
PRACTICAL ASPECTS OF APPLIED NUTRITION

pages 139 to 147
from

APPLIED NUTRITION

By

HAROLD F. HAWKINS, D.D.S.

*Former Associate Professor of Bacteriology and
Preventive Dentistry, College of Dentistry,
University of Southern California*

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from

CONSTRUCTIVE MEAL-PLANNING

N. PHILIP NORMAN, M.D.

*Consultant Nutritionist, Departments of Health and Hospitals
of the City of New York; Formerly Lecturer, Department
of Gastro-Enterology, New York Polyclinic Hospital
and Medical School; Major, Medical Corps, U. S.
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C H A P T E R

VIII

DIET SHEETS AND CLASSIFIED FOOD LISTS

The following is an average diet program based on the amount and type of food found necessary to secure normal chemical levels in individuals free from serious pathology. An average diet schedule can be successful only when assimilation and elimination are average. It is just as logical to make one size of clothes for the general public as to expect to maintain normal chemistry and health in the population as a whole by a hard and fixed food or health program no matter how scientific that program may be.

The diet sheet shown here is an average sheet in every sense of the word and will not meet the requirements necessary to maintain a normal chemistry where metabolism is very far removed from average. The food schedule shown has proved to

be a very valuable one however, and makes a good starting point in diet regulation.

It takes about six weeks to normalize the chemistry of an individual. If after that period the suggested quantities of food fail to bring about a correction, definite changes must be made either as to quantity or as to the assimilation.

The classified food lists can be of considerable help at times to educate the patient quickly to the types of food that will have to be increased or decreased to secure a correction of the chemistry.

This diet sheet has been evolved over a period of sixteen years with the aid of our chemistry. It has been tested clinically on many thousand cases, and has proved to be a valuable framework which can be adjusted easily for each individual case.

FOOD SCHEDULE ADJUSTED FROM BIOCHEMICAL STUDY

PROTEIN

Meat—6 to 12 times per week—beef, lamb, poultry, ham, rabbit (which includes each week one meal of liver, kidney, baked heart or chicken giblets). Restrict—fresh pork, veal and bacon. On an average, $\frac{1}{2}$ lb. of meat per day

Fish—1 to 2 times per week—(salt water fish, canned or fresh, clams, oysters). Restrict—shrimp, crab and lobster.

Eggs—7 eggs per week (either as a plain egg or in the cooking). Restrict—fried eggs and omelets.

Cheese—Cottage cheese desirable. Restrict American or any rennin curded cheese to two pieces the size of a walnut in any one day.

CARBOHYDRATES

Cereals—1 medium helping of breakfast cereal. (Whole grain cereals only.)

Bread—3 to 5 slices of whole grain bread per day (Wheat or corn). Restrict—rye bread. Do not toast over one-fourth of total bread consumption.

Potatoes—White or sweet, usually once per day (baked, scalloped, mashed or creamed). Avoid all forms of fried potatoes.

Legumes—Peas about three times per week. Baked or lima beans not over once per week.

Sweets—Sugar and candy—hold very low, especially chocolate candy.

Dried Fruits—Figs, raisins and dates—in cooking or salads only.

FATS

Butter—Real butter very much to be desired. If substitutes are used, be sure they contain Vitamin A and possibly Vitamin D. Amount of fats and oils depends upon the digestion, chemistry and weight. As a rule the amount should be low.

VEGETABLES

Salads—1 or 2 raw salads per day—(lettuce, endive, slaw, celery, carrots, avocados, etc.) Tomatoes should be low.

Cooked Vegetables—1 or 2 non-starch cooked vegetables per day—(spinach, carrots, swiss chard, asparagus, string beans, squash, turnips, beets, parsnips, artichokes, cauliflower, onions, etc.) As a general rule, never cook any vegetable that can be eaten raw.

DESSERT

Fruit—Favor the raw fruit over cooked or canned. Acid fruits should be somewhat restricted, as oranges, grapefruit, pineapple, grapes, berries. The subacid fruits can be used more liberally, as pears, apples, bananas, figs, melons, sweet cherries, peaches, apricots.

Puddings—Vary with custards, tapioca, sago, cornstarch, pumpkin, rice and bread puddings.

Ices or Ice Cream—not over twice per week.

Nuts—(almonds, walnuts, pecans, brazil nuts)—in cooking or salads only.

