

SOLARISED WATER AND HOW TO USE

Firstly, what is solarised water? It is simply pure mineral water which, by using the power of sunlight, is instilled with the energy of a particular colour. Each colour has its own wavelength which resonates with the wavelength of the energy centres (chakras) in our body. The water is surrounded by the appropriate colour, as explained below, and the sunlight passing through the colour will energize the water with that particular colour's vibrations. The water can then be used to help many conditions either by drinking the water or by using it to bathe affected areas.

To solarise/energize water is quite simple. Use a clear glass receptacle with a filter of the desired colour around it and cover the top with muslin or some other cotton fabric or gauze or if you have a glass receptacle in the desired colour then use that. Fill the glass receptacle with pure still mineral water and place on a south facing window sill. In summer the process of light absorption should only take a couple of hours but in winter it may be necessary to leave the glass there all day. Then store the container with a lid on in the refrigerator. The solarised/energized water will last up to 5 days.

The following are a few examples of where solarised water can be helpful - safe for adults, children and animals.

RED Use to bathe chilblains. For tiredness and lethargy, sip glass of red water in the morning to help get you going. Warming on a cold day. Sip glass in the morning. To stimulate low blood pressure. To boost sluggish circulation. **Do not use if you suffer with High blood pressure or have heart problems.**

ORANGE Digestive system. Bowel problems. Menstrual problems. Period pains. Cramp, muscle spasms. Antidote for depression. Helps you "get up and go" in the morning - use if you cannot use red.

YELLOW Good for study, helps concentration, alertness, reasoning and logic. Laxative, diuretic. Weight corrective - tumbler of yellow water half an hour before eating followed by a glass of violet water half an hour after eating. Urine infections. Cleanse the skin after removing makeup.

GREEN Eases stress, can be used for lowering of high blood pressure, strengthens the immune system. If an animal is upset use green solarized water in the drinking bowl and green bedding material.

Shock - green water with Rescue Remedy (Bach Flower Remedy), wrap yourself in a green pure silk/pure cotton wool scarf, shawl or blanket.

BLUE Anti-inflammatory and antiseptic. Teething problems in babies. Stings, itches, rashes, calms a fever. Thyroid imbalance. Decreases redness in a very ruddy complexion - bathe face with blue water and leave to dry naturally. Gargle for sore throat. Calming and relaxing - helpful for stress/nervousness.

INDIGO Purifying for the blood. Boils, ulcers, varicose veins, shingles, insomnia, pain relief. Chicken pox, measles - soothes the rashes. Rheumatism, arthritis brings down the inflammation as blue, but more powerful. Eczema - and other skin problems, bath the skin where possible, otherwise drink the water. Healing wounds - where they can be bathed do so, otherwise drink the water. Helps to release tears and calm the mind. Sip a glass before retiring.

VIOLET Again - purifying. Restores calm to mind. Nervous headache, migraine, eye problems. Acne - bathe skin and leave to dry naturally and drink water. Also improves skin, where blemishes and scar tissue are present. Psoriasis - rinse hair with violet water. Helpful for viral and fungal problems. Insomnia - drink water before retiring, or concentrate on violet colour for a few minutes before putting out bedside light.

MAGENTA Beneficial for the skin and for lack of energy. Helpful for times of major life changes, releasing us from past conditioning and that which holds us back. Re-balances emotions. Bear in mind the two colours here: - violet and red, so these are the combined energies.

TURQUOISE Throat chakra problems - energizes thyroid. Emotional healing. Immune system problems.

PINK As for red but better for young children, animals and adults with a hypertension problem. Nurturing and comforting. Great for the very young - babies in the nursery or young animals taken from the parent animal.

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Please note:-

Colour Therapy can be used alone or alongside any other therapy whether orthodox medical or complementary. However, it should never be considered as an *alternative* to professional medical advice.

