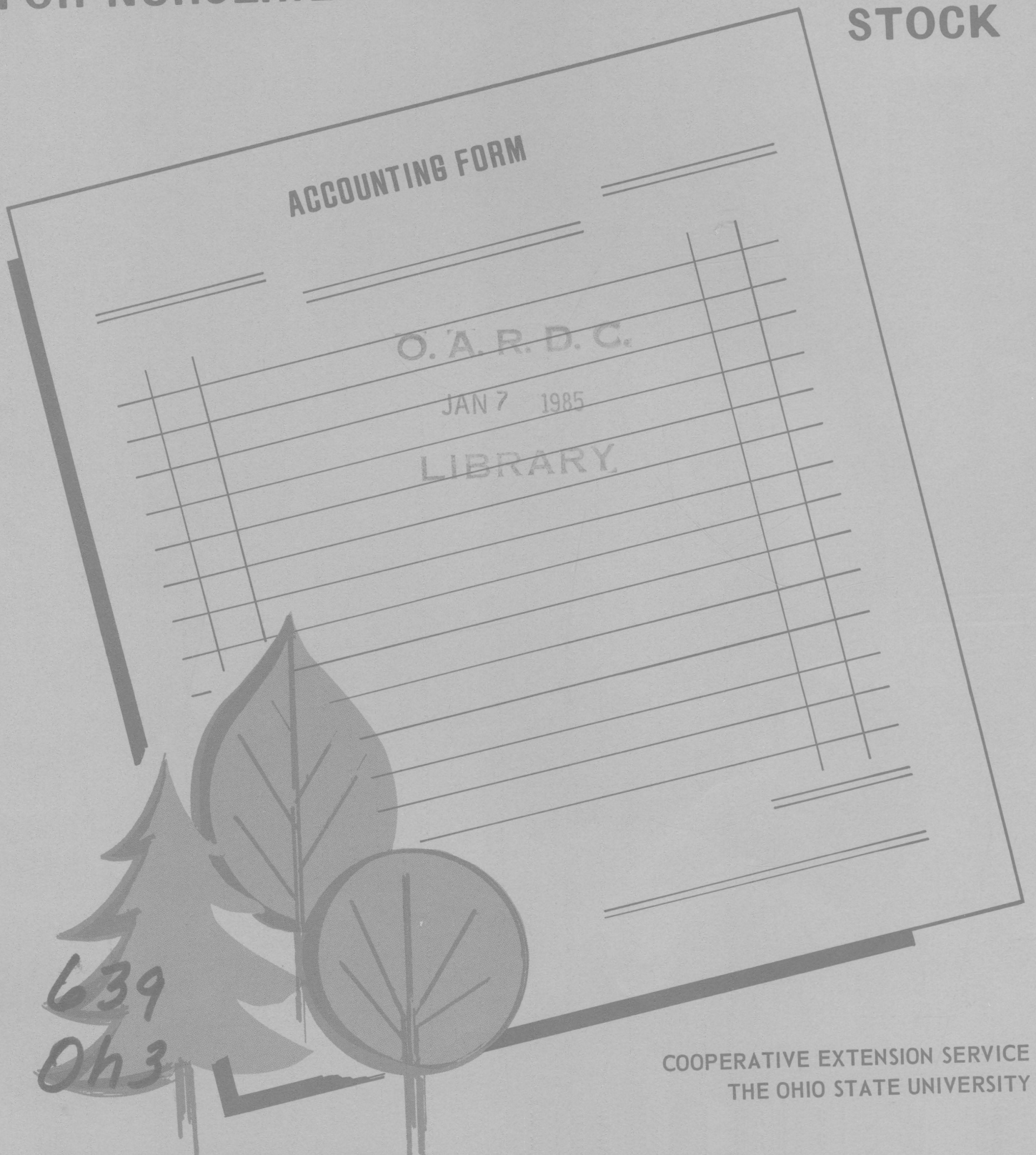
BULLETIN 520

A METHOD OF
UTILIZING ACCOUNTING RECORDS
FOR NURSERIES PRODUCING FIELD GROWN STOCK



COOPERATIVE EXTENSION SERVICE
THE OHIO STATE UNIVERSITY

A Method of Utilizing ACCOUNTING RECORDS FOR NURSERIES

Producing Field Grown Stock

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Compiled for owner-managers of nurseries producing field grown stock. The authors' intent is to illustrate through accounting records how nursery stock can be more accurately priced. By working with a nursery firm's accountant, a set of meaningful records can easily be established that will reveal a more accurate cost situation and thereby enable the manager to set nursery stock prices accordingly.

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Records kept by most nurseries provide only the minimum information required by government regulations. Such records are not designed to be a tool for making management decisions. To go to the expense necessary to obtain detailed information on the cost of production per plant is not advisable for the average nursery. The nurseryman is faced with the situation of legally required records being too inadequate and detailed cost records being too expensive. This publication shows that much of the desired information can be obtained at very little extra cost.

