MARYLAND COOPERATIVE EXTENSION
UNIVERSITY OF MARYLAND
COLLEGE PARK•EASTERN SHORE

Fact Sheet

Fact Sheet 631

Use of Enterprise Budgets in the Greenhouse Industry

When greenhouse operations fail, it is usually due to business mistakes, not a lack of technical skill. Greenhouse bench space is a valuable resource and only those crops that pay their way should occupy this space. Therefore, it is vital that a manager know which crops are profitable and which are not. An enterprise budget for individual greenhouse crops will determine each crop's contribution to profit. This fact sheet describes the preparation and use of this financial tool.

The Enterprise Crop Budget

An enterprise crop budget has three components: revenue, costs and profit. Revenue is derived from the business' sales. Profit is found by subtracting costs from revenue. Costs are composed of variable and overhead (fixed) costs. The most complicated part of preparing an enterprise budget is allocating heating costs and overhead costs to individual crops. The following three case studies will explain the allocation of heating costs, the allocation of overhead costs and the resulting preparation of an enterprise crop budget. Each case study is accompanied by a completed worksheet (Figures 1, 2 and 3), which records the procedures and calculations described in the case. Blank worksheets for personal application of these procedures are also provided. Some explanation of the types of costs and their contribution to building an enterprise budget is necessary before undertaking allocation of specific costs.

Variable costs vary according to production. Examples of variable costs are fertilizer, seed and potting soil. Allocating these costs to a specific crop is relatively easy. The cost of the quantity of each item applied to the crop in question can be obtained from a general ledger or the business checkbook.

When heat is used for plant production, rather than protection from cold weather damage, heating costs are another variable cost. The allocation of heating costs to an individual crop, which is optimum for preparing an enterprise crop budget, requires a specific procedure that will be explained in the first case study.

Overhead costs are considered fixed on an annual basis and do not vary with production. Overhead costs include depreciation of the greenhouse structure, interest on average investment, salaries of the owner and managers, insurance, and taxes. Overhead costs are more difficult to assign to an individual crop than variable costs. The second case study allocates overhead costs per square foot of bench space on a weekly basis.

Variable costs, heating costs and overhead costs are subtracted from revenue in the enterprise budget to determine profit. Profit is used to determine the profit per plant and a target price for plants.

Case Study--Allocating Heating Costs

This example is divided into three sections: a general description of the operation, the procedure for the allocation of seasonal heating costs per bench space footage, and the procedure for the allocation of monthly heating costs per bench space footage. The results of each procedure have been entered on Figure 1.

General description. Maryland Flowers, a greenhouse business, purchased 4,167 gallons of liquid propane (LP) for two houses in the southwest range between August 1990 and May 1991. The purchase price for the LP was $1.20 per gallon for a total cost of approximately $5,000.

Seasonal heating costs per bench space footage. The first step in finding the seasonal heating costs per bench space footage is to determine the seasonal heating cost per house. Calculate the percentage of total floor space occupied by each house and multiply that percentage by the total cost of heating to allocate heating costs among houses by floor space. House A has 2,660 square feet of floor space and House B has 2,880 square feet. Total floor space for the two houses is 5,540 square feet with House A and B occupying 48 percent and 52 percent of the total space respectively. Therefore:

Percentage of floor space x total cost of heating = heating costs per floor space

House A = .48 x $5,000 = $2,400
House B = .52 x $5,000 = $2,600

Other factors that can affect this allocation are greenhouse coverings (associated with heat loss) and varying house temperatures. The greenhouse manager using Worksheet 1 can adjust this allocation if there are significant differences in these factors among the houses.

Divide the seasonal heating costs for each house by the bench space footage of each house to determine the seasonal heating cost per square foot of each house. Houses A and B have 1,700 and 1,892 square feet of bench space respectively. Therefore:

Seasonal heating costs/square feet of bench space = seasonal heating cost per square foot of bench space

House A = $2,400 / 1,700 = $1.41
House B = $2,600 / 1,892 = $1.37

If hanging baskets are produced, greenhouse managers should incorporate into the divisor the total space footage the baskets occupy.