Gelatins—not over once per week.

LIQUID

Soups—In moderation, soups are desirable in winter. Restrict —tomato soup.

Milk—Low fat whole milk or buttermilk a quart per day. (Use raw milk, if safe. No homogenized milk.)

Juices—Do not exceed 2 ounces of fruit or vegetable juice per day. As a rule the use of juice is not desirable. Use whole raw fruit instead.

SALT

As a rule keep table salt high (1 level teaspoonful per day in the cooking besides what is used on the table).

FOODS TO BE KEPT VERY LOW OR OUT OF DIET

Sponge or pound cake in moderation. Pie and pastry greatly restricted. Crackers with soup only. Macaroni, noodles and rice limited to once per week. (Do not combine with tomato.)

Pancakes, waffles and baking powder biscuits out of diet.

Peanut butter or peanuts, prunes, plums, cranberries, rhubarb and sour cherries, not over once per week.

Coffee, tea, chocolate, cocoa, malted milk and similar products to be kept low or out. All beer and soft drinks out of diet.

Condiments, as mustard, pepper, chili, cocktail and meat sauces should be low.

Restrict all delicatessen meats, as bologna, weiners, etc.

ACID FOODS

All grain foods
All meat, fish and eggs
coffee, tea, chocolate
cocoa, cereal coffee
most soft drinks
gelatine
All foods containing high
benzoic and oxalic acid

ANIMAL PROTEIN

Beef
Lamb
Poultry
Veal
Pork
Liver
Heart
Kidney
Sweetbreads
Brains
Eggs
Milk
Cheese
Seafood
Fish
Clams
Oysters
Lobsters
Crabs
Shrimp

ACID STARCH

Cereals, (wheat, corn,
oats, rye)
Bread (wheat, corn, rye)

Crackers

Macaroni
Noodles
Rice
Cake and Pastry

PASTRY AND PUDDINGS

Cake
Pie
Pastry
Bread Pudding
Rice Pudding
Custard
Tapioca
Sago
Cornstarch
Pumpkin

BENZOIC AND OXALIC FOODS

Prunes and Plums
Cranberries
Rhubarb
Sour Cherries

ACID DRINKS

Coffee
Tea
Chocolate
Cocoa
Cereal Coffee
Most Soft Drinks

ALKALINE FOODS

All fruits and vegetables
All true nuts
Milk and Buttermilk

ALKALINE STARCH

Potatoes (white, sweet)
Bananas
Peas
Beans (baked, lima, soya)

VEGETABLE SALADS

Lettuce
Slaw
Celery
Tomatoes
Carrots
Avocado

COOKED VEGETABLES

Spinach
Carrots
Swiss Chard
Asparagus
String Beans
Squash
Beets
Artichokes
Turnips
Parsnips
Cauliflower
Onions

FRUIT JUICE

Orange
Grapefruit
Lemon
Pineapple
Tomato
Grape
Cider

ALKALINE DRINKS

Whole Milk
Skim Milk
Buttermilk
Fruit Juice
Vegetable juice

NEUTRAL FOODS

Sugar
Pure starch
Fats and Oils
Tapioca
Sago

SWEETS

Candy
Sugar
Chocolate
Honey
Figs (dried)
Raisins
Dates

VITAMIN FOODS**Vitamin A**

Apricots
Peaches
Carrots
Potatoes (sweet)
Water cress
Butter
Cheese (whole milk)
Cream
Milk (whole)
Liver
Eggs
Cod Liver Oils
Carotene
Peas
Spinach
Watercress

Vitamin B1

Asparagus
Avocado
Bread (Graham)
Bread (whole wheat)
Shredded Wheat
Wheat Germ
All unrefined cereals
Yeast

Vitamin B2 (G)

Avocado
Asparagus
Spinach
Beat leaves
Eggs
Kidney
Liver
Milk (whole)
Milk (skim)
Buttermilk
Cream

Vitamin C

Oranges
Lemon
Grapefruit

Strawberries
Cantaloupe
Watermelon
Peaches
Tomatoes
Cabbage (raw)
Peas (canned, fresh)
Spinach
Watercress
Sprouted seeds
Onions (raw)

