.65	\$54.60	_____
Marketing	15%	total income	\$2,500.00	\$375.00	_____
Fuel	12.25	gal	\$3.50	\$42.88	_____
Repairs and maintenance	1	acre	\$21.53	\$21.53	_____
Interest on operating capital	1	acre	\$45.84	\$45.84	_____
<i>Total variable costs</i>				\$2,249.62	_____
<b>Fixed costs</b>					
Equipment	1	acre	\$40.10	\$40.10	_____
Land	1	acre	\$200.00	\$200.00	_____
Irrigation	1	acre	\$240.00	\$240.00	_____
<i>Total fixed costs</i>				\$480.10	_____
<b>Total costs</b>				<b>\$2,729.72</b>	_____

You should monitor local markets and contact suppliers to determine current prices for all items contained in this sample budget.

Estimate” column to reflect your specific production and resource situation. More information on the use of crop budgets can be found in *Agricultural Alternatives: Budgeting for Agricultural Decision Making*.

## For More Information

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## Sample Fresh-market Red Raspberry Budget

Summary of income and expenses for a mature planting for retail marketing

Item	Quantity	Unit	Price	Total	Your estimate
<b>Variable costs</b>					
<b>Custom operations</b>					
Fertilizer spreading	1	acre	\$10.70	\$10.70	_____
Plant analysis kit	1	acre	\$25.00	\$25.00	_____
Fertilizer and lime	1	acre	\$42.00	\$42.00	_____
Herbicides	1	acre	\$183.05	\$183.05	_____
Insecticides	1	acre	\$102.91	\$102.91	_____
Fungicides	1	acre	\$394.75	\$394.75	_____
Trellis maintenance	1	acre	\$82.00	\$82.00	_____
<b>Labor</b>					
Operator labor	4.3	hours	\$15.00	\$64.50	_____
Seasonal labor	46	hours	\$12.00	\$552.00	_____
Harvest labor	10,000	½ pint	\$0.70	\$7,000.00	_____
<b>Packaging</b>					
Clamshell	10,000	½ pint	\$0.11	\$1,100.00	_____
Clamshell flats	834	½ pint	\$0.65	\$542.10	_____
Marketing	15%	total income	\$25,500.00	\$3,750.00	_____
Fuel	14.4	gal	\$3.50	\$50.40	_____
Repairs and maintenance	1	acre	\$25.14	\$25.14	_____
Interest on operating capital	1	acre	\$254.91	\$254.91	_____
<i>Total variable costs</i>				\$14,179.46	_____
<b>Fixed costs</b>					
Equipment	1	acre	\$47.94	\$47.94	_____
Land	1	acre	\$200.00	\$200.00	_____
Irrigation	1	acre	\$240.00	\$240.00	_____
<i>Total fixed costs</i>				\$487.94	_____
<b>Total costs</b>				\$14,667.40	_____

You should monitor local markets and contact suppliers to determine current prices for all items contained in this sample budget.

### Associations

American Pomological Society  
102 Tyson Building  
University Park, PA 16802  
[americanpomological.org](http://americanpomological.org)

North American Raspberry and Blackberry Association  
1138 Rock Rest Road  
Pittsboro, NC 27312  
Email: [info@raspberrylblackberry.com](mailto:info@raspberrylblackberry.com)  
[www.raspberrylblackberry.com](http://www.raspberrylblackberry.com)

Pennsylvania Vegetable Growers Association  
815 Middle Road  
Richfield, PA 17086-9205  
Email: [pvga@pvga.org](mailto:pvga@pvga.org)  
[www.pvga.org](http://www.pvga.org)

Prepared by Kathleen Demchak, senior extension associate in horticulture; Jayson K. Harper, professor of agricultural economics; and Lynn F. Kime, extension associate in agricultural economics.

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## Sample Fresh-market Pick-your-own Red Raspberry Budget

Summary of income and expenses for a mature planting for pick-your-own

Item	Quantity	Unit	Price	Total	Your estimate
<b>Variable costs</b>					
<b>Custom operations</b>					
Fertilizer spreading	1	acre	\$10.70	\$10.70	_____
Plant analysis kit	1	acre	\$25.00	\$25.00	_____
Fertilizer and lime	1	acre	\$42.00	\$42.00	_____
Herbicides	1	acre	\$183.05	\$183.05	_____
Insecticides	1	acre	\$102.91	\$102.91	_____
Fungicides	1	acre	\$394.75	\$394.75	_____
Trellis maintenance	1	acre	\$82.00	\$82.00	_____
<b>Labor</b>					
Operator labor	4.3	hours	\$15.00	\$64.50	_____
Seasonal labor	46	hours	\$12.00	\$552.00	_____
Marketing	20%	total income	\$12,000.00	\$2,400.00	_____
Fuel	14.4	gal	\$3.50	\$50.40	_____
Repairs and maintenance	1	acre	\$25.14	\$25.14	_____
Interest on operating capital	1	acre	\$254.91	\$254.91	_____
<i>Total variable costs</i>				\$4,187.36	_____
<b>Fixed costs</b>					
Equipment	1	acre	\$47.94	\$47.94	_____
Land	1	acre	\$200.00	\$200.00	_____
Irrigation	1	acre	\$240.00	\$240.00	_____
<i>Total fixed costs</i>				\$487.94	_____
<b>Total costs</b>				\$4,675.30	_____

You should monitor local markets and contact suppliers to determine current prices for all items contained in this sample budget.

Net returns for five different yields and prices for red raspberries for hand-harvested production

Prices / ½ pint	Red raspberry yield (½ pints per acre)				
	8,000	9,000	10,000	11,000	12,000
\$1.50	\$(188.98)	\$71.81	\$2,607.90	\$2,868.69	\$3,129.48
\$2.00	\$3,811.02	\$4,571.81	\$7,607.90	\$8,368.69	\$9,129.48
\$2.50	\$7,811.02	\$9,071.81	\$12,607.90	\$13,868.69	\$15,129.48
\$3.00	\$11,811.02	\$13,571.81	\$17,607.90	\$19,368.69	\$21,129.48
\$3.50	\$15,811.02	\$18,071.81	\$22,607.90	\$24,868.69	\$27,129.48

Net returns for five different yields and prices for red raspberries for pick-your-own marketing

Prices / pound	Red raspberry yield (pounds per acre)				
	2,000	2,500	3,000	3,500	4,000
\$3.00	\$2,124.70	\$3,224.70	\$4,324.70	\$5,424.70	\$6,524.70
\$3.50	\$3,124.70	\$4,474.70	\$5,824.70	\$7,174.70	\$8,524.70
\$4.00	\$4,124.70	\$5,724.70	\$7,324.70	\$8,924.70	\$10,524.70
\$4.50	\$5,124.70	\$6,974.70	\$8,824.70	\$10,674.70	\$12,524.70
\$5.00	\$6,124.70	\$8,224.70	\$10,324.70	\$12,424.70	\$14,524.70