Acreage Living

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Acreage Living is published monthly. Please share it with your acreage neighbors. Call your local ISU Extension Office for more information or contact an ISU Extension staff member listed below to suggest topics for future articles.

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ISU Extension Helps Small Farms Thrive

By Andy Larson, ISU Extension Small FarmsSpecialist

The ISU Extension program in Small Farm Sustainability will concentrate on providing educational opportunities and information grounded in research-based science to entrepreneurs who really want to make a business venture of living and working on a small farm. Instead of simply making a home in the country, these farmers may want to grow a legitimate business. They might be raising free-range poultry for retail meat sales or vegetables for farmers' markets rather than just for home consumption. They may establish new enterprises, beyond conventional crops and livestock, to bring a son or daughter into the business.

The program in Small Farm Sustainability will serve farms with smaller holdings and diversified operations. They may grow horticultural crops or grass-finish cattle for direct-market sales, or other food and agricultural ventures that will extend Iowa's agricultural leadership into the local foods arena.

Objectives of the program will be to:

- Facilitate development and improve viability of small, diversified farm businesses
- Coordinate educational tools to improve small farm planning and decision-making
- Advance interdisciplinary food and farming systems research, outreach, and leadership
- Enhance ecological and operational sustainability on the Iowa small farm landscape

If you would like to know more about the ISU Extension program in Small Farm Sustainability, please contact Andy Larson at 515-294-6038 or allarso1@iastate.edu.

What is a Small Farm?

By Andy Larson, ISU Extension Small Farms Specialist

What makes a farm a small farm? Acreage? Capitalization? Ecological footprint? The answer can be quite subjective, but the USDA's Economic Research Service (ERS) has settled upon dollar volume of annual agricultural sales as their main criterion. In the past, the ERS used $50,000 in agricultural sales as the dividing line between a small farm and a large farm. Today, the ERS has an eight-part typology with five types of "small family farms," all having less than $250,000 in agricultural sales:

Small Family Farms

1. "Limited-resource farms" have sales less than $100,000 and operator household income below both the poverty level and half the county median.
2. "Retirement farms" have operators that report being retired.
3. "Residential/lifestyle farms" have operators who report a major occupation other than farming.
4. "Farming occupation – low sales" have operators that report farming as their primary occupation, but still have sales less than $100,000 annually.
5. "Farming occupation – high sales" have operators that report farming as their primary occupation and report $100,000 to $249,999 in annual agricultural sales.

Other Family Farms

6. "Large family farms" report $250,000 to $499,999 in annual agricultural sales.
7. "Very large family farms" report sales of $500,000 or more.

Nonfamily Farms

8. "Nonfamily farms" are organized as nonfamily corporations or cooperatives, or are operated by hired managers.

Preserving Your Acreage's Bounty (part 1 of 2)

By Sam Beattie, ISU Extension Food Safety Specialist and Assistant Professor of Food Science and Human Nutrition

Summer bounty brings questions about what to do with the surplus. Thermally processing fruits and vegetable in jars (cans) will provide a flavorful shelf-stable product for eating enjoyment throughout the year. Food preservation by canning of fruits and vegetables has been practiced for nearly 200 years. Here are some interesting facts and some guidelines. Next month's article will feature jams and jellies.

In 1809 and after 14 years of experimentation, a Frenchman, Nicolas Appert, produced the first shelf-stable canned food products. His development included air exclusion (hermetically sealed) and a prolonged thermal treatment that rendered the food shelf stable for years. The endeavor was rewarded with a prize from Napoleon who recognized that an "army travels on its stomach" and that there was a great need for transportation of stable foods to troops that were nutritious, safe, and flavorful.

Appert went on to use the winnings to start a commercial canning operation. He subsequently wrote the first canning guide called "The Art of Preserving All Kinds of Animal and Vegetable Substances For Several Years." In those days, water bath processing was the only type available and foods were processed for hours in hot water. Glass jars and metal cans (developed in 1810) have become the standard with little changing except for the types of closures.

During Appert's time, jars were sealed with a cork, sealing wax, and wire; we now use specialized polymers that act as glues to hold the lid onto the glass jar.

Canning was changed as our understanding of bacteriology improved -- pressure vessels were developed to shorten the time

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required to kill the most durable bacteria found in foods such as vegetables and meats. The shortened processing time also improved the quality of the product.

In evaluating recipes for preserving foods by canning, it is important to understand that acidic foods such as fruits require milder processing than acid neutral foods such as vegetables or meats. Thus, a pressure vessel (reaching temperatures of 241°F or higher) is required for vegetables and meats, while fruits (jams, jellies, juices) and many pickles require only a boiling water bath (212° F at sea level). Some recipes that are a combination of acid foods and low acid foods require either additional acid in the form of lemon or lime juice or vinegar and/or are pressure processed.