Monthly heating costs per bench space footage. As outside temperatures drop, the cost of heating a greenhouse increases. This section allocates monthly heating costs by bench space footage because heating costs per month can vary a great deal. In this example, the greenhouse manager has records from previous years that indicate fuel usage by month. For those managers without records, monthly fuel usage can be predicted from published heating degree days.

To calculate the percentage of fuel used per month, divide the amount of fuel used per month by the total fuel used for the year, and then multiply this figure by 100. For example, the manager's records show that 208 gallons of LP were used for both greenhouses in September. Therefore:

(Amount of fuel used per month / total fuel used for the year) 100 = Percentage of fuel used per month

September = (208 / 4,167) 100 = 5 percent

Since predicting temperatures by month for the upcoming winter is nearly impossible, the percentage of fuel used each month need not be calculated every year. A historical distribution is usually sufficient unless conditions change dramatically.

To determine the monthly fuel cost per square foot for each greenhouse, multiply the monthly percentage of fuel used by the seasonal fuel cost per square foot. For example, 20 percent of the heating costs occur in January. Therefore:

Monthly percentage of fuel used x Seasonal cost of fuel per square foot of bench space = Monthly fuel cost per square foot of bench space

House B = .20 x $1.37 = $0.27.

Discussion. The budget prepared in the first case study assumes that the greenhouses are fully utilized during the growing season. If they are not, heating costs per square foot of space used increase. For example, if Greenhouse A is only 50 percent utilized during March then the monthly fuel cost per square foot of $0.14 doubles to $0.28.

Keeping records and calculating costs require time. Like any activity, the benefits and the costs need to be weighed. For those greenhouse managers who do not want to estimate their own monthly heating costs, heating can be treated as an overhead cost. The seasonal fuel cost per house (in this case $2,400 and $2,600) can be placed directly on the line corresponding to Utilities: Heat on Worksheet 2. Greenhouse managers completing Worksheet 2, but not Worksheet 1, should simply distribute their annual heating bill among their houses. Figure 2 prorates overhead costs by week over the entire growing season. The abbreviated procedure will not produce as accurate an allocation of heating costs as the individual procedure outlined in this case study, however, it may give a suitable estimate for many managers' cost accounting.

Case Study-Allocating Overhead Costs

Two of the main overhead costs of the greenhouse business are depreciation and interest costs. Equations for their calculation are discussed in the following sections along with several other important overhead costs. To determine the overhead costs per week for each house, add the overhead costs for each house and divide by the number of weeks that plants are grown in the house; then divide this number by the area of bench space footage to determine the weekly overhead costs per bench space footage. The results of the calculations in this case study have been entered in Figure 2. The cost and design of House A in this case is described more fully in Fact Sheet 593 "Starting a Greenhouse Business".

Depreciation. Depreciation measures the annual cost of capital items such as equipment or structures that will be used more than a year. Capital items depreciate because of use, obsolescence and deterioration. A formula for measuring depreciation is:

(Cost - Salvage value)/Useful life in years = Depreciation

Cost refers to the item's purchase price. Salvage value is an estimate of what the item could be sold for at the end of its useful life. In these examples, salvage value was assumed to be zero if it were less than 10 percent of the purchase price. Useful life is an estimate of how long the item will be of service in the business.

The frame bows for House A, which cost $2,320, were estimated to have a useful life of 20 years and no salvage value. The polycarbonate sheet and frame for House A's end walls cost $1,665 and have an estimated useful life of 10 years and no salvage value. Therefore:

(Cost - Salvage value) / Useful life in years = Depreciation

House A's frame bows = ($2,320 - $0) / 20 = $116
House A's end walls = ($1,665 - $0) / 10 = $167

To complete Figure 2, each construction component in the greenhouse (Fact Sheet 593, Table 3) was depreciated and the amounts were added to equal an annual depreciation for House A's structures and equipment of $912 and $530 respectively.