The procedure presented here is designed to establish standard costs on a seasonal basis for the different operations of the nursery as expressed in dollars and as a percent of net sales. Accounts that are directly involved in producing sales for the current year such as balling and burlaping labor, balling supplies, and advertising are analysed as a percent of net sales. Accounts that are not directly involved in producing sales for the current year such as planting labor, fertilizer, and real estate taxes are analysed by comparing the dollars spent with the previous year. Following this procedure, greater profits can be attained by finding more efficient methods of operations by making test checks and time studies for comparison with the established standards. More accurate pricing can be done when the manager knows how much he must increase his prices to cover increased costs.

Record System

The underlying structure of any accounting system is provided by its chart of accounts. Hence, the first step in establishing an accounting system is to prepare a complete list of the account titles to be used, based upon the nature of the business operation, the needs of its management, and the requirements of law. But, with different types of business operations and with management desiring different records from a record system, it is not surprising to have similar types of companies with quite different charts of accounts. Most charts of accounts, nevertheless, do have two classifications in common. They are: (1) classification by financial breakdown and (2) classification by organizational breakdown of the business.

As to the first of these, it is common to group all asset accounts together, followed by liabilities, net worth, revenues and expenses (Form 1). The numbering system used and the amount of detail provided in each category may vary considerably, but it is from such a base that an account structure is built.

FORM 1

CHART OF ACCOUNTS

CURRENT ASSETS

(code)	
011	Petty Cash
012	Cash in Bank
013	Accounts Receivable

FIXED ASSETS

021	Land
022	Buildings
022-A	Accumulated Depreciation—Buildings
023	Machinery and Equipment
023-A	Accumulated Depreciation—Machinery and Equipment
024	Office Furniture and Fixtures
024-A	Accumulated Depreciation—Office Furniture and Fixtures

CURRENT LIABILITIES

101	Accounts Payable
102	Accrued Wages
103	Accrued Taxes
104	Short Term Loans

FIXED LIABILITIES

121	Mortgage Payable

NET WORTH

130	Proprietorship

REVENUES

201	Sales
202	Sales Allowances
203	Purchases for Resale
204	Freight Out

Form 1

CHART OR ACCOUNTS
(Continued)

EXPENSES

301 General Labor (See Form 1-A)
302 Social Security Taxes
303 Workmen's Compensation
304 Hospitalization Insurance
305 Employee Recreation and Education
306 Packaging Mixtures (peat moss, perlite, bark)
307 Packaging Supplies (burlap, pots, twine, nails)
308 Manure, Peat and Fertilizer
309 Weed Control Supplies
310 Insect Control Supplies
311 General Nursery Supplies
312 Repair and Maintenance—Buildings
313 Repair and Maintenance—Equipment
314 Gasoline and Lubricants
315 Electricity and Heating
316 Water and Irrigation Expense
317 Equipment Rental
318 Rent Expense
319 License and Fees
320 Soil and Water Conservation
321 Weather Protection
322 Depreciation of Buildings
323 Depreciation of Equipment
324 Real Estate Taxes
325 Other Taxes
326 Insurance Expense
327 Freight In
328 Purchase of Liners
329 Other Production Costs

340 Sales Salaries
341 Commissions
342 Telephone Expenses—Sales
343 Advertising and Promotion Expense
344 Traveling Expense
345 Customer Entertainment
346 Bad Debts
347 Other Selling Expenses

350 Management Salaries
351 Office Wages
352 Telephone Expense—General
353 Office Supplies
354 Legal and Accounting
355 Donations, Dues and Subscriptions
356 Other General Expenses

360 Purchase Discount
361 Miscellaneous Income

370 Interest Expense
371 Sales Discount
372 Miscellaneous Expenses

The second element, common to most charts of accounts, is the organizational breakdown of the nursery. Hence, the account structure generally includes the departments with a breakdown of activities common to each respective department (Form 1-A).

Probably the most important purpose of organizational classification is to provide data for selected analysis and reports. To obtain the desired data, various accounting forms must be used to record the activities of the nursery.

With labor being a major item of expense, the first form discussed is the time card (Form 2). On this card the hours worked each day are recorded. Hours may be recorded manually or by a time clock. Each employee's earnings are computed on the time

FORM 1-A

CHART OF ACCOUNTS

GENERAL LABOR

(code)
01 Digging and Packaging
02 Hauling in From Field
04 Loading Customer Trucks

11 Planting
12 Cultivating
13 Hoeing and Weeding
14 Pruning
15 Insecticide Application
16 Irrigation
17 Chemical Weed Control Application
18 Fertilizer Application
19 Fitting Ground
20 Weather Protection

26 Repair and Maintenance—Equipment
27 Repair and Maintenance—Buildings
28 General Farm Maintenance

31 Greenhouse Labor
33 Field Propagation

50 Holiday, Sick Leaves and Vacations
60 Office Wages
61 Inventory

DEPARTMENTS

1 General Nursery
2 Spring Orders
3 Fall Orders
4 Storage
5 Landscape Department
6 Propagation
7 Others

FORM 2

TIME CARD

Week Ending_____, 19____

NO.