Vitamin D
Eggs
Milk (irradiated)
Cod liver oil
Sun baths
Fish

Vitamin E
Leafy vegetables
Liver
Egg yolk
Seeds
Wheat germ oil
Wheat germ
Kelp

HIGH FAT AND OIL FOOD

Whole milk
Butter
Cream
All cheese but cottage
Bacon
Gravies
Sausage
Pork products
Mutton
Lamb Chops
Fatty beef cuts
All nuts
Doughnuts
Chocolate
Cocoa
Olives
Avocado
Salad dressings
Potato chips

CITRIC ACID FRUITS

Oranges
Grapefruit
Lemon
Pineapple
All berries

Loquats
Pomegranate
Dates
Tomato
Cranberries
Guava
Mango

MALIC ACID FRUITS

Apple
Apricot
Cherry
Grapes
Raisins
Peaches
Quince
Rhubarb
Tomato
Plums
Prunes
Persimmons

BENZOIC AND OXALIC ACID FOODS

Prunes
Plums
Cranberries
Rhubarb
Sour cherries

SOURCES OF BULK

Bran
Dried figs
Celery
Swiss chard
Spinach
Turnips
Watercress
Slaw

CALCIUM FOODS

Whole milk
Skim milk
Buttermilk
American cheese
Swiss cheese
Cottage cheese
Malted milk

POTASSIUM FOODS

Bananas
 Beans (dried and lima)
 Caviar
 Chocolate and cocoa
 Dandelions
 Honey
 Fruit and vegetable juice
 Dried fruits
 Condiments (mustards, etc.)
 Nuts
 Meat extracts
 Molasses
 Olives
 Parsnips
 Potassium salt
 Potatoes
 Spinach
 Wheat bran
 Soft drinks

SODIUM FOODS

Table salt
 Soda crackers
 Clams
 Oysters
 Wheat germ
 Rye bread
 Gluten products
 Bread
 Blood (rare beef juice)

MAGNESIUM FOODS

Nuts
 Cereals
 Bread
 Beans (dried)
 Chocolate and cocoa
 Condiments
 Peas
 Legumes
 Wheat germ

HIGH CALORIC FOODS

Fats and oils
 Butter
 Cheese (all but cottage)
 Cream
 Bacon
 Cereals
 Bread
 Cake and pastry
 Sugar
 Candy
 Nuts

SULPHUR FOODS

Nuts
 Meat
 Fish
 Cereals
 Bread
 Cake and pastry
 Beans
 Peas
 Legumes
 Cabbage
 Brussel sprouts
 Chard
 Cheese
 Chocolate and cocoa
 Eggs
 Condiments
 Molasses
 Wheat germ
 Wheat gluten

PHOSPHORUS FOODS

Meat
 Fish
 Eggs
 Cereals
 Bread
 Peas
 Beans
 Nuts
 Soft drinks

IRON FOODS

Liver
 Heart
 Meat
 Oysters
 Sweetbreads
 Spinach
 Eggs
 Bread (graham)
 Bread (whole grain)
 Oats

IODINE FOODS

Fish (salt water)
 Clams
 Oysters
 Kelp
 Iodized salt

LOW CALORIC FOODS

Lettuce
 Celery
 Cucumbers
 Asparagus
 Endive
 Swiss chard

Watercress
 Okra
 Cauliflower
 Egg plant
 Radishes
 String beans
 Broccoli
 Artichokes

DAILY CALORIC REQUIREMENTS

Age 1 to 5 years.....	1000—1600 calories
Age 6 to 10 years.....	1400—2400 calories
Age 10 to 13 years.....	Boys: 2100—3200 calories
	Girls: 1800—2800 calories
Age 14 to 17 years.....	Boys: 2600—4000 calories
	Girls: 2200—2800 calories
Adults — Light work.....	Men: 2200—2800 calories
	Women: 1800—2200 calories
Adults — Heavy work.....	Men: 3000—3500 calories
	Women: 2500—3000 calories

