

South Dakota State University

# Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange

---

SDSU Extension Fact Sheets

SDSU Extension

---

1979

## Energy Sense: Mealtimes

Cooperative Extension South Dakota State University

Follow this and additional works at: [https://openprairie.sdstate.edu/extension\\_fact](https://openprairie.sdstate.edu/extension_fact)

---

### Recommended Citation

South Dakota State University, Cooperative Extension, "Energy Sense: Mealtimes" (1979). *SDSU Extension Fact Sheets*. 789.

[https://openprairie.sdstate.edu/extension\\_fact/789](https://openprairie.sdstate.edu/extension_fact/789)

This Fact Sheet is brought to you for free and open access by the SDSU Extension at Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange. It has been accepted for inclusion in SDSU Extension Fact Sheets by an authorized administrator of Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange. For more information, please contact [michael.biondo@sdstate.edu](mailto:michael.biondo@sdstate.edu).

# Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.



For current policies and practices, contact SDSU Extension

Website: [extension.sdstate.edu](http://extension.sdstate.edu)

Phone: 605-688-4792

Email: [sdsu.extension@sdstate.edu](mailto:sdsu.extension@sdstate.edu)

SDSU Extension is an equal opportunity provider and employer in accordance with the nondiscrimination policies of South Dakota State University, the South Dakota Board of Regents and the United States Department of Agriculture.

ENERGY SENSE:

# mealtimes



Cooperative Extension Service  
South Dakota State University  
U.S. Department of Agriculture

# mealtimes

Meal planning usually entails selecting menus for a week or more and making an accompanying food shopping list. The conscientious meal planner adds another step: planning for efficient use of energy. To take full advantage of kitchen appliances, and at the same time save energy, make optimum use of appliance design features.

## Top-of-Range Cooking

The efficiency of a surface unit or burner depends on the utensil as well as the range. For better use of energy, match the shape and size of a cooking utensil to the task. Cookware with flat bottoms allows efficient heat transfer. The pan should be thick enough to resist denting and warping. Match the pan to the unit or burner. The bottom of the utensil should

not extend more than 1" beyond the outer ring of the surface unit; similarly, the flame or coil should not extend beyond the pan. Turn the heat down when the food reaches the cooking temperature and use the lowest possible heat level to complete the cooking process.

Aluminum is frequently used for cooking utensils. Both aluminum and copper are good conductors of heat and spread the heat evenly in the utensil; stainless steel is not as good a conductor. For improved spreading of heat for top-of-range cooking, use stainless steel pans with aluminum or copper bottoms. Because of its thickness, cast iron heats up slowly; it is better for long cooking processes than for short jobs. Glass and ceramic glass are poor conductors of heat for top-of-range cooking but

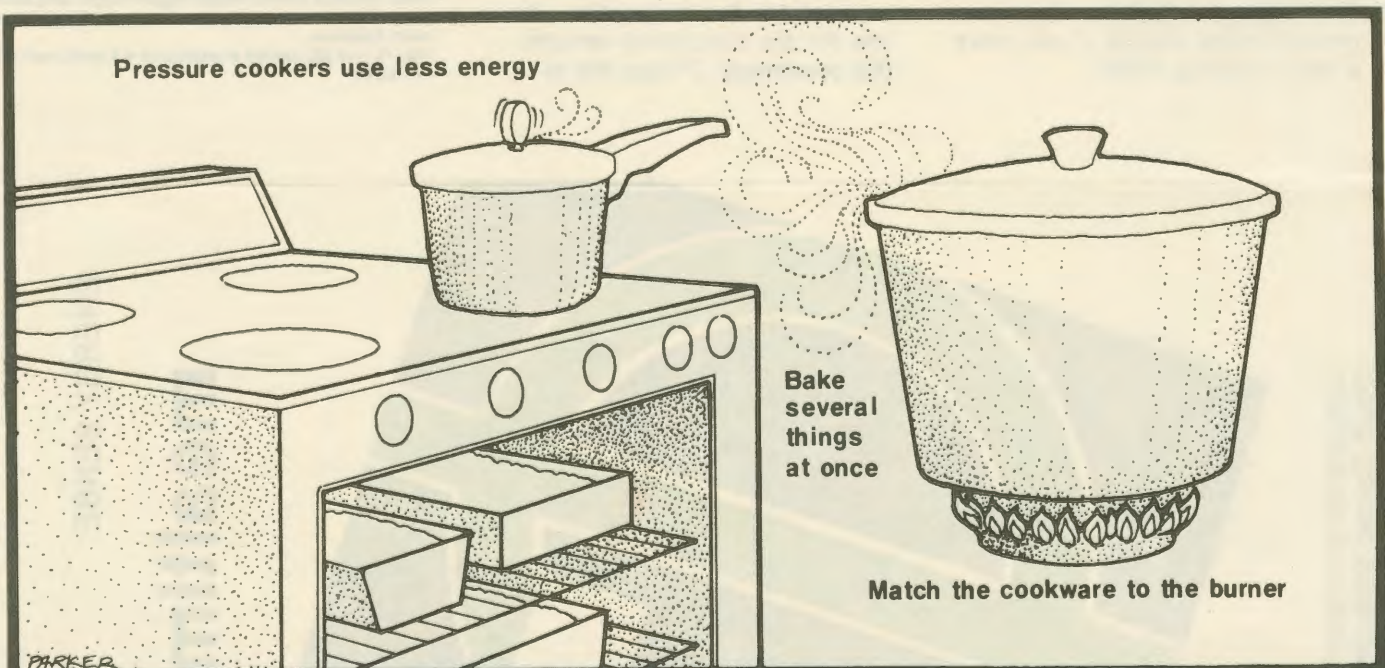
are good absorbers of radiant (oven) heat.