NAME

DEDUCTIONS		EARNINGS
SOC. SEC.	REG. HRS. AT	
INCOME TAX	O. T. HRS. AT	
HOSP.	TOTAL HRS.	
MISC.	TOTAL WAGES	
	TOTAL DEDUCTIONS	
TOTAL DEDUCTIONS	NET WAGES	

IN	OUT	IN	OUT	IN	OUT

card and entered on the payroll records. There are several commercial payroll systems available from which to choose, but a system should be selected that will prepare the payroll checks, payroll journal and the employee's earnings sheet in one operation.

Another important form in the nursery accounting system is the Daily Job Record (Form 3). This form is especially important because it is the basis for several other reports. It is designed to be filled out by the crew foreman or each crew member, since the average nursery worker is frequently not familiar with the form and cannot fill it out properly.

FORM 3

DAILY LABOR JOB RECORD

Date_____

ORDERS	Dept.	EMPLOYEE CLOCK NUMBER						
		2	4	9	12	13	15	
01 Packaging and Digging	2	4	4	4	4	4	4	
02 Hauling In								
03 Yard								
04 Loading								
GROWING LABOR								
11 Planting	1	4	4	4	4	4	4	
12 Cultivating								
13 Hoeing and Weeding								
14 Pruning								
15 Insect Control								
16 Irrigation								
17 Weed Control								
18 Fertilizer								
19 Fitting Ground								
20 Weather Protection								
MAINTENANCE LABOR								
26 Rep. and Maint.—Equip.								
27 Rep. and Maint.—Bldgs.								
28 General Farm Maint.								
PROPAGATION LABOR								
31 Greenhouse Labor								
32 Taking Cuttings								
33 Field Propagation								
OTHER LABOR								
50 Holi., Sick Lve. and Vaca.								
60 Office								
61 Inventory								
TOTAL HOURS		8	8	8	8	8	8	

DEPARTMENTS

1 General Nursery
2 Spring Orders
3 Fall Orders
4 Storage
5 Landscape Dept.
6 Propagation
7 Others

_____ Foreman

_____ Supervisor

FORM 4

TIMEKEEPING REPORT

Week Ending _____, 19____ Page _____ of _____

Stock No.	Name	Monday Code	Monday Hrs.	Tuesday Code	Tuesday Hrs.	Wednesday Code	Wednesday Hrs.	Thursday Code	Thursday Hrs.	Friday Code	Friday Hrs.	Saturday Code	Saturday Hrs.	Sunday Code	Sunday Hrs.	Total Code	Total Hrs.	Rate	Sub Total Code	Sub Total Amt.	Gross Pay	Remarks
2	W. JONES	2-01 1-11	4 4	1-11	8	1-11	8	2-01	8	1-13	8					1-11 1-13 2-01	20 8 12	2.00	1-11 1-13 2-01	40.00 16.00 24.00	80.00	
4	T. BROWN	2-01 1-11	4 4																			
9	R. JOHNSON	2-01 1-11	4 4																			
12	B. WILLIAMS	2-01 1-11	4 4																			
13	C. SMITH	2-01 1-11	4 4																			
15	H. MILLER	2-01 1-11	4 4																			

In a few minutes the foreman can complete the form for his crew. The column headings may need to be revised to fit the individual nursery so that a minimum of writing is required (the time worked on each job may be expressed to the nearest half hour). If the manager wants to know what work was performed during the day, such information can be recorded on the reverse side of the form. Thus, it is easier to make comparative cost studies.

When the Daily Job Record is turned in to the office, the information is recorded on the Timekeeping Report (Form 4). By use of the code numbers from the Chart of Accounts, the clerical personnel can readily record the information. The Daily Job Records are recorded daily and totaled at the end of the week (Form 5). Total hours and gross pay should agree with the weekly payroll journal.

FORM 5

WEEKLY HOURLY LABOR SUMMARY

Week Ending_____, 19____

DEPARTMENT	1 General Nursery	2 Spring Orders	3 Fall Orders	4 Storage	5 Landscape Dept.	6 Propagation	7 Others
ORDERS							
01 Packaging							
02 Hauling In							
03 Yard							
04 Loading							
GROWING LABOR							
11 Planting							
12 Cultivating							
13 Hoeing and Weeding							
14 Pruning							
15 Insect Control							
16 Irrigation							
17 Weed Control							
18 Fertilizer							
19 Fitting Ground							
20 Weather Protection							
MAINTENANCE LABOR							
26 Rep. & Main.—Equip.							
27 Rep. & Main.—Bldgs.							
28 General Farm Main.							
PROPAGATION LABOR							
31 Greenhouse Labor							
32 Taking Cuttings							
33 Field Propagation							
OTHER LABOR							
50 Holi., Sick Lve., Vaca.							
60 Office							
61 Inventory							
TOTALS							

A Record of Cash Receipts is needed to enter in detail any funds received. This record should show the date of receipt, from whom funds were received, check number, check date, the amount, and the reason for the receipt. When receipts are deposited into the bank checking account, enter the amount of each deposit on the check book stub. At the end of the month, total all receipts for the month for all accounts involved. These account totals are then entered on the account ledger sheets.

