



PLANNING FOR PROFIT



Province of British Columbia
Ministry of Agriculture, Fisheries and Food

Organic Echinacea Southern Interior Spring 1995

Agdex 263 - 810

Introduction

The planning process provides producers with the opportunity to look at their operation as a group of distinct enterprises. Alternative enterprises should be evaluated on the basis of **Contribution Margin**, taking into consideration resource constraints, market opportunity, risk and uncertainty.

The **Contribution Margin** must provide funds for interest, overhead and other indirect expenses as well as a return for living expenses, loan repayment and investment. These items should be included in the overall farm plan which will include a **Projected Income Statement** and **Projected Cash Flow Statement**.

Key Factors

| | Target |
|----------|---|
| Quantity | 10,000 dried lbs. of herb 1,000 dried lbs. of root |
| Price | Herb - \$3.00/lb. Root - \$7.00 - 13.00/lb. |

It is essential to secure a market before planting. In the U.S., distributors and manufacturers set contracts with growers before the season. Growers need to: research the markets; identify whether to supply the large dried market or the smaller fresh market; and determine if they can grow the volumes and quality to supply their chosen market.

Echinacea purpurea is the major commercial species in North America but Echinacea angustifolia is also in demand. Presently, the majority of the E. angustifolia available is wildcrafted and is about twice the price of E. purpurea.

Market Assessment

Capsules and tincture are the major products in this market. Growers should be prepared to have clean, dried, cut or milled product to sell. A strong preference exists for organic product. A relatively small acreage can supply the market at this time but the market for Echinacea in North America is growing rapidly.

Cash Flow Timing

| | J | F | M | A | M | J | J | A | S | O | N | D |
|------|---|---|---|---|---|---|---|----|----|----|----|---|
| %Inc | | | | | | | | | 10 | 30 | 60 | |
| %Exp | | | | | 5 | 5 | 5 | 30 | 55 | | | |

The above information indicates the timing of monthly flow of funds included in the **Contribution Margin** only. A complete **Projected Cash Flow** should include indirect expenses, capital sales and purchases, loans and personal expenses.

Areas of Supply of Echinacea

- U.S.A. (Washington, Oregon, Colorado, Idaho, Missouri, Minnesota, Wisconsin)
- Europe (Germany, Switzerland)
- Canada (Ontario, British Columbia, Saskatchewan)
- Australia

For more information on this product or on financial planning,

Contact: AL OLIVER, P.Ag.
Ginseng Specialist
Kamloops
GEORGE GELDART, P.Ag.
Farm Management Specialist
Vernon

Prepared By: ANDREA GUNNER, P.Ag.

ECHINACEA

Target Yield - 11,000 lbs. (dried)

This budget is a preliminary projection for potential commercial *Echinacea purpurea* culture in B.C. Actual yields and market demand may vary substantially.

Contribution Margin 1 Acre of Echinacea (Year 4) Southern Interior

| Income | | | | |
|---------------------|--------|----------|-----------|-----------------|
| | Yield | Price | Unit | Income |
| Herb | 10,000 | \$3.00* | dried lb. | \$30,000 |
| Root | 1,000 | \$12.00* | dried lb. | \$12,000 |
| Total Income | | | | \$42,000 |

Direct Expenses

| | Quantity | Price | Unit | Expense |
|--|----------|-------|-----------|-----------------|
| Fertilizer (foliar sprays by analysis) | | | | \$100 |
| Fuel, Oil & Lube | | | | 100 |
| Machinery R & M | | | | 80 |
| Contracts & Custom Work | | | | |
| Weeding | 200 | 8.70 | hour | 1,740 |
| Harvesting Herb | 320 | 8.70 | hour | 2,785 |
| Harvesting Root | 1 | 1,000 | acre | 1,000 |
| Drying Herb | 10,000 | .50 | dried lb. | 5,000 |
| Drying Root | 1,000 | 2.00 | dried lb. | 2,000 |
| Irrigation Hydro | | | | 35 |
| Total Direct Expenses | | | | \$12,840 |
| Contribution Margin | | | | \$29,160 |

* This assumes a secured market.

N.B. Assumes a planting density of 23,000 plants/acre and a Year 4 dry matter weight of 1.74 lbs./plant (aerial portion).

Buildings and Machinery Replacement Cost Total Farm Size - 10 acres

| | |
|---------------------|-----------------|
| Buildings | \$5,000 |
| Power Machinery | 20,000 |
| Field Machinery | 34,000 |
| Irrigation System | 15,000 |
| Vehicle | 15,000 |
| Small Tools & Other | 7,000 |
| Total | \$96,000 |

Echinacea is a new crop for British Columbia and as a result, pricing information is based on U.S. information. Echinacea is sold as dried, cut or milled herb or root and the prices vary accordingly. *Echinacea purpurea* dried herb prices are approximately \$3.00/lb. while dried root prices range from \$7.00 - 13.00/lb.

Contribution Margin - Sensitivity Analysis

The table below lists the changes to contribution margin (Year 4) as yields and prices of herb and root vary.

| PRICE \$/lb. | Yield lbs. (dried) per Acre | | | |
|-----------------|-----------------------------|--------|---------------|--------|
| | 8,000 | 10,000 | 11,000 | 12,000 |
| 2.00 | 5,496 | 7,939 | 9,160 | 10,383 |
| 3.00 | 13,496 | 17,939 | 20,160 | 22,383 |
| 3.82 | 20,042 | 26,121 | <u>29,160</u> | 32,200 |
| 4.00 | 21,496 | 27,939 | 31,161 | 34,383 |

This information is provided as a guideline only. Target yield indicates above average production. An individual crop plan should be developed by each producer. Planning forms may be obtained from your local office of the B. C. Ministry of Agriculture, Fisheries and Food.