Interest on average investment. Interest on average investment estimates the opportunity cost of the investment, the greenhouses in this case. The interest cost can include both explicit and implicit costs. Explicit costs are interest payments to lenders. Implicit costs refer to the manager's equity that is tied up in the operation. In other words, the interest that the manager could have earned had the money been invested somewhere else instead of greenhouse construction.

A formula for calculating interest on average investment is:

[(Cost + Salvage value)/2] x Interest rate = Interest on average investment

The salvage value is determined in the same manner as depreciation. The interest rate chosen represents a weighted value of interest paid and interest earned. For example, a manager who borrowed all the money for the greenhouse uses the interest rate the lender charges. A manager with a greenhouse that is debt-free uses the interest rate from a profitable investment of that money, such as a money market rate. A manager with borrowed and equity capital chooses an average rate.

The total investment cost of House A (from Table 3 of Fact Sheet 593), which the manager built and assembled, is $ 16,530. The interest rate chosen is 9 percent. Therefore:

[(Cost + Salvage value) / 2] x Interest rate = Interest on average investment
[($16,530 + $0) / 2] x .09 = $744

Other overhead costs. Salaries, taxes and insurance are also overhead costs. In this example, taxes and insurance can be divided equally between the two houses. The manager's salary is $30,000. Since the manager spends one-third of the time with these two houses, one-third of his or her salary ($10,000) is allocated to the two houses ($5,000 per house). The $ 12,000 salary for office help is distributed in a similar fashion. Fringe costs, such as Social Security and unemployment insurance, are estimated at 11 percent of total salary and calculated from the $5,000 for each house. Hourly wages for greenhouse work are a variable cost and are included in the next case study.

Utilities also fall under overhead costs. The cost of utilities is split between the houses. Since these greenhouses are on a well, the cost of water is included under depreciation and Utilities: Electricity (to run the pump). A manager with city water should enter those costs under Utilities: Water on Worksheet 2. Again, if the manager did not complete Worksheet 1, then the seasonal heating costs of $2,400 and $2,600 for Houses A and B should be placed on the line marked Utilities: Heat in Figure 2 and the manager's own heating bill should be entered on Worksheet 2.

The next portion of both Figure 2 and Worksheet 2 is nondepreciated equipment. Nondepreciated equipment includes items such as tools and irrigation nozzles that are purchased over the season and charged off the first year of use.

Finally, the cost of land must be allocated. Typically, in enterprise crop budgets for farms, land is valued at the rate for which it could be rented. When all of the overhead costs have been determined, total them for each house. Divide the total annual overhead costs by the number of weeks that the greenhouse was

fully utilized to yield the overhead costs per week. The total overhead cost for House A is $11,956. For this example, assume that both greenhouses are fully utilized for 42 weeks and empty for 10 weeks. Therefore:

Total annual overhead costs / Number of weeks fully utilized = Overhead costs per week
House A = $11,956/42 == $285

It is important that the manager use the number of weeks that the greenhouse is used in a year. If the greenhouses were fully utilized for 30 weeks and 50-percent utilized (one-half full) for 12 weeks, then 36 weeks would be the divisor.

Divide the overhead costs per week by the square feet of bench space to obtain an estimate of the weekly overhead cost per square foot of bench space. In this case:

Overhead costs per week / Square footage of bench space = Weekly overhead costs per square foot of bench space
House A = $285 / 1,700 = $0.17

Discussion. Greenhouse managers who do not fully utilize their greenhouses have higher weekly overhead costs per square foot of bench space. For example, if Greenhouse A were only used for 10 weeks, then the cost per square foot would be $0.70, compared with $0.17 for 42 weeks of use. The reason for this difference is that the total overhead cost of $ 11,956 is fixed and must be paid whether or not production takes place. The more plants that can be grown in that house, the less overhead costs are on a per plant basis, and the greater the opportunities are for making a profit.