As expenditures are made, make entries on the checkbook stub to whom the check was issued, date of issuance, amount, and account number to be charged. By entering all deposits and disbursements on the checkbook stubs daily, a current bank balance will be shown. For convenience in tabulating expenditures, information on the checkbook stub should be entered to the Cash Disbursement Journal weekly or at the end of the month. Total expenditures for each account at the end of the month and enter on the proper account ledger sheet. During shipping season rush, if time is not available, make entries in ledger sheets at end of season.

One of the most useful forms for handling orders from customers is a pre-numbered, multiple copy, snap-out form. A typical form contains the following copies:

1. Original Invoice } customer when shipped
2. Duplicate Invoice }
3. Triplicate Invoice—office file copy
4. Order Acknowledgement—customer when order is typed
5. Order Work Copy—foreman to process order
6. Packing Slip—sent with the shipment
7. Receiving Copy—sent with the shipment, signed and returned to shipper

This type of form makes it possible to prepare with one typing, all copies needed. As orders are received, they should be recorded (Form 6).

FORM 6

RECORD OF ORDERS BOOKED

For Spring Season of 1969

Date	Order No.	Customer Name	Location	Order Amount	Date Shipped	Shipped Amount
2-1	Orders Booked to Date			25,000.00		
2-3	2304	A.B.C. Landscape	Akron, O.	1,000.00		
2-4	2305	Modern Landscaping	Columbus, O.	500.00		
2-4	2306	John's Garden Center	Cleveland, O.	600.00		
2-6	2307	City of Toledo	Toledo, O.	900.00		
2-9	Orders Booked This Week			3,000.00		
2-9	Orders Booked to Date			28,000.00		
2-10	2308					

Use of the Budgeted Orders and Shipping Schedule (Form 7) is a way to plan ahead. Other records should be set up to accumulate any additional information needed.

FORM 7

ORDERS AND SHIPPING BUDGET

For Spring Season of 1969

Period Ending	ORDERS BOOKED Last Year Actual	This Year Budget	This Year Actual	ORDERS SHIPPED Last Year Actual	This Year Budget	This Year Actual
Oct. 1	2,000	3,000	1,600			
15	4,000	5,000	5,000			
Nov. 1	7,000	8,000	7,000			
15	10,000	11,000	12,000			
Dec. 1	12,000	14,000	14,000			
15	14,000	16,000	16,000			
Jan. 1	15,000	17,000	18,000			
15	18,000	20,000	21,000			
Feb. 1	22,000	25,000	25,000			
9	24,000	27,000	28,000			
16	27,000	30,000	32,000			
23	31,000	35,000	36,000			
Mar. 2	34,000	38,000	37,000			
9	37,000	41,000	40,000			
16	40,000	44,000	43,000	2,000	3,000	1,000
23	42,000	47,000	45,000	7,000	8,000	6,000
30	45,000	49,000	47,000	13,000	15,000	14,000
Apr. 6	47,000	52,000	52,000	20,000	22,000	____
13	50,000	54,000	____	26,000	29,000	____
20	52,000	56,000	____	32,000	36,000	____
27	54,000	58,000	____	39,000	43,000	____
May 4	56,000	60,000	____	45,000	50,000	____
11	57,000	62,000	____	50,000	55,000	____
18	59,000	64,000	____	55,000	60,000	____
25	60,000	66,000	____	58,000	63,000	____
31	60,000	66,000	____	60,000	66,000	____

Reports

After the nursery's operations have been compiled in the records, the information should be presented in report form. One of the most important reports is the Statement of Profit and Loss, similar to Form 8. Most accounts can best be analysed at the end of the natural seasons of the nursery, rather than weekly or monthly. The generally accepted accounting practice of presenting statements showing monthly and year-to-date figures does not fit the nursery industry as well as seasonal and annual reports. The suggested accounting periods are:

Spring—January through May
Summer—June through August
Fall—September through December
Annual—Twelve Month Period

Care must be taken to include for the season only expenses and income of the season. For example, unpaid bills must be added to the period in which they were used rather than when paid. Purchases of supplies that have been paid for but not used should be deferred to the period when used. Income should be shown for the season when the order was shipped rather than when payment was received. Although the Records may be on a cash basis of accounting for tax purposes, work sheet entries can be made to charge the expenses and income to the correct season.