Recipes that require a pressure vessel are relying upon the higher temperature to kill the common soil bacterium *Clostridium botulinum*. While water bath processing will not kill botulinum, it does kill many other spoilage bacteria and relies upon the higher acidity of the food to prevent the growth of *Clostridium botulinum*.

Botulinum produces a very potent and deadly toxin in improperly canned foods. It is extremely important to rely upon scientifically sound recipes when canning foods that are low acid or a combination of acidic and low acid foods.

Guides such as the Ball Blue Book "So Easy to Preserve," and the recipes at the National Center for

Home Food Preservation at the University of Georgia (www.uga.edu/nchfp) are of assistance when choosing recipes.

Here are two examples of recipes for salsa from the National Center: One requires pressure vessel and the other can be done in a water bath. Both recipes are safe for home food preservers with the water bath processed salsa having a greater acid to ingredients ratio.

Tomato and Green Chile Salsa (Water Bath Processed)

3 cups peeled, cored, chopped tomatoes
3 cups seeded, chopped long green chiles
¾ cup chopped onions
1 jalapeño pepper, seeded and finely chopped
6 cloves garlic, finely chopped
1½ cups vinegar (5 percent)
½ teaspoon ground cumin
2 teaspoons oregano leaves
1½ teaspoons salt

Caution: ***Wear plastic or rubber gloves and do not touch your face while handling or cutting hot peppers. If you do not wear gloves, wash hands thoroughly with soap and water before touching your face or eyes.***

Preparing Peppers: The jalapeño pepper does not need to be peeled. The skin of long green chiles may be tough and can be removed by heating the peppers. Usually when peppers are finely chopped, they do not need to be peeled. If you choose to peel chiles, slit each pepper along the side to allow steam to escape. Peel using one of these two methods:

- *Oven or broiler method to blister skins* - Place chiles in a hot oven (400°F) or broiler for 6 to 8 minutes until skins blister.
- *Range-top method to blister skins* - Cover hot burner (either gas or electric) with heavy wire mesh. Place peppers on burner for several minutes until skins blister.
- *To peel,* after blistering skins, place peppers in a pan and cover with a damp cloth. (This will make peeling the peppers easier.) Cool several minutes; slip off skins.

Hot Pack: Combine all ingredients in a large saucepan and heat, stirring frequently, until mixture boils. Reduce heat and simmer for 20 minutes, stirring occasionally. Ladle hot into clean, hot pint jars, leaving ½ inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened, clean paper towel; apply two-piece metal canning lids. Process in a boiling water canner according to the recommendations in Table A.

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Table A. Recommended process time for **Tomato and Green Chile Salsa** in a boiling-water canner				
		Process Time at Altitudes of		
Style of Pack	**Jar Size**	**0-1,000 ft**	**1,001-6,000 ft**	**Above 6,000 ft**
Hot	Pints	15 minutes	20 minutes	25 minutes

Mexican Tomato Sauce (Pressure Vessel)

2½ to 3 pounds chile peppers
18 pounds tomatoes
3 cups chopped onions
1 tablespoon salt
1 tablespoon oregano
½ cup vinegar

Yield: About 7 quarts

Procedure:

See directions above for handling and processing of chiles. Discard seeds and chop peppers. Wash tomatoes and dip in boiling water for 30 to 60 seconds or until skins split. Dip in cold water, slip off skins, and remove cores. Coarsely chop tomatoes and combine chopped peppers and remaining ingredients in large saucepan. Bring to a boil. Cover. Simmer 10 minutes. Fill jars, leaving 1-inch headspace. Adjust lids and process according to the recommendations in Table 1 or Table 2 depending on the method of canning used.

Table 1. Recommended process time for **Mexican Tomato Sauce** in a dial-gauge pressure canner						
			Canner Gauge Pressure (PSI) at Altitudes of			
Style of Pack	**Jar Size**	**Process Time**	**0-2,000 ft**	**2,001-4,000 ft**	**4,001-6,000 ft**	**6,001-8,000 ft**
Hot	Pints	20 minutes	11 lb	12 lb	13 lb	14 lb
	Quarts	25 minutes	11 lb	12 lb	13 lb	14 lb

Table 2. Recommended process time for **Mexican Tomato Sauce** in a weighted-gauge pressure canner				
			Canner Gauge Pressure (PSI) at Altitudes of	
Style of Pack	**Jar Size**	**Process Time**	**0-1,000 ft**	**Above 1,000 ft**
Hot	Pints	20 minutes	10 lb	15 lb
	Quarts	25 minutes	10 lb	15 lb

Assistance with canning questions can be found at Families Extension Answerline 800-262-3804 and your local county Iowa State University Extension office.