Case Study-Preparing an Enterprise Crop Budget

This case combines revenue, variable costs, overhead costs and heating costs (treated as a separate variable cost) into an enterprise crop budget to calculate the amount of profit per plant and the target price for plants to turn a profit. In this example, 1,448 poinsettia plants (one-plant branched) were grown in Greenhouse A.

Between August 15 and October 1, the poinsettias were spaced 9 inches by 9 inches and occupied a total of 815 square feet of bench space. After respacing to 13 inches by 13 inches on October 1, the plants occupied all of Greenhouse A or 1,700 square feet. (Before October 1, when the poinsettias did not fully utilize Greenhouse A, the space held other plants.) The poinsettias were sold on November 25.

A buyer bought 1,375 plants at $4 per plant. Seventy-three plants died or were not acceptable for sale (5 percent shrinkage). Total revenue from poinsettia sales equaled $5,500.

Variable costs. Most variable costs entered in the next section on Figure 3 are taken directly from the general ledger or business checkbook.

Hourly labor allocated to the poinsettias is not calculated because the manager, whose salary was included in overhead costs, provided all of the labor. However, hours spent on the crop were recorded for future reference.

In this example, interest refers to the opportunity cost of the money invested in this particular crop during the growing season. If the manager borrowed the money, the interest payments on the production loan would be entered. If the manager used his or her money, the cost of not choosing a profitable alternative investment is recorded. The manager, for example, could have reduced principal on another loan and saved interest payments over those 3 months. For example:

Interest = ($1,334 x .09 x 3 months)/12 months = $30.

Overhead costs. For this business venture, overhead costs are calculated for two different time periods. For 6 weeks, the plants occupied 815 square feet in Greenhouse A, and for 7 weeks, the plants occupied 1,700 square feet. As already demonstrated, to find overhead costs for a given time period, multiply three factors: the weekly cost, the number of weeks and the area of bench space occupied. The weekly overhead cost per square foot for Greenhouse A, calculated in the previous case study, equals $0.17

Heating costs. Heating costs, which are being treated as a variable cost, are calculated for 4 months. For example, the monthly heating cost per square foot in November is $0.20. To allocate the heating cost per bench space footage for November, multiply three factors: monthly heating cost, the fraction of the month that the plants occupy the greenhouse in November, and bench space footage. Therefore:

Monthly heating cost X Fraction of the month greenhouse is utilized x Bench space footage = Monthly heating cost per foot of bench space
November = $0.20 x 0.75 x 1,700 = $255 per month

For those managers who do not complete Worksheet 1, heating costs are included in the overhead costs from Worksheet 2. These managers would not fill out the heating costs section on Worksheet 3.

Profit per plant. To determine the amount of profit per plant, first find the profit for total plant production. Subtract the total variable costs, the total overhead costs and the heating costs from the revenue for the plant. This answer equals the amount of profit attributed to that plant's production. In this case:

Revenue - Variable costs - Overhead costs - Heating costs = Profit for total plant production
Poinsettias = $5,500 - $1,364 - $2,854 - $545 = $737

Next, divide the profit for poinsettia production by the number of plants. Thus:

Profit for total plant production / Number of plants = Profit per plant
Poinsettias = $737/1,448 = $0.51

Target price. For help in planning, the calculations from this case study and Figure 3 can also be used to estimate a target or breakeven price at which the poinsettias should be sold. From previous records, the manager can calculate variable, overhead and heating costs. Divide this sum by the anticipated size of the crop and add a margin for profit for an estimate of the minimum desired price. In this case:

(Variable costs + Overhead costs + Heating costs) / Size of crop + Margin for profit = Minimum desired price
Poinsettias = ($1,364 + $2,854 + $545) / 1,448 + 0.10($3.29) = $3.62

This price covers all costs of production plus provides a 10 percent profit for the business risk and initiative in undertaking the venture.

