Alabama Cooperative Extension System

Vegetable Planning Budgets Alabama, 2005

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Department of Agricultural Economics
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2005 Vegetable Planning Budgets

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Foreword

This report is designed to provide necessary planning data to farmers, research and extension staff, lending agencies, and other agricultural participants. Estimated costs for land, management and general farm overhead are not included in this report.

Mention in this report of any commercial product does not imply its endorsement by Auburn University, Alabama Cooperative Extension System, or USDA over other products not named. Also, the omission of other products does not suggest that they are not satisfactory.

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Methods and Procedures

Budgets for Agricultural Enterprises

This publication provides economic and technical information in the form of enterprise budgets for vegetable crops produced by Alabama farmers. A multidisciplinary approach involving researchers and extension personnel was used to determine production practices and input quantities, and to estimate costs for each enterprise (14). The purpose of this section is to present the methods and procedures used to calculate costs for each budget included in this publication.

Enterprise budgets represent a type of information that can be used by a wide variety of individuals in making decisions in the food and fiber industry. They are used:

- by farmers for planning,
- by extension personnel in providing educational programs to farmers,
- by lenders as a basis for credit,
- to provide basic data for research, and
- to inform non-farmers of the costs incurred by farmers in the production of food and fiber crops.

A budget should be prepared with a specific objective in mind. The budgets in this report were prepared to provide general information for several different uses. They provide information concerning general levels of costs and returns which will need to be adjusted for specific situations. Most users should think of these budgets as a first approximation and then make appropriate adjustments using the "Your Farm" column provided on each budget to add, delete, or change costs or incomes to reflect their specific situations.

Methods and Procedures

Production Practices

The production practices listed in each budget are the result of a combined effort by researchers and extension personnel to represent those practices that producers are using. Quantities of materials listed in each budget are based on survey data from producers and/or generally accepted recommendations.

Machinery

Machinery manufacturers form the basis for machinery prices used in these publications. Prices by size of equipment are determined from the most common sales in each category as reported by machinery dealers. Prices used in the budgets reflect prices paid by farmers in 2004. (Appendix Tables 4, 5, and 6). A performance rate reflects the time required to perform a given task or operation and is expressed as that part of an hour per acre. Previous studies and expert knowledge of the equipment committee members are used to estimate performance rates for new and larger equipment.

The hours of annual use have been modified based on information collected from the cited studies.

Repairs and maintenance as a percentage of new cost are estimated for the life of the equipment and include oil and lubricants.

Estimates of Direct Costs

Direct costs include estimated costs of repairs and maintenance (R&M) for all machinery and include fuel costs for powered machinery (Appendix Tables 6 and 7). Direct costs are estimated on an hourly basis and are then converted to a per-acre basis using the performance rate for the particular operation. R&M costs for towed equipment and powered equipment are estimated as follows:

$$RPH = \frac{RLC \; x \; RP}{THL}$$

$$RPA = RPH \; x \; PR$$

where:

RPH = R&M cost per hour of use
RLC = Replacement cost of machine
RP = R&M percentage (percent of RLC)
THL = Total hours of machine life
RPA = R&M cost per acre
PR = Performance rate

Direct costs include an estimate of fuel cost based on average fuel consumption per hour of use for the power unit. Other components of direct costs include quantities of materials used in production multiplied by the price per unit of these inputs, custom rates, hourly wage rates, and interest charges on short-term capital (Appendix Tables 6, 9, and 10). Prices of chemicals, seed, fertilizers, and custom rates are updated every year.

The labor wage rate per hour includes social security, accident and unemployment insurance, and some perquisites (11). Labor costs are estimated for two labor categories: operator labor and hand labor. Operator labor and hand labor represent estimates of labor required to perform the in-field tasks. Operator labor is that labor required to operate all power-driven equipment.

Interest on operating capital is determined by using a short-term interest rate obtained from agricultural lenders and making a charge against capital outflows as the production process takes place. Interest is accumulated until the crop is harvested.

Estimates of Fixed Costs

Annual fixed cost estimates for machinery are based on a budgeting technique which computes the annual capital recovery charge. When a combination of machines or equipment is required to perform a single operation, the total cost per acre for all equipment used in the operation is estimated. The fixed cost of machinery ownership is calculated by first computing the capital recovery factor and then using it to estimate the annual capital recovery charge.

$$CRF = \frac{IIR}{1 - (1+ IIR)^{- TYL}}$$

where:

CRF = Capital recovery factor
IIR = Intermediate-term interest rate
TYL = Total years of life

$$CRCPY = [(RLC - SV) \; x \; CRF]$$

$$+ (SV \; x \; IIR)$$

where:

CRCPY = Capital recovery charge per year
RLC = Replacement cost
SV = Salvage value (at end of useful life)

This value is then converted to its per-hour and per-acre equivalent values:

$$CRCPH = \frac{CRCPY}{HAU}$$

$$CRCPA = CRCPH \times PR$$

where:

CRCPH = Capital recovery charge per hour
HAU = Hours of annual use
CRCPA = Capital recovery charge per acre
PR = Performance rate

Estimates of Returns

It is difficult to estimate crop yields that may be expected for a particular production system in a given year. Fresh vegetable prices are volatile and change daily. Because of this, no estimates of expected returns are provided. Budget Table C shows breakeven price above total expenses and net returns for price/yield combinations on a per acre basis. Generally irrigation is recommended for vegetable production. Yields for tomatoes assume irrigation.

Estimates of Irrigation Costs

Irrigation costs for the most commonly used irrigation systems will be found in Appendix Tables 1, 2, and 3. Each appendix table lists all annual supplies, their prices, and quantities needed.

A non-irrigated vegetable budget can be converted to an irrigated budget by adding the desired irrigation system costs to the non-irrigated vegetable budget. Costs for the water will vary depending on the water source. Climatic conditions during growing season will dictate water usage.

Estimates of Marketing and Grading Costs

Marketing and grading costs should be viewed as only rough estimates. These costs are highly dependent upon the market outlet. For producers with traditional customers acquired over the years, there may be no brokerage fees. Other packing for shipping may go through a broker and incur packaging costs as well.

MALTA State Coordinators

MALTA is a multistate and multidisciplinary group formed in 2003. Its purpose is to jointly coordinate the development and dissemination of vegetable enterprise budgets to meet the needs of the vegetable industry in the Southeast.

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