Use a minimum amount of water for cooking. (It takes energy to heat water.) Pans should be straight-sided and should be covered with tight lids whenever possible to retain heat. For better heat reflection from the unit to the pan, keep reflector pans or inserts shiny clean.

Always place a pan on a surface unit before turning on the source of heat. Turn off electric and smooth-surface units a few minutes before cooking is completed; use the residual heat to complete the cooking process.

## Oven Cooking

The efficiency of an oven depends on the amount of food cooked at one time. Baking one



potato in a range oven would be poor use of energy, but using the oven to prepare a complete meal for a family would increase the efficiency of the oven considerably.

Shop and plan ahead for meals so you can use the oven to prepare double or triple batches of food; refrigerate or freeze the extras for future meals. Defrost foods before cooking. Preheating the oven is unnecessary unless you are preparing foods that contain leavening agents. Put leavened food in to bake **as soon as** the oven is preheated.

Don't be a "peeker" when baking or roasting. Every time the door is opened, the oven temperature drops 25°-75°. The oven must then turn on to replace the heat that was lost. Make sure your oven thermostat is accurate, and use a timer to tell when to check the food. Cure yourself of the "peeking" habit.

Glass and glass-ceramic cooking utensils absorb radiant heat well and allow cooking at temperatures 25° lower than levels required by metal cookware. Bake and roast carefully; clean spills and spatters before they bake onto the oven surface. This reduces cleaning time later on and saves energy if you have a self-cleaning oven.

### Special and Small Cooking Appliances

Because small cooking appliances have enclosed heating elements, they often require less energy for a cooking job than an oven or surface units of a range. Substitute small appliances, if you have them, for the range. An electric frypan can be used for frying, baking, stewing, and broiling; and it is energy efficient. For example, less energy is required to cook hamburgers on an electric skillet than on a surface unit of an electric range. Coffeemakers, toasters, toaster ovens, broilers, and egg cookers are similarly efficient.

Another versatile and energy-efficient kitchen utensil is the pressure cooker, which requires only one-third the time of conventional cooking methods. Oven cooking in plastic bags and in aluminum foil also reduces cooking time and thus saves energy.

### Food Preservation

Food preservation accounts for a sizable amount of all energy used in the home. To keep your refrigerator and freezer operating efficiently, clean the condenser coils to remove dust and defrost the evaporator. Allow for air circulation around the condenser. Place the re-

frigerator or freezer away from heat sources such as the range, a heat register, or a sunny window.

Buy food in quantity to decrease the number of shopping trips. Cook and freeze in quantity. Try to reduce the number of times you open a refrigerator or freezer, especially in hot, humid weather. Unused portions of refrigerated food such as milk should be returned to the refrigerator as soon as possible. If you think ahead during meal preparation, you can remove and return several items at the same time and thus reduce the cooling load on the unit. Because bacteria grow rapidly in food held at room temperature, cool hot items for only a short time before refrigerating them.

Freezing food requires more energy than refrigerating it; therefore, if food will be used within a few days, store it in the refrigerator, not the freezer. When defrosting foods, such as a roast, place them in the fresh food section of the refrigerator so they can help cool the refrigerator.

One in a series of home energy conservation fact sheets. Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the USDA. Hollis D. Hall, Director of CES, SDSU, Brookings. Educational programs offered without regard to age, race, color, religion, sex, handicap, or national origin. An Equal Opportunity Employer. File: 14.1—5,000 printed at estimated 4.3 cents each—7-79—4379A

ENERGY SENSE:

**mealtimes**

Cooperative Extension Service  
South Dakota State University  
U.S. Department of Agriculture