Conclusion

An enterprise crop budget helps the manager maximize the income from a greenhouse by identifying those crops that are most profitable. Just as overall profit does not provide insights about an individual crop's profitability, planting only profitable crops does not guarantee overall profitability. For example/if the only use of Greenhouse A were raising 1,448 poinsettias, then the house would be only fully utilized approximately 10 weeks a year. Ten weeks of utilization increases the weekly overhead costs per square foot of bench space on Figure 2 from $0.17 to $0.70. In this case study, profit would be reduced from a

gain of $734 (Greenhouse A fully utilized for 42 weeks) to a loss of $8,162 (Greenhouse A fully utilized for only 10 weeks). Depreciation, interest on average investment, salary and other overhead costs exist whether plants are raised or not. These annual costs should be spread over as many plants as possible for a given year to lower the per plant overhead cost.

Consequently, a manager has two objectives. First, the manager must make sure that the right combination of profitable crops is grown. An enterprise crop budget shows the greenhouse manager how much profit each plant earns. Second, a manager must try to fully utilize all bench space as much as possible during the year. To increase bench space and lower weekly overhead costs per square foot, for example, some greenhouse managers have installed rolling benches to increase the number of plants that can be grown in the greenhouse at one time. In summary, overhead costs are constant; therefore, profitable production must be generated to help guarantee the success of the greenhouse operation.

Suggested Readings

For more information on enterprise crop budgets or cost accounting for greenhouses consult:

Brumfield, R.G., P.V. Nelson, A.J. Coutu, D.H Willits and R.S. Sowell. 1982. **Overhead Costs of Greenhouse Firms Differentiated by Size of Firm and Market Channel.** Bulletin 269. North Carolina Agricultural Research Service; Raleigh, North Carolina.

Grimmer, W.W. 1980. **Greenhouse Cost Accounting.** Gateway Technical Institute; Kenosha, Wisconsin.

Maryland Farm Management Guide. 1990. Several fact sheets on farm management issues written by faculty in the Department of Agricultural and Resource Economics, University of Maryland at College Park; College Park, Maryland.

Worksheet 1.

Calculating monthly heating costs per square foot of bench space.

Name _____ Heating season _____

Range description _____ Type of fuel _____ Fuel cost($/unit) _____

Fuel units per season (August-May) _____ Fuel cost per season ($) _____

	House A	House B	House C
Description			
Floor space(ft²)			
Percent of total greenhouse space			
Seasonal fuel cost per house($)			
Total bench space(ft²)			
Seasonal fuel cost per bench space ($/ft²)			

Month	Historical fuel usage (units)	Fuel use by month (%)	Monthly fuel cost per bench space ($/ft²)[a] House A	House B	House C
August					
September					
October					
November					
December					
January					
February					
March					
April					
May					

[a] Monthly fuel cost per bench space ($/ft²) = Seasonal fuel cost per bench space ($/ft²) x Fuel use per month (%)

Worksheet 2.

Calculating weekly overhead costs per square food of bench space.

Name _____ Year _____ Range description _____

	House A	House B	House C
Description			
Annual depreciation ($):			
Structures			
Equipment			
Interest on average investment at ____ %			
Repairs ($)			
Taxes ($):			
Personal property			
Licenses			
Insurance ($):			
Buildings			
Equipment			
Liability			
Management labor ($):			
Salaries			
Fringe costs			
Office expenses ($):			
Salaries			
Fringe costs			
Materials			
Utilities ($):			
Heat (or use Worksheet 1)			
Electricity			
Water			
Telephone			
Nondepreciated equipment ($)			
Land ($)			
Other			
Annual overhead cost ($/year)			
Number of weeks in use			
Weekly overhead cost ($/week)			
Total bench space (ft^2)			
Weekly overhead cost per bench space ($/ft^2$)			

Worksheet 3.

Calculating an enterprise crop budget.