Food & Type	Predominant Chemical Elements	Best Way Prepared and Served for Digestion	Remedial Measures
<i>Chives</i> Mineral Carbohydrate	Potassium Calcium Sulfur	Served in salads, with vegetables, or in cottage cheese.	Body mineralizer, good for catarh, elimination.
<i>Coconuts</i> Protein Fat Mineral	Potassium Magnesium Phosphorus Chlorine	Milk and coconut meat eaten with fresh or diced fruit or vegetables.	Body builder and for weight building. Good for bones and teeth.
<i>Corn</i> Carbohydrate Protein	Potassium Phosphorus Silicon	Remove husk and silks with a stiff brush. Steam. Eat with green vegetables. Yellow corn better than white corn.	A great brain, bone, and muscle building food.
<i>Cranberries</i> Minerals Carbohydrate	Calcium Sulfur Chlorine	Eat with proteins.	Use as pack in rectum for hemorrhoids.
<i>Cream, Cow</i> Fat	Calcium Phosphorus Fluorine	Eat with fruit or vegetable tables.	Weight builder. Apply to chapped or sunburned skin.
<i>Cucumbers</i> Mineral Carbohydrate	Potassium Calcium Phosphorus Silicon Iron	Eaten in salad. Serve with a starch or protein.	Good for skin troubles, and for blood cooling.
<i>Currants, Black</i> Mineral Carbohydrate	Phosphorus Magnesium Potassium	Used as a sweet dried fruit; juice of fresh currants makes a refreshing drink.	Blood builder.
<i>Dandelion Greens</i> Mineral Carbohydrate	Potassium Calcium Manganese Chlorine	Discard greens with bud or blossoms as they are bitter. Cut off roots. Clean and wash thoroughly. Mix with sweet vegetables. Eat raw in salad or steam.	Cleanse liver and gall bladder. Body mineralizer.
<i>Dates, Dry</i> Carbohydrate	Chlorine	Wash, eat alone, or with sub-acid fruits or substitute.	Good for undernourishment.
<i>Duck</i> Protein	Potassium Phosphorus Chlorine	Broil or roast. Serve with green vegetables and grapefruit or tomatoes.	An easy protein to digest.
<i>Brussels Sprouts</i> Carbohydrate	Potassium Calcium Sulfur	Remove wilted leaves. Leave whole. Wash and soak in salt water 30 minutes. Steam.	Good mineralizer.
<i>Butter, Cow</i> Fat Mineral	Sodium Calcium Chlorine	Eaten on toast and served with cooked vegetables in moderation. Use sweet butter.	Good for eyes and supplying vitamin A, if not used in excess. Easiest fat to digest.
<i>Buttermilk</i> Mineral Protein	Sodium Calcium Chlorine	Best with citrus fruit or protein.	Good for diarrhea, gas, intestinal gas normalizer, and for acidity.
<i>Cabbage</i> Mineral Carbohydrate	Potassium Sodium	Remove wilted outside leaves. Cut in fourths. Wash, soak in salt water. Boil seven minutes in uncovered pot. Also use raw in salad.	Good mineralizer.
<i>Carrots</i> Mineral Carbohydrate	Potassium Calcium Sulfur Silicon	Clean with vegetable brush. Shred fine, use in salads, raw, or steamed. A raw whole carrot daily develops children's teeth and jaws.	Eye food. Good for hair, nails. Easy to digest. One of the best foods to break a fast. Shred finely.
<i>Casaba</i> Mineral Carbohydrate	Potassium Sodium Chlorine Iron Silicon	Eat like other melons. Fill center with berries or sour cream. Good on hot afternoons.	Blood cleanser and cooler.
<i>Cauliflower</i> Mineral Carbohydrate	Potassium Calcium Sulfur Silicon	Remove leaves and woody base. Break flowers apart. Soak in salt water thirty minutes. Steam.	Good intestinal cleanser.
<i>Celery</i> Mineral Carbohydrate	Chlorine Sodium Potassium Magnesium	Best eaten raw or in vegetable juice. May also be used steamed or in vegetable broth.	For arthritis, neuritis, rheumatism, acidity, high blood pressure, and for nerves. Use in juice form in good health and for every disease. Good blood cleanser.

