

Netting for Bird Control in Cherries – A Decision-making Guide

What is the Problem?

New varieties of cherries are attracting premium prices, encouraging many growers to plant cherry orchards. In areas with bird problems, birds may eat the entire crop 3 or 4 years after planting. Bird damage still occurs in later years but is less noticeable due to the larger crop size.

Why Net?

Visual and noise scaring devices keep most birds out of the crops, when properly used. However, birds can get used to these deterrents and their effectiveness is reduced. Properly installed netting gives much more protection and saves growers the frustrations they can face protecting fields that are not netted.

Many cherry orchards are close to urban neighbours. Noise devices that scare birds away from the crops can be annoying to urban residents living beside the farmland – and even to farming neighbours. Netting is a noiseless and effective way to protect cherries—while promoting good neighbour relations.

Netting for All Cherry Plantings?

Netting is most easily justified with the newer varieties of cherries as their value is high compared to traditional varieties of cherries. New varieties, such as Sweetheart, Lapins and Skeena, also mature later, which may increase the amount of bird damage if there is not another food source for the birds.

The type of training system used in the cherry planting will also affect the decision to net. Training systems can control the height of the trees. For example, the “Spanish Bush” system produces a tree about 12 feet high while a central leader training system results in trees that may grow to 16 feet tall. Smaller trees make it easier to work with the netting.

Finally, the size of the cherry planting will impact the decision. Growers note that much of the bird damage occurs at the perimeter of the cherry planting. Larger orchards, therefore, can have proportionately lower crop losses from birds.

Making the Best Economic Decision for Netting

This factsheet will help growers assess the economic costs and benefits of netting cherries on their farm. Other factors — such as the suitability of nets to the overall farm management as well as the impact of noise devices on neighbour relations – should also be considered when reaching a decision on netting the crop.

Follow the following steps while filling out the worksheet on the last page with information specific to your farm. The last step will show you if it will pay to install netting.

STEP #1

Investment Costs

How much money will it cost to set up the nets?

This is the starting point in making the decision. There is no permanent support system for the netting in cherries, so the only ‘up-front’ investment costs are the netting and the boom attachment that helps distribute the nets over the trees.

Cherry Industry FACTSHEET



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An acre is about 209 feet by 209 feet. Calculate the amount of netting needed by dividing 209 by the row width and then multiplying by 209 to obtain the total length of netting required for each acre. Finally, double the amount to allow for covering both sides of the row. Net suppliers can help calculate the exact amount of netting required. Nets cost about \$2,100 per acre, and the fabrication of the boom applicator will cost about \$200. These costs must be recovered over the life of the netting. But don't count all these costs in one year – see the next step.

STEP #2

Annual Depreciation and Interest Costs

What is the yearly cost of the investment?

These are the costs to consider when calculating the annual investment costs. In this step, take the cost of buying the nets and the boom applicator, and spread it over their expected life. **Annual depreciation** is an estimate of the yearly loss in the net's and applicator's value as they wear out. The easiest way to estimate these costs is to divide the value of the nets over the expected years of use. Do the same for the equipment.

Interest cost is the interest paid on the money borrowed for netting or on the interest income that could have been earned from a different investment (e.g. another project, or bonds or term deposits). Annual interest costs vary but a typical interest rate is used in the example on the last page. The interest is usually paid on the average value of the investment over its lifetime – i.e. halfway between the new value and the totally depreciated value.

STEP #3

Annual Repair and Maintenance Costs

How much will it cost to use the nets each year?

These are the costs for putting up and removing the nets each year, and for repairs and maintenance. Estimate annual repairs using a percentage of the investment costs. Usually 3% is used for investments such as netting. Labour to do repair work is about two hours per acre per year. Unexpected costs always come up. Plan for these costs with a 5% contingency allowance.

STEP#4

Risk

How much extra is needed for uncertainty?

Farming is always uncertain. Cherry prices and yields change with annual markets and growing conditions. Also, unexpected damage can occur to the nets. But payments must still be made. Allow for these risks to

make sure that payments can still be kept up should there be a minor setback.

Budget for risk as a percentage of the expected costs. This can be as little as 5% of costs for a low risk investment – or as high as 50% for high risk investment and a high debt.

STEP #5

Total Annual Netting Cost

What are all the annual costs for netting?

Add up the costs in Steps #2, 3, and 4 to get total cost.

Remember Cash Flow

If you take out a loan for netting, be sure to look at how the payments affect your entire operation. Make sure you have sufficient funds and credit in place so you don't face a "cash crunch" situation.

If the project provides a net benefit in the long term, financing the project out of your own resources will eliminate any loan payment requirements.

STEP #6

Added Annual Return

Will more money be made with the nets?

Consider the value of the extra cherries harvested from a field protected by netting, and the additional costs to harvest and sell the cherries. Work through the two tables on the next page.