The same form that is used in the Sample Profit and Loss Statement should be used for each of the

FORM 8

STATEMENT OF PROFIT AND LOSS

For the Period from January 1 to December 31, 1969

		Dollar Volume	Percent
201	Sales	$110,000	
202	LESS: Sales Allowances	2,000	
203	Purchases for Resale	5,000	
204	Freight Out	3,000	
	NET SALES FROM NURSERY	$100,000	100.0%
	Packaging and Shipping Costs		
301	Sales Processing Labor (Form 8-A)	$ 17,000	17.0%
306	Packaging Mixtures	1,000	1.0
307	Packaging Supplies	7,000	7.0
	TOTAL SALES PROCESSING COSTS	$ 25,000	25.0%
	Production Costs		
301	Propagation Labor (Form 8-A)	$ 2,000	2.0%
301	Growing Labor (Form 8-A)	7,000	7.0
301	Maintenance Labor (Form 8-A)	3,000	3.0
301	Other Hourly Labor (Form 8-A)	2,000	2.0
302	Social Security Taxes	1,500	1.5
303	Workmen's Compensation	500	.5
304	Hospitalization Insurance	500	.5
305	Employee Recreation and Education	300	.3
308	Manure, Peat and Fertilizer	2,000	2.0
309	Weed Control Supplies	1,500	1.5
310	Insect Control Supplies	1,500	1.5
311	General Nursery Supplies	1,000	1.0
312	Repair and Maintenance—Buildings	1,000	1.0
313	Repair and Maintenance—Equipment	2,000	2.0
314	Gasoline and Lubricants	1,500	1.5
315	Electricity and Heating	800	.8
316	Water and Irrigation Expense	700	.7
317	Equipment Rental	1,000	1.0
318	Rent Expense	1,000	1.0
319	License and Fees	300	.3
320	Soil and Water Conservation	1,000	1.0
321	Weather Protection	1,000	1.0
322	Depreciation of Buildings	1,500	1.5
323	Depreciation of Equipment	1,500	1.5
324	Real Estate Taxes	1,000	1.0
325	Other Taxes	500	.5
326	Insurance Expense	500	.5
327	Freight In	500	.5
328	Purchases and Liners	2,000	2.0
329	Other Production Costs	1,400	1.4
	TOTAL PRODUCTION COSTS	$ 42,000	42.0%
	GROSS PROFIT FOR OPERATIONS	$ 33,000	33.0%
		Dollar Volume	**Percent**
	Selling Expenses		
340	Sales Salaries	$ 2,000	2.0%
341	Commissions	2,000	2.0
342	Telephone Expense—Sales	500	.5
343	Advertising and Promotion Expense	2,000	2.0
344	Traveling Expense	800	.8
345	Customer Entertainment	400	.4
346	Bad Debts	100	.1
347	Other Selling Expenses	200	.2
	TOTAL SELLING EXPENSES	$ 8,000	8.0%
	General and Administrative Expenses		
350	Management Salaries	$ 13,000	13.0%
351	Office Wages	2,000	2.0
352	Telephone Expense—General	500	.5
353	Office Supplies	500	.5
354	Legal and Accounting	500	.5
355	Donations, Dues and Subscriptions	200	.2
356	Other General Expenses	300	.3
	TOTAL GENERAL AND ADMINISTRATIVE EXPENSES	$ 17,000	17.0%
	NET OPERATING PROFIT	$ 8,000	8.0%
	Other Income		
360	Purchase Discount	$ 500	.5%
361	Miscellaneous Income	500	.5
	TOTAL OTHER INCOME	$ 1,000	1.0%
	Other Expenses		
370	Interest Expense	$ 1,000	1.0%
371	Sales Discount	500	.5
372	Miscellaneous Expenses	500	.5
	TOTAL OTHER EXPENSES	$ 2,000	2.0%
	NET PROFIT	$ 7,000	7.0%

seasons. After the first 12 months records have been compiled, the next year's reports should be a comparative statement as follows:

COMPARATIVE STATEMENT OF PROFIT AND LOSS

For the Period from January 1 to May 31

	This Year		Last Year	
	Amount	Percent	Amount	Percent
Gross Sales	$110,000		$102,000	
Less: Sales Allowance	2,000	2.0%	1,500	1.6%
Purchases for Resale	5,000		4,500	
Freight Out	3,000		4,000	
Net Sales From Nursery	$100,000	100.0%	$ 92,000	100.0%
Packaging and Shipping Cost				
Sales Processing Labor (See Form 8-A)	$ 17,000	17.0%	$ 15,000	16.3%
Packaging Mixtures	1,000	1.0%	900	1.0%

FORM 8-A

HOURLY LABOR SUMMARY

For the Period from January 1 to December 31, 1969

	Dollar Volume	Percent
Sales Processing Labor:		
01 Digging and Packaging	$ 12,000	12.0%
02 Hauling in From Field	2,000	2.0
04 Loading Customer Trucks	3,000	3.0
TOTAL SALES PROCESSING LABOR	$ 17,000	17.0%
Growing Labor:		
11 Planting	$ 2,000	2.0%
12 Cultivating	600	.6
13 Hoeing and Weeding	2,000	2.0
14 Pruning	600	.6
15 Insecticide Application	400	.4
16 Irrigation	300	.3
17 Chemical Weed Control Application	300	.3
18 Fertilizer Application	200	.2
19 Fitting Ground	100	.1
20 Weather Protection	500	.5
TOTAL GROWING LABOR	$ 7,000	7.0%
Maintenance Labor:		
26 Repair and Maintenance—Equipment	$ 1,000	1.0%
27 Repair and Maintenance—Buildings	1,000	1.0
28 General Farm Maintenance	1,000	1.0
TOTAL MAINTENANCE LABOR	$ 3,000	3.0%
Propagation Labor:		
31 Greenhouse Labor	$ 1,000	1.0%
33 Field Propagation	1,000	1.0
TOTAL PROPAGATION LABOR	$ 2,000	2.0%
Other Hourly Labor:		
50 Holiday, Sick Leaves and Vacations	$ 1,500	1.5%
61 Inventory	500	.5
TOTAL OTHER HOURLY LABOR	$ 2,000	2.0%
TOTAL HOURLY LABOR	$ 31,000	31.0%