Crop _____ Year _____ Number of units _____

Range _____ Greenhouse _____

Bench space (ft²) _____ Dates _____ Bench space (ft²) _____ Dates _____

Revenue

Buyer	Plants sold	Price per unit ($)	Revenue ($)	Buyer	Plants sold	Price per unit ($)	Revenu

Total revenue ($) _____

Variable Costs ($):

Cuttings _____

Pots _____

Soil _____

Fertilizer _____

Growth regulators _____

Pesticides _____

Sleeves _____

Labor [_____hrs @ _____($/hr)] _____

Interest _____

Other _____

Total _____

Overhead Costs Dates: _____ _____ _____

a = Weekly cost ($/ft²) _____ _____ _____

b = Number of weeks _____ _____ _____

c = Bench space (ft²) _____ _____ _____

Overhead costs (a x b x c) _____ _____ _____

Total overhead costs ($) _____

Heating costs (Worksheet 1) _____ _____ _____ _____ _____

a = Monthly cost ($/ft²) _____ _____ _____ _____ _____

b = Portion of month _____ _____ _____ _____ _____

c = Bench space (ft²) _____ _____ _____ _____ _____

Heating costs (a x b x c) _____ _____ _____ _____ _____

Total heating costs ($) _____

Revenue	- Variable costs	- Overhead costs	- Heating costs	= Profit		All costs	/ Number of plants	+ _____%	= Targ price
$	- $	- $	- $	= $		$	/	+ $	= $
_____	_____	_____	_____	_____		_____	_____	_____	_____

Profit	/ Number of plants	= Profit per plant
$ _____	/ _____	= $ _____

Figure 1. Calculating monthly heating costs per square foot of bench space.

Name _____***Maryland_Flowers***_____ Heating season __***Winter 1989-90***___

Range description ___***Southwest***_____ Type of fuel _***LP***__ Fuel cost($/unit) _***1.20/gal***_

Fuel units per season (August-May) ___***4,167 gal***_____ Fuel cost per season ($) _***5,000***____

Description	House A	House B	House C
	POLY _28ft by 95ft_	***POLY _30ft by 96ft_***	_____
Floor space(ft²)	***_2,660***____	***_2,880***____	_____
Percent of total greenhouse space	***_48***_____	***_52***_____	_____
Seasonal fuel cost per house($)	***_2,400***____	***_2,600***____	_____
Total bench space(ft²)	***_1,700***____	***_1,892***____	_____
Seasonal fuel cost per bench space ($/ft²)	***__1.41***____	***__1.37***____	_____

Month	Historical fuel usage (units)	Fuel use by month (%)	Monthly fuel cost per bench space ($/ft²)[a] House A	House B	House C
August	____***83***____	___***2***_____	__***0.03***____	__***0.03***____	_____
September	___***208***____	___***5***_____	__***0.07***____	__***0.07***____	_____
October	___***375***____	___***9***_____	__***0.13***____	__***0.12***____	_____
November	___***583***____	___***14***_____	__***0.20***____	__***0.19***____	_____
December	___***667***____	___***16***_____	__***0.23***____	__***0.22***____	_____
January	___***833***____	___***20***_____	__***0.28***____	__***0.27***____	_____
February	___***708***____	___***17***_____	__***0.24***____	__***0.23***____	_____
March	___***417***____	___***10***_____	__***0.14***____	__***0.14***____	_____
April	___***208***____	___***5***_____	__***0.07***____	__***0.07***____	_____
May	____***83***____	___***2***_____	__***0.03***____	__***0.03***____	_____

[a] Monthly fuel cost per bench space ($/ft²) = Seasonal fuel cost per bench space ($/ft²) x Fuel use per month (%)

Figure 2. Calculating weekly overhead costs per square food of bench space.

