Deciding what products to grow and how to price them is difficult particularly when markets often are not well-established. Prices need to be high enough to make a profit, but reasonable based on your competition and how customers value (or establish a price on) your product. However, while all three components of pricing (cost, competition, and customer) need to be taken into consideration, cost is the most important. Why? Because if you are not making a profit on what you are selling, your business will generally fail regardless of what the competition is doing or how your customers value your product.

So how can you ensure a profit? You must understand and manage your costs effectively and then price your product accordingly. In order to understand and manage costs, it is important to develop an enterprise budget. An enterprise budget details the costs for items such as crop inputs, labor, machinery, and land among others.

Steps
Often it is easier to adapt existing budgets than develop one from scratch. There are numerous enterprise budgets available from land grant universities, but which one should you use? What are the considerations or adjustments that need to be taken when using a published budget? What makes one budget better than another (related to comparability)? If three tomato budgets are found on-line (one from Michigan, one from California, and one from Iowa); how do you choose? These are some of the questions asked when starting the process of developing an enterprise budget.

The first consideration is the scale of the production system that is being proposed. For example, fourteen one to two page budgets for small-farm vegetable growers can be found on an Iowa State University Extension website. Vegetable farmers growing produce or herbs on a bed system over a few acres could begin with these budgets. Researchers and Extension workers at other land grant universities such as Michigan State or the University of California-Davis (among many others) developed budgets reflecting a commercial operation where many acres of a particular product are grown. If the goal is to grow, for example, twenty acres of a particular product or more then commercial budgets would be more applicable.

The second consideration is the type of production system being currently used or proposed. Will the system be organic or conventional? Organic and conventional budgets differ in how fertility and pest management are conducted. Organic systems often use a different crop rotation and set of tillage or weed management tools than products grown conventionally. Even among conventional or organic systems, fertility and weed management can differ making it important to design your multiple-year cropping pattern prior to developing the first budget.

The third consideration is geographic. Soils and pests, among other things, vary by geographic location. So once you have the production scale and type of production system determined, the closest geographic budget may allow for the fewest alterations.

So what’s the next step? Assume you want to become a vegetable producer on a small farm (under 5 acres) in Wisconsin growing ten to twelve different products for the Madison, Wisconsin farmers’ market. You find the Iowa State University Extension budgets on-line and want to know how to make changes to them to better represent your farm. The first step is to share the budgets with local growers and University of Wisconsin Extension personnel. Ask them how the crops you are proposing would be grown and how the costs differ from those presented in the published budgets. In addition, what types
of crop rotations are common in your area and what products would sell well for your chosen marketing outlet?

Keep in mind that a budget should be used only as a guideline (or starting point). No budget will represent any individual farm very well because of soil, climate, and market differences. The same process would occur if you were a producer in Washington looking at growing processing tomatoes. First you must determine the scale and production system, find the closest geographic budgets, and then adapt to your specific location.

While complexity varies among budgets, most budgets have common components. The first component is crop inputs such as fertilizer, pesticides, and seed. The costs usually depict local production recommendations and prices. Check with a variety of suppliers to determine costs.

Labor, machinery, and land also are common components. However, each of these may be handled quite differently. Labor is normally budgeted based on an hourly rate common to your area for similar work completed. Some budgets use multiple rates depending upon whether labor is manual or used to handle equipment. It is assumed that handling equipment requires more skill and therefore requires a higher hourly rate to obtain an adequate supply of laborers to finish the required tasks. If benefits are given, the costs associated with those benefits should be included in the hourly rate. Unemployment and workmen’s compensation also should be included. Remember to include labor charges regardless of whether it is supplied by you or your family or purchased from the outside labor market. To remain profitable, you need to get an economic return for the labor you provide. Check with local growers and Extension personnel to make sure the amount of labor and wage rate you use for your budgets are normal given your existing or proposed production system.

Machinery is handled quite differently from budget to budget. The ways vary by complexity, with none of the ways being right or wrong. The important thing is that machinery usage is accounted for in the budget. In complex budgets, machinery costs are segmented into variable (or operating) expenses and fixed (or overhead) expenses. It is important to review the budgets carefully to understand what assumptions were made to determine these costs. For example, a particular field operation per acre cost may have assumed an annual use of 40 hours for an implement. However, if the actual usage of the implement was 20 hours or 80 hours instead of the assumed 40, the cost per acre would be substantially different. Other budgets may simply use a custom hire charge common to your area. The custom hire charge would cover the cost of the machinery and often the cost of the machine operator. If custom charges are used, then changes to labor hours should be made to eliminate the possibility of double counting. Regardless of the method used to allocate machinery expenses to the enterprise budget, make sure you understand how it was accomplished particularly as you compare one budget to another.

Most budgets insert a cost for the land used in production at its common rental value or a percent return to land value. If land similar to yours is renting for $200 per acre in the area you are farming, a rental charge of $200 should be used for budgeting. Because the land you are using can be farmed by you or rented out to someone else for the common rental rate, this practice allocates a charge to the land asset.

Some budgets include an overhead category to cover expenses associated with buildings, insurance, and interest charges, among other items. Again, it is important to understand what expenses are included and how they were calculated in order to adapt the published budget to fit your use.

Summary
Enterprise budgets can be used for a variety of management decisions including pricing, developing a product mix, and changing production practices. The key to using budgets effectively is to develop them as accurately as possible by reflecting what is
going on in your existing or proposed production system. Once your production scale and production system is determined, it is often easiest to begin by adapting an existing published budget. The key to adapting the budget is to understand what assumptions were made in the budget development and make changes to fit your situation. Please contact your land grant university or Extension personnel to see what local budgets have been developed for your area.

References/Notes
The following related publications from the author can be found from Iowa State University Extension: Chase, C. “Using enterprise budgets to make decisions.” [http://www.extension.iastate.edu/agdm/crops/html/a1-19.html](http://www.extension.iastate.edu/agdm/crops/html/a1-19.html)


Also note Roy Black has listed a variety of production budgets at: [https://www.msu.edu/~blackj/](https://www.msu.edu/~blackj/)

University of California – A library of production budgets developed by the Agriculture and Resource Economics Department can be found at [http://cost-studies.ucdavis.edu/](http://cost-studies.ucdavis.edu/).

Again, production budgets should be available from your land grant university. Please check with your local research and Extension personnel to see what crop budgets are available.

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