PRACTICAL ASPECTS OF APPLIED NUTRITION

1. The most important item to keep in mind is that the problem of nutrition is a simple one.
2. Few people require a diet in the strict sense of the word. What is needed is the knowledge to select foods of good quality in balanced proportions, and to know how to prepare and cook them properly.
3. Malnutrition can be prevented by the selection of a dietary composed chiefly of natural foods and by the conservation of the nutritional value of these foods.
4. Several factors may affect one's food supply, advantageously or disadvantageously:
 - (a) The geologic nature of the soil—its fertility resources.
 - (b) The proper culture of the soil.
 - (c) Climatologic factors — temperature, moisture, sunshine and seasonal normality.
 - (d) The germ-plasm vigor of the seed and the character of the plant that provides food for man and animal.
 - (e) The proper culture of the flora and fauna which supply man with food.
 - (f) The harvesting and storage of food.
 - (g) The handling of food during transportation and distribution.
 - (h) The type of processing which foods derived from the vegetable and animal kingdom undergo in their preparation for consumption, which may be constructive or destructive.
 - (i) The intelligent selection of food at the market.
 - (j) The proper preparation of food either for immediate consumption in the raw state, or for cooking.
 - (k) Proper methods for cooking different kinds of food.
 - (l) The proper care of left-over food to be used at subsequent meals.

5. Sectional variations in soil fertility profoundly affect the *quality* of our food supply. The difference in soil fertility gives us an East and a West as well as a North and a South. We think of these geographic divisions in terms of sectional population separations which have evolved characteristic social patterns in respect to a way of life, the earning of a livelihood, social customs and mores, racial tolerances and intolerances, as well as divergent political perspectives. Few realize that these sectional population characteristics are related with sectional variations in soil fertility. These fertility variations determine and control the differences in vegetation and animal and human life through the basic influence of nutrition.
6. The subject of nutrition is a hot-bed of contention, bickering, disharmony, bally-hoo and bewilderment. Claims and counter-claims are in acute conflict. Factual and nonfactual statements clash with each other and with one another, respectively. Hundreds of clinicians and research workers have mounted the nutritional "band wagon," proclaiming the discovery of additional vitamins and reporting miraculous cures.

Scientific journals, current periodicals and newspapers feature the great discoveries of so-and-so and his co-workers. The conclusions of these clinicians and research workers are bent, warped, garbled, distorted and sometimes deliberately misinterpreted and/or interpolated to meet the specific need of the advertiser of food products. As a result of this short-sighted and mostly senseless, needless, and useless bally-hoo the subject of nutrition and dietetics is enmeshed in a web of contention and confusion. The whole subject, which is a simple one, has been made to appear the most complicated problem in existence, which few people may hope faintly to comprehend and which none may aspire to solve. This confusion is very helpful to those who seek to "factoryize" all food products and it is also helpful to faddists, quacks and propagandists. These individuals or agencies exploit the apparent lack of unanimity of opinion, or the apparent element of discord, for the specific purpose of making it easy for them to support their misleading statements, pro or con, with evidence from the literature on the subject of nutrition which is accepted as "authoritative."

It is imperative for everyone to have a proper appreciation of the fact that processing does not improve the

biologic value of foods. It is important to realize that claims made by advertisers concerning highly processed foods, either directly through the medium of paid advertisements, or through the medium of articles written by subsidized or tacitly subsidized authors, are nothing more nor less than special pleadings sponsored by the food and drug industries.

7. Eliminate from the dietary as great a number of processed foods as possible. From the information in the foregoing pages, the reader's attention has been directed to the nutritional short-comings of highly processed foods. Many of these highly processed foods are made of bolted flours of wheat, corn, rye, and rice.

These processed products constitute a formidable list—crackers, biscuits, bread sticks, breads, rolls, muffins, goodies, cookies, cake, doughnuts, coffee cake, pies, pastries, nut-honeys, butter-buns, and puffs, precooked or uncooked breakfast cereals and foods, polished (white) rice, etc. Other highly processed foods are granulated sugar, candies of all kinds, syrups made of glucose (corn syrup), or syrups (maple, sorghum or cane) blended with granulated sugar; alcoholic and non-alcoholic beverages containing sugar; most soda fountain drinks which are rich in sugar; tapioca, etc.; also tinned meats, fish, shellfish, fowl and processed cheese.

8. The use of refined sugar frequently causes disorders of the stomach and intestinal tract because of direct chemical irritation. By concentrated caloric dilution refined sugar decreases the consumption of natural foods rich in essential nutrients.

9. **Food Commodities Containing Granulated (Refined) Sugar**

A) **Commercial**

Canned fruits, berries, and vegetables.

Sweet pickles, relishes, cole slaw.

Catsup, chili sauce, oyster cocktail sauce.