Name _____*Maryland Flowers*_____ Year _*1990*_ Range description _*Southwest*__

Description	House A	House B	House C
	POLY 28ft by 95ft	***POLY 30ft by 96ft***	_____
Annual depreciation ($):			
Structures	***912***	***981***	
Equipment	***530***	***530***	
Interest on average investment at _***9***__ %	***744***	***792***	
Repairs ($)	***500***	***500***	
Taxes ($):			
Personal property	***100***	***100***	
Licenses	***50***	***50***	
Insurance ($):			
Buildings	***150***	***150***	
Equipment	***75***	***75***	
Liability	***75***	***75***	
Management labor ($):			
Salaries	***5,000***	***5,000***	
Fringe costs	***440***	***440***	
Office expenses ($):			
Salaries	***2,000***	***2,000***	
Fringe costs	***165***	***165***	
Materials	***225***	***225***	
Utilities ($):			
Heat (or use Worksheet 1)	***XX***	***XX***	
Electricity	***375***	***375***	
Water			
Telephone	***480***	***480***	
Nondepreciated equipment ($)	***100***	***100***	
Land ($)	***35***	***35***	
Other			
Annual overhead cost ($/year)	***11,956***	***12,073***	
Number of weeks in use	***42***	***42***	
Weekly overhead cost ($/week)	***285***	***287***	
Total bench space (ft²)	***1,700***	***1,892***	

Weekly overhead cost per bench space ($/ft²) ___*0.17*___ ___*0.15*___ _____

Figure 3. Calculating an enterprise crop budget.

Crop ___*Pointsettia*_____ Year ___*1990*_____ Number of units _*1,448 Plants*_

Range __*Southwest*_____ Greenhouse ___*A*_____

Bench space (ft²) ___*815*_____ Dates _*8/15 to 10/1*__ Bench space (ft²) __*1,700*____ Dates _*10/1 to 11/25*_

Revenue

Buyer	Plants sold	Price per unit ($)	Revenue ($)	Buyer	Plants sold	Price per unit ($)	Revenue
Buyer1	*1,375*	*4.00*	*5,500*				

Total revenue ($) __*5,500*___

Variable Costs ($):

Cuttings	___*650*_____
Pots	___*231*_____
Soil	___*235*_____
Fertilizer	____*30*_____
Growth regulators	____*40*_____
Pesticides	____*50*_____
Sleeves	___*123*_____
Labor [_*90*___hrs @ _____($/hr)]	_____
Interest	____*30*_____
Other	_____
Total	___*1,364*_____

Overhead Costs	Dates:	*8/15 to 10/1*	*10/1 to 11/25*	
a = Weekly cost ($/ft²)		*0.17*	*0.17*	
b = Number of weeks		*6*	*7*	
c = Bench space (ft²)		*815*	*1,700*	
Overhead costs (a x b x c)		*831*	*2,023*	
Total overhead costs ($)		*2,854*		

Heating costs (Worksheet 1)	*Aug*	*Sept*	*Oct*	*Nov*	
a = Monthly cost ($/ft²)	*0.03*	*0.07*	*0.13*	*0.20*	
b = Portion of month	*0.5*	*1.0*	*1.0*	*0.75*	
c = Bench space (ft²)	*815*	*815*	*1,700*	*1,700*	
Heating costs (a x b x c)	*12*	*57*	*221*	*255*	

Total heating costs ($) ***545***

Revenue	- Variable costs	- Overhead costs	- Heating costs	= Profit		All costs	/ Number of plants	+ ***10*** %	= Target price
$ ***5,500***	- $ ***1,364***	- $ ***2,854***	- $ ***545***	= $ ***737***		$ ***4,762***	/ ***1,448***	+ $ ***.33***	= $ ***3.62***

Profit	/ Number of plants	= Profit per plant
$ ***737***	/ ***1,448***	= $ ***0.51 per plant***

Use of Enterprise Budgets in the Greenhouse Industry

by

James C. Hanson
Extension regional farm management specialist
Department of Agricultural and Resource Economics

Stanton A. Gill
Extension regional nursery management and floriculture specialist
Central Maryland Research and Education Center

Will Healy
Extension floriculture specialist
Department of Horticulture
University of Maryland at College Park

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