After the manager has determined from his records what the nursery's standard cost is for a particular operation, he can then start experimenting on ways to lower the cost.

Operations directly related to sales can be analysed as a percent of net sales. Sales Processing Labor is a good example since it is the largest item of expense and is directly related to sales. A few of the ways that expense can be analysed are:

Standard Digging percent	vs	Test Checks
Standard Digging percent	vs	Piece Work
Hand Digging	vs	Machine Digging
Hand Balling and Burlaping	vs	Hand Field Potting
Large Crew	vs	Small Crew
Shade Trees	vs	Evergreens

With information from the Daily Job Record, the following test check can be made with two crews:

> First crew consists of 10 men working 8 hours at an hourly rate of $2. For the period, the crew dug $800 worth of Balled and Burlaped shade trees. Using the labor cost of $160 and the production of $800, we find that the digging labor is 20 percent.
>
> Second crew consists of 14 men working 8 hours at an hourly rate of $2. For the period, the crew dug $2,800 worth of evergreens placed into pots. Using the labor cost of $224 and the production of $2,800, we find that the digging labor cost is 8 percent.

Such test checks using percents enable one to see the digging costs of the types of plants that are above or below the nursery standard. A comparison should be made to established nursery standards, prepared by The Horticultural Research Institute, to determine how each nursery's costs compare with average harvesting costs. Since the plant that is more costly to dig is usually more costly to grow, the nurseryman definitely needs to consider this in setting his prices.

Another way to measure how much labor costs are increasing from one year to the next is to examine the changes in the average rate per hour on the weekly payroll. By dividing the total hours worked into the gross payroll dollars, the average hourly rate can be determined. Then this figure can be compared with the rate for the same week in the previous year. If the rate last year was $1.89 and the current year is $2, the increase would be 6 percent. This would indicate that prices need to be increased 6 percent just to cover the increased labor costs.

With weekly reports, the manager can be informed of the current status of the nursery. These weekly Operations Reports (Form 9) should include any subject on which the manager wants information.

FORM 9

WEEKLY OPERATIONS REPORT

Week Ending Sunday, April 6, 1969

		Last Year Actual	This Year Budget	This Year Actual
I.	Orders Booked This Week	$ 2,000	$ 3,000	$ 5,000
	Orders Booked to Date	$47,000	$52,000	$52,000
II.	Orders Shipped This Week	$ 7,000	$ 7,000	$ 8,000
	Orders Shipped to Date	$20,000	$22,000	$22,000
III.	Weekly Gross Payroll	$ 1,400		$ 1,500
	Number of Hours Worked	740		750
	Average Hourly Rate	$ 1.89		$ 2.00
	Increase Percent Over Last Year			6.0%
IV.	Weekly Hourly Labor Summary			
V.	Production Report*			
	Orders Shipped This Week	$ 7,000		$ 8,000
	Sales Processing Labor	1,260		1,280
	Sales Processing Percents	18.0%		16.0%

* Throughout the year items included in this Production Report will vary with the work being done.

Monthly reports (Form 10) provide the opportunity to study certain matters such as Accounts Receivable, Accounts Payable, and Cash Problems.

FORM 10

MONTHLY REPORT

As of First of Month—Report Due by 10th

	Last Year	This Year
I. Sales to Date for the Season		
II. Accounts Receivable—Total		
A. Age Analysis		
Current Month		
30- 40 Days		
60- 90 Days		
90-120 Days		
Over 120 Days		
III. Unpaid Bills—Total		
A. Age Analysis		
Current Month		
30- 60 Days		
60- 90 Days		
90-120 Days		
Over 120 Days		
IV. Cash Balance		

V. Cash Flow Analysis—Compare Actual with Budget

VI. Monthly Unadjusted Trial Balance
(This report is for use by the accountant. It is of little value for the manager.)

VII. End of Season reports should be completed by the 15th of the month following the cut-off period. Care must be taken to include for the season only expenses of the season. For example, unpaid bills must be added to the period in which they were used than when paid. Also, purchases for supplies that have been paid for but not used should be deferred to the proper period.

Financial planning can be done through use of a Cash Flow Statement (Form 11). This is a good report to show a banker when requesting a loan.

Data Processing

The use of data processing makes it possible to obtain, readily, information that previously was time consuming. By using the facilities of a Data Processing Service, even a small nursery can participate. Although data processing has almost unlimited possibilities, it should be used with care if maximum benefit is to be derived.

