

Worksheet 4.10 Production System and Schedule

Use the space below to describe the production management system(s) that you use for each enterprise. You may have more than one enterprise for each product that you plan to produce. Be sure to detail your management plans for all enterprises. If you plan to gradually transition into a new management system, complete this Worksheet for each year or season during the transition period. You might find it helpful to use a map or calendar to describe any seasonal or transition-related management plans.

Enterprise _____
Year _____
System _____

At Cedar Summit Farm we will continue to graze our dairy herd and use all milk from the herd for on-farm processing by 2005. Milk will be hauled to the Creamery with a bulk tank trailer and pumped into a raw milk storage tank. The milk will then move to a pasteurizer and be pasteurized. Next it will be separated into skim milk and cream, and then some cream will be added back to make the assorted milk products. The rest of the cream will be made into ice cream, butter, and other products.

Each batch of milk brought from the dairy barn to the plant will be tested at an on-site lab for traces of antibiotics and butterfat content. Once milk is pasteurized, each batch will be further tested for proper pasteurization. The Minnesota Department of Agriculture will periodically test the milk for bacteria. Finally, all bottled milk and products (except ice cream) will be moved to a 39-degree cooler for storage.

Production system.

Before making their decision to process, the Minars traveled thousands of miles to Maryland, Virginia and West Virginia to visit four other farmer-owned milk processing plants. Each of the plants was similar in size to the Minars' proposed operation. They processed with "Mini-Dairy" equipment from an Israeli-based company called Pladot. By visiting the plants, observing production, and talking first-hand with plant owners, Dave and Florence feel they gained invaluable insights that helped them with decisions about plant construction, equipment purchases and marketing.

Your choice of production system will be heavily influenced by your social, environmental and community values. This might be a good time to revisit your values and goals, and to recall your objectives for the whole farm. Each production system carries with it different resource requirements, production outcomes, labor demands and natural resource implications.

As you define one or more production system strategies, try to be specific about how the system will work on your farm. If your vision includes a major change in production, think about the resource requirements and the trade-offs between labor, productivity, conservation and profitability that may be associated with different production management systems. Use the space in **Worksheet 4.10: Production System and Schedule** to describe your production system strategies for each farm enterprise. If you plan to produce crops or livestock, for instance, detail your plans for:

- Weed, pest and disease control
- Soil fertility
- Rotation
- Tillage
- Irrigation
- Water quality
- Seed selection
- Breed selection
- Fencing
- Feed
- Housing
- Stocking
- Waste and quality control



Figure 59.
Excerpt from Cedar Summit Farm's Worksheet 4.10: Production System and Schedule

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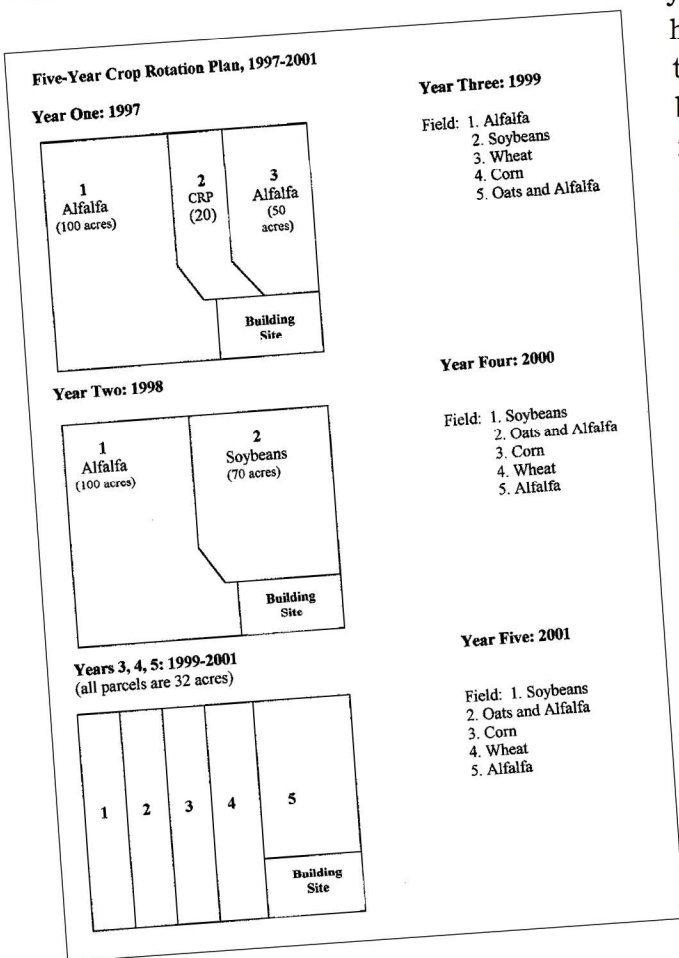


Similarly, if you plan to process or offer a service, the systems component of your plan might address your business' strategy for workshops or on-farm consultations. Northwind Nursery and Orchard owner Frank Foltz, for instance, took time to describe his operation management plans for farm tours and pruning demonstrations.

