



# BRIEFING

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## Montana Sweet Cherries

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### Introduction

Montana's sweet cherry production is located in the western valleys of the state, ranging from Flathead County in the north to Ravalli County in the south. Some 85 percent of the 245 Montana farms with sweet cherry trees are located in Lake County (2002 Census of Agriculture, Montana County Data, p. 302, Table 31).

The 2002 census reports 199 farms with 846 acres of sweet cherry bearing trees in Lake County. Most of these farms are located on or near the shorelines of Flathead Lake with many of these farms along the eastern side of the lake. On many of these farms sweet cherries is the only agricultural enterprise. On average there are 4.25 acres of bearing trees per farm.

Many Lake County sweet cherry farm owner/operators are members of the Flathead Cherry Growers Association. The association membership collectively accounts for about 60 percent of the acres of bearing trees in Lake County—about 525 acres.

USDA's Risk Management Agency provides oversight for a cherry crop insurance pilot program for Lake County (Briefing No. 65, "Crop Insurance for Cherries in Lake County, Montana", April 2004,

Agricultural Marketing Policy Center, Montana State University). In the 2004 crop year, 50 producers purchased this crop insurance on 278 acres of bearing trees in Lake County, about one third of the acres of bearing cherry trees in the county.

This briefing reports the results of a study that identified sweet cherry management and production practices and estimated typical per acre operating costs. A typical per acre operating budget is presented in Table 1. More detailed information on specific inputs and the timing and costs associated with their applications are available on Agricultural Marketing Policy Center's website.

### Sample

Through a collaboration of the Flathead Cherry Growers Association, interviews were arranged with nine association members to obtain information on cherry production and management practices, input use, and input prices.

Seven of the nine farm managers had orchards with mature sweet cherry bearing trees. Each farm averaged 3.5 acres of bearing trees with a range of 2 to 8 acres per farm. An average of 110 bearing trees exist per acre and trees averaged 20 years old.

Trees averaged from 25 to 50 years of age on three farms and 8 to 15 years of age on the other farms. This disparity in age results from a catastrophic freeze early in 1989 that destroyed trees on many farms. These trees were replanted and account for younger trees in several orchards.

Most sweet cherry tree varieties have been grafted onto Mazzard rootstock. However, some recent orchards have used Giesala rootstock. Lambert and Lapin represent the two primary sweet cherry varieties in the county. Several other varieties are primarily used as pollinator trees which are scattered throughout orchards. Cherries produced by pollinator trees are harvested and marketed separately from Lambert and Lapin varieties.

### **Management and Production Practices**

Farm managers provided production and management information during on-site interviews in May 2004.

There are three major sources of water for irrigating cherry orchards. Some orchard owners have rights to ditch systems. Ditches are generally located above orchards and minimize the need for energy to pressurize sprinklers. Some orchard owners use groundwater pumped from domestic wells or wells dedicated to orchard irrigation. Other orchard owners use water from Flathead Lake for irrigation. This water must be lifted and pressurized. Irrigation costs included in the typical operating cost budget reflect those for the latter two systems.

In most orchards, farm managers and/or his or her family members conduct most of the irrigation activities. This includes moving irrigation pipe, servicing pumps, and repairing irrigation equipment. In the typical operating cost budget, family labor for irrigation activities does not appear as an explicit operating cost. Family labor is compensated from net returns above operating costs. This lump-sum

residual is used to compensate family labor, operator management, and capital investments in trees, land, machinery, and equipment. Therefore, irrigation costs only reflect energy and repair costs.

Several of the practices required for the maintenance of cherry trees and the production of cherries are typically performed by contract labor or custom operators. It is estimated that about 65 percent of the 525 acres of bearing trees under the control of members of the Flathead Cherry Growers Association have one or more cultural practices performed by contract labor or custom operators.

Pruning in most orchards is done through the use of contract labor. In some orchards pruning crews are organized and supervised by a custom operator. In such cases clean up and disposal of the pruning waste is often done by the contract labor crews and custom operators. On other farms, managers hire, house, and compensate pruning crews. In such cases the farm manager and/or family members often clean up and dispose of pruning waste. The typical operating cost budget reflects the first of these two pruning, cleanup, and disposal methods.