The first two steps in the use of data processing should be:

1. Sales Analysis
2. Inventory Records

At the end of the spring season when all invoices have been made for the material shipped, the office copy of these invoices can be taken to a Data Processing Service for analysis. The minimum information derived should be:

1. Number of plants sold by variety and size
2. Value of plants sold by variety and size

This is the information referred to in the earlier comments on inventory records. This report gives the value of plants sold this year. By multiplying last year's unit prices by this year's quantity, you can tell what would have been received at the old prices. By comparing this figure with the current year's figure, the percent of price increase can be determined.

A perpetual inventory record can be obtained by entering the beginning inventory of saleable plants by variety and size. Then, tabulate each order when it is accepted.

This information would appear in a report form as follows:

Cultivar	Size	Beginning Inventory	Number Sold	Unsold Balance
Juniper pfitzer	12-15"	10,000	4,000	6,000
	15-18"	8,000	5,000	3,000
	18-24"	6,000	3,000	3,000

Owner's Salary and Net Profit

The owner-manager receives compensation from the nursery in two ways. One is his salary for his efforts in managing the nursery. The second is the return on his investments as represented by net profit. In order to make this distinction, it is important that the owner-manager allow himself a salary that is in line with the work he does.

The old idea that a nurseryman just makes a living from the nursery operation and builds up an estate on the sale of land is not good business planning. One measure of the success of the nursery operation is to determine the salary that the owner-manager could get from another employer and to see what he could get by investing his capital in some other type of investment.

Inventory

Once a year, all plants in the nursery should be counted. Make this inventory count at the end of the accounting seasons. Usually, the best time is at the end of the summer season. The fact that plants may vary in age from 1 to 12 years makes it essential that the manager know not only what he has to sell at a given time but also the amount of stock below saleable size. The analysis of sales tells the manager what is being sold. By relating the sales information to inventory. he can more easily make his growing and marketing plans.

Placing a value on the inventory presents a special problem for the nursery accountant. Any difference between the value of the inventory at the beginning and the end of the year affects the profit for the period. The average age of plants sold by a field-growing nursery is from 6 to 10 years. If a steady sales volume and propagation schedule is maintained, the inventory should not change much within 1 year. There are so many factors that make it difficult to get an accurate and consistent valuation of the inventory that the problems created are usually greater than the advantages gained. Under normal operations, it is suggested that the inventories be ignored on the Profit and Loss Statement.

To use data processing requires the preparation of a code. A 4 digit stock number is assigned to each kind of plant that is grown. The first 2 digits represent the genus and the last 2, the species. A 2 digit code covers all of the sizes that will be sold.

FORM 11

CASH FLOW STATEMENT

From January 1 to December 31, 1969

		January	February	March	April	May	June	July	August	September	October	November	December	Totals
1	Cash Balance First of Month	$ 2,000	$ 2,000	$ 1,000	$ 2,400	$ 6,900	$ 8,900	$ 5,900	$ 4,900	$ 1,900	$ 3,900	$ 8,900	$10,000	$ 2,000
2														
3	Funds Provided:													
4	Receipts from Customers	$ 5,000	$ 1,000	.....	$15,000	$20,000	$21,000	$ 5,000	$ 3,000	$10,000	$15,000	$10,000	$ 5,000	$110,000
5	Bank Operating Loan		5,000	$10,000										15,000
6	Total Funds Provided	$ 5,000	$ 6,000	$10,000	$15,000	$20,000	$21,000	$ 5,000	$ 3,000	$10,000	$15,000	$10,000	$ 5,000	$125,000
7	Total Funds to be Accounted for	$ 7,000	$ 8,000	$11,000	$17,400	$26,900	$29,900	$10,900	$ 7,900	$11,900	$18,900	$18,900	$15,900	$127,000
8														
9														
10	Funds Applied:													
11	Salaries	$ 1,400	$ 1,400	$ 1,500	$ 1,500	$ 1,400	$ 1,400	$ 1,400	$ 1,400	$ 1,400	$ 1,400	$ 1,400	$ 1,400	$ 17,000
12	Hourly Payroll	1,000	1,000	4,000	6,000	4,000	3,000	2,000	2,000	3,000	2,000	2,000	1,000	31,000
13	Commissions					1,000	1,000							2,000
14	Installment Payments	250	250	250	250	250	250	250	250	250	250	250	250	3,000
15	Purchases for Resale						3,000				2,000			5,000
16	Freight Out					500	1,500				1,000			3,000
17	Packaging Supplies		2,000	1,000		2,500					500	1,000		7,000
18	Purchases of Liners						2,000							2,000
19	Manure, Peat and Fertilizer					1,000						1,000		2,000
20	Rent Expense						500						500	1,000
21	Advertising and Promotion			500	500	500				500				2,000
22	Other Operating Expenses	2,350	2,350	1,350	2,250	1,850	1,350	2,350	2,350	2,850	2,850	2,350	1,850	26,100
23	Bank Operating Loan Repayment					5,000	10,000							15,000
24	Distribution of Profit												7,000	7,000
25		$ 5,000	$ 7,000	$ 8,600	$10,500	$18,000	$24,000	$ 6,000	$ 6,000	$ 8,000	$10,000	$ 8,000	$12,000	$123,100
26											$ 8,900	$10,900	$ 3,900	$ 3,900
27	Cash Balance End of Month	$ 2,000	$ 1,000	$ 2,400	$ 6,900	$ 8,900	$ 5,900	$ 4,900	$ 1,900	$ 3,900				