Table 1 shows the cherries saved by netting one acre. For harvested yield per acre, use your average yield from the last 5 years. For younger trees, average the expected yields over the next 5 years. A well-managed mature cherry orchard can produce 6 to 7 tons per acre.

Table 2 gives the added annual gross returns from netting. Cherry prices vary, but the price range for large, "10 row" (1 inch and larger) cherries to the export market is very strong at this time.

CASH FLOW PROBLEMS?

- If you do the work yourself, omit a portion of the labour cost when calculating the annual netting cost (see worksheet on the last page).
- If you are currently using other crop protection devices, subtract this cost from the annual netting cost. This could be as much as \$200/acre/year.

Table 1. Cherries Saved By Netting (lb./acre)

Harvest lbs. per tree	Harvest lbs./acre	Cherry loss without nets				
		2 %	4 %	6 %	8 %	10 %
5	2,500	50	100	150	200	250
10	5,000	100	200	300	400	500
15	7,500	150	300	450	600	750
20	10,000	200	400	600	800	1,000
25	12,500	250	500	750	1,000	1,250
30	15,000	300	600	900	1,200	1,500

Table 2. Added Annual Gross Return by Netting (\$/acre)

Added Netting Costs \$987		Cherry Contribution					
		Price (\$/lb)	1.75	2.00	2.25	2.5	2.75
		Picking (\$/lb)	.25	.25	.25	.25	.25
		Export	.95	.95	.95	.95	.95
		Contribution	.55	.80	1.05	1.30	1.55
Cherries saved by netting (lb/acre)	1,500	825	1,200	1,575	1,950	2,325	
	1,250	688	1,000	1,312	1,625	1,938	
	1,000	550	800	1,050	1,300	1,550	
	750	412	600	788	975	1,162	
	500	275	400	525	650	775	
	250	138	200	262	325	388	

NET

BREAK EVEN POINT

DO NOT NET

STEP #7

Break Even Point

Will the nets pay?

The break even point is where the added annual cost of netting just equals the added annual gross return of netting. Nets are worth the investment if the added return is greater than the annual cost of netting.

It pays to net if your added annual gross return is in the unshaded area of Table 2. Subtract the annual netting cost of \$987 (from Step #6, Column (6) on the next page) to find out how much extra money (net return) would be made by netting.

Will Nets Pay on Your Farm?

This is an example for budgeting the cost of netting one acre of cherries*. Input your costs to see if netting will pay for you.

STEP #1 AND #2. INVESTMENT COSTS, ANNUAL DEPRECIATION, AND INTEREST

Item	(1) Investment Costs		(2) Expected Life (years)	(3) Annual Depreciation (1) ÷ (2)		(4) Annual Interest @ 6% (1) x 50% x 0.06	
	Example (\$/acre)	Your Farm		Example (\$/acre)	Your Farm	Example (\$/acre)	Your Farm
Nets	2,100		7	300		63	
Boom	40*		5	8		1	
TOTAL	2,140			308		64	

STEPS #3, #4, AND #5. TOTAL ANNUAL NETTING COST

Item	Calculation Method	Annual Operating Cost	
		Example (\$/acre)	Your Farm
Labour – pre-harvest	24 hr. x \$10/hr	240	
Labour – post-harvest	20 hr. x \$10/hr	200	
Repair and maintenance	\$2,300 x 3%	69	
Depreciation	From above table	308	
Interest	From above table	64	
SUBTOTAL		881	
Contingency	\$881 x 5%	44	
Risk	\$881 x 7%	62	
TOTAL		987	

STEP #6. ADDED ANNUAL RETURN

	(1) Cherries Saved by Netting	(2) Cherry Price	(3) Marketing and Production Cost	(4) Cherry Price minus Handling Cost (2) – (3)	(5) Added Annual Return (1) x (4)	(6) Annual Netting Cost (from above table)	(7) Net Return Over Costs (5) – (6)	(8) Net? Yes if (7) positive, No if (7) negative
Example	1,000 (lbs/acre)	2.50 (\$/lb)	1.20 (\$/lb)	1.30 (\$/lb)	1,300 (\$/acre)	987 (\$/acre)	313 (\$/acre)	Yes
Your Farm								

* Costs are based on a 5 acre planting, with trees pruned and trained to the "Spanish Bush" style. For smaller acreages or irregular-shaped fields, the annual netting costs will be higher.

**Boom fabrication is estimated at \$200 or \$40/acre over a 5-acre block

For more information...

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BCMAFF references on bird netting

(available from the Abbotsford Agriculture Centre):

- Suppliers of Bird Control Materials and Equipment for B.C. Growers. 1998.
- Installation of Bird-Proof Netting for Horticultural Crops. Engineering Notes. 1992.
- Integrated Bird Management – Blueberries. June 2000.
- Netting for Bird Control in Blueberries – A Decision-making Guide. January 2002.
- Netting for Bird Control in Grapes – A Decision-making Guide. January 2002.