Food & Type	Predominant Chemical Elements	Best Way Prepared and Served for Digestion	Remedial Measures
<i>Chayote</i> Mineral Carbohydrate	Potassium Magnesium Silicon	Wash, peel, cube, or slice, and steam.	Non-fattening and a good mineralizer.
<i>Cheese, Cow Cottage</i> Protein	Calcium Phosphorus Chlorine	Eaten as protein. Always serve with fruit and vegetables.	Hard to digest, but good source of complete protein. Dry or Farmer Style best.
<i>Cheese, Goat Cottage</i> Protein	Calcium Phosphorus Fluorine Chlorine	Always serve with fruit or vegetables.	Has fluorine in abundance. Good for bones, teeth, beauty, especially for children.
<i>Cheese, Roquefort</i> Protein	Calcium Phosphorus Fluorine Chlorine	Always serve with fruit or vegetables.	Has fluorine in abundance. Good for bones and teeth.
<i>Cheese, Swiss</i> Protein	Calcium Phosphorus Chlorine Sodium	Always serve with fruit or vegetables.	Good body builder.
<i>Cherries, Wild Black</i> Mineral Carbohydrate	Potassium Iron Magnesium	Eat alone or serve with protein.	For anemia, catarrh. Use one glass for three days in succession twice a month for chronic gall bladder trouble
<i>Chervil</i> Mineral Carbohydrate	Potassium Iron Phosphorus Sulfur	An herb eaten with salads, vegetables, protein, or carbohydrates	Body mineralizer.
<i>Chicken</i> Protein	Phosphorus Potassium Chlorine	Serve with non starch vegetables and tomatoes or grapefruit	
<i>Chicory</i> Mineral Carbohydrate	Iron Sulfur Chlorine Potassium	A green to be served in salad.	Body mineralizer.
<i>Chinese Cabbage</i> Mineral Carbohydrate	Sodium Calcium Magnesium Iron	Serve raw or in salad, or prepared like cabbage.	Body mineralizer.
<i>Beans, Lima</i> Carbohydrate Protein	Potassium Phosphorus Calcium Iron	Shell and wash fresh limas, steam, or use in vegetable and protein loaves.	Puréeed for stomach ulcers. Good muscle-building food.
<i>Beans, String</i> Mineral Carbohydrate	Manganese Nitrogen	Wash, remove ends and strings. Cut once lengthwise and cut crosswise in one-inch strips. Steam.	Good body mineralizer.
<i>Beef</i> Protein	Phosphorus Potassium Chlorine	Should be broiled or roasted. Serve with green vegetables and tomatoes or grapefruit.	Brain and nerve food. Good in anemia, especially for those over 20 years old, and for those who use up surplus energies.
<i>Beets</i> Mineral Carbohydrate	Potassium Fluorine Chlorine	Cut off leaves, leaving one-inch stems. Steam. Also shred and steam for variation.	Beet juice when combined with blackberry juice is a good blood builder. Use leaves like spinach.
<i>Beet Greens</i> Mineral Carbohydrate	Potassium Magnesium Iodine Iron	Clean and wash thoroughly. Use stems if tender. Cut up fine and steam like spinach.	Body mineralizer.
<i>Blackberries</i> Mineral Carbohydrate	Potassium Magnesium Iodine Iron	Wash and serve alone, with other fruit, or with protein.	Blood builder. Used for dysentery or diarrhea. Good for anemia.
<i>Blueberries</i> Mineral Carbohydrate	Potassium Calcium Magnesium	Wash and serve alone, with other fruit, or with protein	Blood purifier and body mineralizer.
<i>Bread, Whole Wheat</i> Protein Carbohydrate	Phosphorus Chlorine Calcium Silicon	To be eaten once a day with raw vegetable juices and salads. Sandwiches allowed but vegetable filling should be used.	When used discriminately, good for teeth, muscles, bones, and anemia.
<i>Broccoli</i> Mineral Carbohydrate	Potassium	Remove tough leaves, tough part of stalk. Wash thoroughly and steam.	Body mineralizer.