Many farm managers take soil samples early each spring. Subsequent to the analysis of these samples, orchard managers purchase a custom blends of fertilizer. Some farm managers have fertilizer applied by a custom operator. Others apply their own fertilizer using a tractor or other power unit with a spreader rented from a fertilizer supplier. Some farm managers simply hand-apply fertilizer around each tree. The typical operating cost budget reflects a custom operator applying fertilizer using a spreader rented from a fertilizer supplier.

The spraying of pesticides for tree health and insect control is primarily done by custom operators. The costs of materials and custom application of post-harvest spray, dormant spray, petal fall spray, fruit fly spray, and leafhopper spray are reflected in the typical operating cost budget.

In most orchards, a herbicide is sprayed early in the growing season to kill unwanted vegetation around trees. Some orchards use custom applicators for such maintenance while others apply herbicide using their own equipment. The typical operating cost budget reflects the control of unwanted vegetation by a custom applicator.

In some orchards, a periodic cultivation of alleys is used to control unwanted vegetation. In other orchards, alleys between trees have been planted to grass. In these cases, alleys are mowed as needed. Some farm managers mow their own alleys using either a larger-sized lawn tractor mower or a suitably-sized commercial riding mower. Others hire custom operators who use tractor-mounted rotary mowers for this operation. The typical operating cost budget reflects the periodic mowing of grassed alleys by a custom operator.

If rain occurs just prior to harvest, ripened fruit may split and its price will be heavily discounted. Split damage is minimized by using helicopters to dry orchards after a rain event. The custom rate for helicopter drying totals \$30 per acre for orchards on the east side of Flathead Lake. On average, helicopter drying is used once per year.

Lambert and Lapin trees in most orchards are picked by hired picking crews. Some farm managers hire, house, and manage picking crews. Other managers use crews that are managed by a custom operator. Overall operating costs are similar under the two management methods. In the typical budget, picking costs reflect a cost per pound of cherries picked, social security and workers compensation costs, and a housing allowance for pickers.

The handling of bins of cherries and hauling of cherries to the Association's receiving point is usually done by farm managers. Similar to the treatment of irrigation labor, manager labor for hauling is not included as an explicit cost in the operating budget. Most farm

managers haul cherries to a receiving point in pickups or dual-axle trailers pulled by a pickup. Operating costs for hauling in the typical operating cost budget reflects a mileage allowance of \$0.36 per mile for 210 miles per acre. The distance represents the average per acre delivery and return miles driven for all orchards.

#### Typical Per Acre Operating Costs

The typical per acre operating cost for sweet cherries in Lake County are approximately \$4,500 per acre (Table 1). Approximately \$2,350 of these operating costs are generally incurred prior to harvest. Harvest costs, including hauling, are around \$2,150 per acre.

Pruning and disposal of pruning wastes generally account for 30 percent of the typical preharvest operating costs. An estimated 35 percent of preharvest per acre operating costs are attributed to pesticides and pesticide applications. Fertilizer, bees, alley maintenance and helicopter drying account for the remaining 35 percent of the typical per acre preharvest operating costs.

About 70 percent of harvest costs are associated with the compensation of hired pickers. The remaining 30 percent of harvest costs are associated with the hauling of cherries to the Association delivery point.

**Table 1: Sweet Cherry Operating Costs Per Acre, Lake County\***

<b>Cost Categories</b>	<b>Costs</b>
Pesticides	\$ 504.04
Pesticide Application	\$ 316.00
Fertilizer	\$ 82.26
Fertilizer Application	\$ 11.75
Alley Maintenance	\$ 142.50
Irrigation Energy	\$ 167.50
Pruning & Disposal	\$ 690.50
Soil Samples	\$ 60.00
Bee rental	\$ 60.00
Helicopter Drying	\$ 30.00
Picking	\$1,500.00
Other Harvest Costs	\$ 650.60
Repairs	\$ 200.00
Interest	\$ 154.53
<b>Total Annual Operating Costs Per Acre</b>	<b>\$4,569.69</b>

\* A detailed budget reflecting costs by month, week, for each individual practices is available on the following website: [ampc.montana.edu](http://ampc.montana.edu). Budget materials are available in pdf format.



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