There are many resources that describe traditional and, increasingly, alternative production systems. Most universities have published research studies on reduced input, organic and livestock grazing systems. Two excellent publications are the *Grazing Systems Planning Guide* and *Making the Transition to Sustainable Farming* (see "Resources"). Most importantly, talk with other farmers—learn from their mistakes and their successes.

Production schedule. Once you have identified one or more production system strategies, think about how management within each system may change over time (e.g., from season to season or from year to year. For instance, how might your livestock management change as you transition from a system of confined farrowing to pasture farrowing for hogs, or from summer grazing to winter feeding for cattle if you plan to seasonally graze? Similarly, think about

Figure 60.
Mabel Brelje's Five-Year Crop Rotation Plan



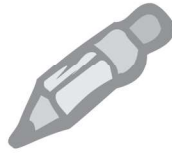
your annual crop rotation schedule, weekly vegetable harvesting schedule, or daily farm tour schedule. This type of detailed operations planning is critical for any business—it can help you estimate physical and labor resource needs and production potential, as well as cash flow projections. And in many cases, detailed production schedules may be necessary for institutional compliance. Crop producer Mabel Brelje, for example, is required to submit a crop rotation plan annually in order to obtain organic certification. For this reason, she included a rotation map in her final business plan (Figure 60).

Similarly, Dave and Florence Minar included a proposed processing schedule in their final business plan to communicate financial needs and performance to their lender:

"We plan to process and sell 30 percent of the milk produced on our farm the first year. Processing will then be increased by five percent each month until May 2004 when all of our milk will be processed." The Minars also developed a detailed product processing

schedule for each batch of bottled milk, yogurt, sour cream, butter and ice cream that was not included in their business plan. It served as an internal guide for operations.

Use **Worksheet 4.10: Production System and Schedule** to describe your operations schedule. If you plan to make a gradual transition over time, either from one system to another or through the addition of new enterprises, use Worksheet 4.10 to map out a short-term production plan and descriptions for each phase of the transition. Use a map, a calendar or the space provided. Discuss your schedule with experienced farmers, planning team members, and consultants to determine if your production system and overall schedule are realistic.



Regulations and Policy: What institutional requirements exist?

Like it or not, if you are going to operate a retail business, process on your farm, or greatly expand livestock production, you will run into local zoning, permitting, licensing and regulatory issues. Regulations can have a major impact on your production and operations plans as well as on start-up costs. Dave and Florence Minar, for example, had to obtain seven permits to build a plant and process their own milk (Figure 61).

The type of permits or licenses required for your business will depend on where you are in the business life-cycle (whether you are just starting up or growing your business), where you live, what type of product you offer, and the overall size of your operation. Therefore, before going too far with your operations research, it's a good idea to check with your state's Small Business Association as well as your local or county regulators to learn about environmental, construction, finance, bonding and product safety regulations. In Minnesota, *A Guide to Starting a Business in Minnesota*³⁸ lists all necessary state permits and licenses as well as informational contacts. Some examples of the agriculture-related licenses and permits required by the State of Minnesota are listed in Figure 62.

Figure 61. Permits Required by Cedar Summit Farm to Build Plant and Process

1. Conditional Use Permit from Scott County Planning and Zoning
2. Septic Tank Permit from Scott County Environmental Health
3. Health and Safety Plan Approval from the Minnesota Department of Health
4. Building Permit and Inspection from the Scott County Building and Inspections Division
5. Environmental Operating Permit from the Minnesota Pollution Control Agency
6. Food Handlers' License from the Minnesota Department of Agriculture
7. Dairy Plant License from the Minnesota Department of Agriculture

Figure 62. Some Agricultural Licenses and Permits Required by the State of Minnesota

- Aquaculture License
- Apiary Certificate of Inspection
- Farmstead Cheese Permit
- Dairy Plant License
- Grade A Milk Production Permit
- Feedlot Permit
- Retail and Wholesale Food Handler License
- Livestock Meat Processing and Packing License

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³⁸ *A Guide to Starting a Business in Minnesota*, Minnesota Small Business Assistance Office, updated annually.