ECHINACEA

Estimated Labour Time (hours/acre)

| | Year 1 | Year 2 | Year 3 | Year 4 |
|---------------------|------------------|------------------|------------------|----------------|
| Planting Out | 200-250 | 0 | 0 | 0 |
| Weeding | 300-500 | 300-500 | 250-400 | 200-300 |
| Irrigating | 50 | 50 | 50 | 50 |
| Harvesting | 0 | 100-250 | 200-350 | 250-400 |
| General | 200 | 200 | 200 | 200 |
| Total Labour | 750-1,000 | 650-1,000 | 700-1,000 | 700-950 |

Potential Markets

Canada

- Manufacturers
- Distributors (tincture, capsules)
- Seed Companies
- Herbalists
- Apothecaries

U.S.A.

- Manufacturers
- Distributors
- Seed Companies

Market Volumes

There is no trade information on retail volumes of Echinacea in North America. Various B.C. brokers, distributors and retailers estimate that their Echinacea sales volumes doubled in 1993 and 1994 and predict their Echinacea sales volumes to double in 1995.

Sources of Information

- *ECHINACEA*, Specialty Crops InfoSheet, BCMAFF, 1995
- *Herb Market Reports*, NW Botanicals (OR), 1985-1995, (503) 476-5588
- *Echinacea, the Immune Herb*, by C. Hobbs, Botanica Press (CA)
- *Echinacea, Nature's Immune Enhancer*, by S. Foster, Healing Arts Press (VT)

BCMAFF

- Al Oliver, P.Ag.
Ginseng Specialist, Kamloops
- George Geldart, P.Ag.
Farm Management Specialist, Vernon

U.S.A. Production Information

- Grown on contract
- Grown as a three year cycle
- Propagated by seed or root division
- Density range: 15,000-45,000 plants/acre
- Average of 30-40 flowers/plant
- Average of 2.25 lbs./plant (wet herb) in Year 3
- Herb (top of plant) is hand harvested each year - 1,000 lbs./person/day
- harvest upper 2/3 of plant
- Root is dug in year 3
- Processed immediately (cut, dried, sterilized)
- Moisture content: 75-80% for both herb and root
- Commercial herb farms grow a wide selection of other medicinal plants
- Estimated ≥ 50 new acres of *E. purpurea* planted in Oregon since 1993
- Majority of plantings are organic

ECHINACEA ESTABLISHMENT BUDGET (1 Acre)

Crop Cycle - 4 Years

This information is based on preliminary projections of both potential yield and adequate market demand. Commercial Echinacea production in B.C. may be quite different than these projections which are based on U.S. information.

| | | | Year 1 | Year 2 | Year 3 | Year 4 |
|---|-----------------|--------------|------------------|-----------------|-----------------|-----------------|
| Yield (dried) | Herb | | 0 lbs/acre | 5,750 lbs/acre | 8,625 lbs/acre | 10,000 lbs/acre |
| | Root | | 0 lbs/acre | 0 lbs/acre | 0 lbs/acre | 1,000 lbs/acre |
| Income | | | | | | |
| Echinacea Herb @ \$3.00*/lb. (dried & cut) * This assumes a secure market | | \$0 | \$0 | \$17,250 | \$25,875 | \$30,000 |
| Echinacea Root @ \$12.00*/lb. (dried & cut) | | 0 | 0 | 0 | 0 | 12,000 |
| Total Income | | \$0 | \$0 | \$17,250 | \$25,875 | \$42,000 |
| Direct Expenses | Quantity | Price | | | | |
| Seed | .3 | \$130.00 | \$39 | \$0 | \$0 | \$0 |
| Delivered Plugs | 23,000 | .04 | 1,017 | 0 | 0 | 0 |
| Fertilizer: foliar sprays by nutrient analysis, green & livestock manure | | | 500 | 100 | 100 | 100 |
| Fuel, Oil & Lube | | | 185 | 100 | 100 | 100 |
| Machinery R & M | | | 210 | 80 | 80 | 80 |
| Contracts and Custom Work | | | | | | |
| Planting Out | 230 | \$8.70 | 2,001 | 0 | 0 | 0 |
| Weeding | | 8.70 | 2,610 | 2,610 | 2,175 | 1,740 |
| Harvesting Herb | | 8.70 | 0 | 1,600 | 2,400 | 2,785 |
| Harvesting Root | | 1,000.00 | 0 | 0 | 0 | 1,000 |
| Drying & Cutting Herb | | .50 | 0 | 2,875 | 4,313 | 5,000 |
| Drying & Cutting Root | | 2.00 | 0 | 0 | 0 | 2,000 |
| Irrigation Hydro | | | 35 | 35 | 35 | 35 |
| Total Direct Expenses | | | \$6,597 | \$7,400 | \$9,200 | \$12,840 |
| Contribution Margin | | | (\$6,597) | \$9,850 | \$16,672 | \$29,160 |

This budget is provided as a guideline only. Target yield indicates above average production. An individual enterprise budget should be developed for your operation. Planning forms may be obtained from your local office of the B.C. Ministry of Agriculture, Fisheries and Food.