Commercial salad dressings—French, Russian, thousand island, mayonnaise, whips, etc.

Worcestershire type sauces, prepared mustard, horseradish.

Jam, marmadale, jelly, fruit butter.

Custards, puddings.

Fruit flavored gelatins.

All soda fountain beverages (soda pops, coco-cola, ginger ale, 7-Up, pepsi-cola, root beer, Dr. Pepper, Dr. Nut, orange drink, grape drink, malted milks, chocolate flavored drinks, etc.).

Ice cream, ices.

Candies (all kinds).

Cakes, pastries, pies.

Doughnuts, coffee rings, jelly rolls.

Butterfly rolls, cinnamon rolls, nut rolls.

Sugar buns, butter buns, etc.

Cookies, crackers, ginger snaps.

Bread (all kinds).

Rolls, muffins, biscuits, buns.

Frozen fruits and berries.

Prepared coffee, chocolate, cocoa.

Sugar cured ham and bacon.

Prepared corn meal and corn meal mixes.

Prepared white flour mixes.

Some precooked breakfast foods.

B) Domestic

Many housewives follow the weekly menu suggestions of food columnists who are constantly including sugar in their recipes. If the housewife will scan menus and recipes, she will be surprised to learn that sugar is a common ingredient—even in cooking some meat dishes. It is often added to the following foods prepared in the kitchen:

Breads, rolls, biscuits, muffins, doughnuts, buns.

Cakes, cookies, pies, pastries, tarts.

Puddings, junkets, gruels.

Frostings, icings.

Domestic canning procedures.

Salad dressings.

Cooked and prepared cereals.

Breakfast foods.

To flavor fruits, berries, vegetables, etc.

Soups, sauces.

Relishes and pickles.

Baked beans (all kinds).
Various casserole dishes.
Corn dishes (succotash and corn).
Candied tubers (carrots, sweet potatoes, etc.).
Vegetables (eggplant, squash, etc.).

- 10. Buying Vegetables.** There are several important points to consider in buying vegetables. Quality comes first; fresh, firm vegetables, free from bruises or other imperfections, are the best. Those of uniform size and regular shape are most easily prepared and have the least waste. Head vegetables should be solid with few waste leaves. Leafy vegetables should not be wilted.

Price is no measure of food value, but is the result of seasonal supply and demand. Vegetables have the best flavor and quality and are lowest in price when they are in season. Out-of-season vegetables are usually grown in distant places and are more expensive because of the cost of care, transportation and the loss from spoilage.

Storage quality and the extent of the available storage space, the family tastes, and the number of persons to be served should determine the kind and quantity to be bought. By judicious buying and storing, a variety of vegetables for each day can be provided without buying too many kinds at once.

- 11. How to Store Vegetables.** Succulent or watery vegetables lose quality rapidly because of the evaporation of the water they contain, a continuation of the enzymatic changes responsible for the ripening process, and changes resulting from bruising and contamination with microorganisms in the course of handling. Vegetables like peas and corn, valued for their delicate flavor and natural sugar content, deteriorate if allowed to stand (one to three days) because the sugar in them changes to starch. It is practicable to buy such vegetables in quantities small enough to be used at once.

Salad vegetables that are to be used uncooked should be kept cold in a covered but ventilated container, or in heavy wax paper or in a bag, to prevent wilting. Root vegetables, such as beets, carrots, turnips, rutabagas, parsnips, and radishes, should be kept cool to prevent their drying out and to inhibit the deteriorative processes that impair their nutrient quality and palatability.

Roots and tubers may be stored for long periods in a cool, ventilated place. Select those that are firm and uninjured for storage; and if any begin to show signs of spoilage they should be removed immediately. Vegetables suitable for storage can generally be bought in bulk, direct from the producer, cheaper than in retail quantities. Any cost involved in home storage and any spoilage loss must be added to the purchase price in estimating the saving. Do not buy large quantities of vegetables that do not keep well.

12. **Preparation for Cooking and Serving.** All vegetables require careful washing. A few thick-skinned vegetables may require paring. Damaged or decayed parts should be discarded. Discolorations which sometimes occur on the cut surface may be avoided by placing the vegetable in water to exclude the air, though this treatment does permit some loss of nutritive material from the cut cells. Soaking wilted vegetables in cold water restores their crispness. If cauliflower, broccoli, kale, and cabbage are to be cooked whole or quartered, they should first be soaked in cold dilute salt water (one teaspoon of salt to one quart of water) for one-half hour to drive out insects. Dried vegetables such as peas and beans are best when soaked overnight in tap water and cooked in the same water.