28

29 I. The above figures are taken from the Cash Receipts Journal and the Cash Disbursements
30 Journal.

31

32 II. By using the experience of the past year and the plans for the coming year a Cash Flow
33 Budget can be prepared. The budget can be for a short term or the full year. A short term
34 Cash Flow Budget is especially helpful when it covers the critical short cash periods such
35 as January through March.

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37
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39
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Pricing

Current prices of nursery stock have been arrived at, mainly, in two ways. First, the nursery manager makes his own appraisal of the supply and demand and sets his prices accordingly. Second, he finds out what other nurseries in his area are charging. He gets this information by looking at the newly published price lists or by being told by visiting buyers what a plant can be purchased for down the road. Costs of production are given little consideration because adequate cost figures are not available.

The nurseryman is faced with continuing increases in operating costs. These rising costs must be offset by increases in prices of plants sold or by finding more efficient methods of operations. Although it is not practical to keep costs on a per plant basis, the accounting procedure as previously outlined tells the nurseryman if prices are being raised enough to keep pace with rising costs. The accounting records can best be analysed when stated in percents. The major cost items should be studied and compared with the average sales price increase. Some of the major cost items are:

	This Year	Last Year	Increase
Average Hourly Labor Rate	$ 2.00	$ 1.89	7%
Sales Processing Labor Rate*	17%	17%	0%
Burlap Cost Per Thousand	$100.00	$93.00	7%
Fertilizer Cost Per Ton	$ 83.00	$78.00	6%

* Sales processing labor rate is the best indicator of the effect of price changes because it is the largest single cost item and is directly related to sales. If the average sales price increases at the same rate as the Sales Processing Labor (Digging and Shipping Labor), the percent of net sales will stay the same from one year to the next. If prices are not raised enough to cover the increases in Sales Processing Labor, this percent of net sales will increase with a resulting decrease in profit.

The average sales price increase percent can be computed as follows:

Evergreens Sold

Size	This Year's Units Sold	Last Year Unit Price	Last Year Value	This Year Unit Price	This Year Value
12-15"	1000	$2.00	$ 2,000.00	$2.15	$ 2,150.00
15-18"	1000	3.00	3,000.00	3.20	3,200.00
18-24"	1000	4.00	4,000.00	4.30	4,300.00
24-30"	1000	5.00	5,000.00	5.35	5,350.00
			$14,000.00		$15,000.00
Average Sales Price Increase					7%

The average sales price increase was computed as follows:

15,000 — 14,000 = 1,000

14,000 ÷ 1,000 = 7%

[This year's sales less sales at last year's prices equals sales increase from increased prices.]

The above example shows that each of the selected cost items was covered by the average sales price increase. Other cost items can be compared in a similar manner.

Use the same procedure in setting prices for the coming year. The number of units sold during the past spring season should be used in these calculations. Research has shown that up to 75 percent of a total year's sales are made in the spring season. Therefore, it's adequate to use just the units sold during this period for the computations.

From the general economic conditions and the nursery's past records, the manager can estimate the percent of operating cost increases that he anticipates for the coming year. By applying this expected percent change to the current prices, the desired new prices can be reached.

Since price competition usually will not allow a uniform "across the board" price increase, it is necessary to project the effect of the changes on all of the cultivars offered for sale. Some prices will have to be raised more than the average percent, other less, to reach the desired average percent increase.

Once determined that a price increase is needed, the manager will probably encounter less customer resistance if price increases are made effective at the beginning of the spring season when demand is the greatest. The standard nursery practice of issuing new prices the beginning of the fall season for coming fall and spring seasons has made the problem of altering prices more difficult when a firm is faced with a changing cost situation. Pricing for a calendar year period, January-December, may be better than pricing for fall and spring seasons.

Summary

Since collecting cost figures on a per plant basis is extremely time consuming and expensive, an alternative system has been devised to obtain production costs. The procedures presented were designed to establish standard costs on a seasonal basis for the different operations of the nursery as expressed in dollars and as a percent of net sales.

To enable the owner-manager to arrive at more precise management decisions, data has been obtained from the following forms: chart of accounts, time card, daily job record, timekeeping report, and weekly hourly labor summary. Other forms needed to provide necessary information are: record of cash receipts, record of orders booked, orders and shipping budget, statement of profit and loss, hourly labor summary, weekly operations reports, monthly reports, and a cash flow statement.

When the manager of a nursery, producing field grown plants, knows what percent price adjustments are necessary to cover increased costs, more accurate pricing can be established and greater profits should be obtained.