13. **Effects of Cooking.** Vegetables should be prepared and cooked to preserve food value, palatability and color. The methods of cooking affect vegetable flavors in different ways and must be chosen with care. The texture of the cooked vegetable should be tender but still firm. Over-cooking causes flabby, soft, or mushy texture. Since the color of vegetables adds to their attractiveness, a method of cooking should be selected which will retain so far as possible the characteristic color.

Loss of food value in cooking vegetables is caused by dissolving some of the food materials in the cooking liquid, and by chemical changes in some of the constituents. The fact that some of the nutritive material dissolves in the cooking liquid makes no particular difference in food value if this liquid is served as a beverage (pot-liquor) or served with the vegetable, or added to soups or sauces. The mineral content of the diet may be seriously reduced if vegetable juices are repeatedly drained away. Since

it is not always feasible to use excess cooking liquid, it is well to cook vegetables by methods that require very little added water or none at all, **over a low flame.**

Some valuable food constituents of vegetables dissolve in water more readily than others. The natural sugars, vitamins, and mineral salts are especially soluble, and the amount dissolved in the cooking water is increased if a large amount of water is used, if much cut surface is exposed, and if the cooking time is prolonged.

14. **Methods of Cooking. Baking a vegetable in its skin** causes very little destruction of vitamins, and develops flavor. A baked vegetable retains practically all of its mineral content. Such vegetables as potatoes, all varieties of squash (including zucchini), egg plant, pumpkin, tomatoes, and onions lend themselves readily to baking because they contain enough water to form steam and keep them moist, the skin holding in the steam as it forms. Other vegetables can be baked successfully in an earthenware baker or heavy glass (pyrex) casserole with a close-fitting lid. The cover can be adjusted at the end of the cooking period to allow the last of the steam to evaporate. This will aid in developing good flavor by slight browning. A moderate oven which allows for a gradual penetration of heat is best for baking most vegetables, either in the skin or in a casserole.

Steaming is an excellent method for cooking vegetables. Much more of the soluble mineral material is conserved than in boiling and the vegetable retains its original shape and color. Steaming is well suited to the cooking of asparagus, broccoli, carrots, cauliflower, squash, beets, parsnips, sweet-potatoes, fresh green beans and many other vegetables. Steamed vegetables should be salted just before they are served; use vegetable salt which may be obtained from any health food store.

Steaming Under Pressure—as in the pressure cooker, shortens the cooking time of vegetables, especially dried peas and beans that require long periods of cooking by other methods. This is the best method for cooking vegetables. The cost of the pressure cooker is offset by the preservation of the nutritive value of food and by fuel economy.

Boiling—is the most common method of cooking vegetables. It is a destructive and wasteful method, both in food and fuel value. Some of the food value of boiled vegetables can be conserved if the cooking process is managed properly. Boiled vegetables should be cooked gently in a covered pot with only enough water to cover them; green vegetables should be cooked in a very small amount of water, over a low flame, to prevent nutritive losses. Any left-over stock should be served with the vegetable or utilized in sauces and soups.

A **Waterless Method** of cooking vegetables has been advocated in recent years, and special utensils for cooking by this method are sold. These thick-walled utensils with tight-fitting covers will distribute the heat evenly and promote slow cooking. They are similar to the old-fashioned iron Dutch oven. An earthenware pot or a heavy glass casserole with no steam outlet accomplishes the same results. The cover should not be removed during the cooking. Any utensil made of a material which is a good distributor of heat can be used successfully in waterless cookery. A low temperature (flame) must be used to prevent burning. In this way steam is developed by slowly heating the water in the food itself. This method is recommended for watery vegetables, but practically any vegetable can be cooked in this way if the necessary water is added at the beginning. It is a satisfactory cooking method which eliminates "pot-watching."

Panning—is another method of preparing succulent or watery vegetables. The vegetables are cut into small pieces and cooked in a flat covered pan on top of the stove over a low flame. A little fat should be added to prevent sticking. The water that cooks out of the vegetables evaporates, so there is no excess of liquid. If this is done carefully it is a convenient method for preparing sauces.

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