Food Remedy Troubleshooting Chart—Continued

Food & Type	Predominant Chemical Elements	Best Way Prepared and Served for Digestion	Remedial Measures
<i>Olives</i> Mineral Fat	Potassium Phosphorus	Serve with green vegetables, raw salad, or fruit.	Best source of potassium. Good brain and nerve food found in oil.
<i>Onions, White</i> Mineral Carbohydrate	Sulfur Potassium	Peel onions under water to keep eyes from watering. Serve cooked or raw in salads.	Good for all catarrhal, bronchial, and lung disorders.
<i>Oranges</i> Mineral Carbohydrate	Potassium Calcium Sodium Magnesium	To be used alone, with nuts, raw egg yolk, or with a protein meal.	Good to stir up acids, catarrhal settlements, and hard mucous.
<i>Papaya</i> Mineral Carbohydrate	Sodium Magnesium Sulfur Chlorine	Fat as a melon or serve in salads.	Good for stomach and intestinal disorders, especially the seeds made into a tea.
<i>Parsnips</i> Mineral Carbohydrate	Calcium Potassium Silicon	Wash, clean with stiff brush, cube, slice, or grate and steam.	Body mineralizer.
<i>Parsley</i> Mineral Carbohydrate	Calcium Potassium Sulfur Iron	Eaten raw with salads, meats, soups, and vegetables. Used as tea, and in raw vegetable juice.	Good for diabetes, for cleansing the kidneys, for controlling calcium in the body. Body mineralizer.
<i>Peaches</i> Mineral Carbohydrate	Calcium Phosphorus Potassium	Eaten alone, or in fruit salads with protein meal.	Good bowel regulator. Body mineralizer and blood builder.
<i>Peanuts</i> Protein Fat Carbohydrate	Phosphorus Silicon Potassium	Eaten with green leafy salad. Raw peanuts are best.	Hard to digest.
<i>Pears</i> Mineral Carbohydrate	Sodium Phosphorus	Eaten alone or in fruit salads with protein meals.	Good body mineralizer. Good intestinal regulator.
<i>Peas, Garbanzo</i> Protein Carbohydrate	Magnesium Phosphorus Iron	Eaten as protein. Cook as dried beans, such as lentils and navy beans. Soak before cooking.	Good source of vegetable protein.

Food Remedy Troubleshooting Chart—Continued

Food & Type	Predominant Chemical Elements	Best Way Prepared and Served for Digestion	Remedial Measures
<i>Horsradish</i> Mineral Carbohydrate	Sulfur Fluorine Potassium	Used in seasoning salads, salad dressings, sandwich filling and sauces.	Gall bladder and liver cleanser. Body mineralizer.
<i>Kale</i> Mineral Carbohydrate	Calcium Potassium	With green vegetables in salad. Wash, cut fine, and use raw, or in soups.	Green kale broth for supplying body calcium. Best source of calcium. Makes teeth and bones hard. Body mineralizer.
<i>Kohlrabi</i> Mineral Carbohydrate	Calcium Magnesium Potassium	Wash, peel, then cube, slice, or shred, and steam.	Body mineralizer.
<i>Lamb</i> Protein	Potassium Phosphorus Chlorine	Bake or broil. Serve with green vegetables and tomatoes or grapefruit.	Good source of protein. Brain, gland, nerve food.
<i>Leks</i> Mineral Carbohydrate	Sodium Calcium	With green vegetables. Wash and use in salads.	Good for catarrhal conditions. Body mineralizer.
<i>Lemons</i> Mineral Carbohydrate	Calcium Magnesium Potassium	To be used alone as a drink or in salads served with a protein meal. Use instead of vinegar. Cuts sweetness of grape juice when added.	Catarrh elimination. Best used in fevers and liver disorders. Used in lime salts. Blood cooler and weight reducer. Good germicidal agent. Use as a skin bleach.
<i>Lentils</i> Protein Carbohydrate	Phosphorus Potassium	To be served with a green salad. Soak and cook until soft.	Muscle builder. Good when pureed for stomach ulcers and colitis.
<i>Lettuce, Head</i> Mineral Carbohydrate	Sodium Calcium Chlorine Potassium Iron	Wash well and use in salads. Green outside leaves are always best.	Slows digestion. Good for sleeplessness. In severe gas conditions, stop using in diet.
<i>Lettuce, Romaine</i> Mineral Carbohydrate	Calcium Sodium Potassium Chlorine	With green vegetables, in raw salads, with starches or proteins.	Mineralizer of the body.

Food & Type	Predominant Chemical Elements	Best Way Prepared and Served for Digestion	Remedial Measures
<i>Eggplant</i> Mineral Carbohydrate	Potassium Phosphorus Chlorine	With protein or starch as a vegetable. Wash, steam, or bake whole, sliced or cubed. May be stuffed or used in roasts and loaves.	Good form of bulk. Good mineralizer.
<i>Egg Yolk, Raw</i> Mineral Fat Protein	Sulfur Chlorine Iodine Iron	Slowly cook, never fry, and serve with green vegetables, grapefruit, tomatoes, or fruit.	Excellent food for children. Brain, nerve, and gland food.
<i>Endive</i> Mineral Carbohydrate	Potassium Calcium Sulfur	Wash and serve in salads.	Body mineralizer.
<i>Figs, Black</i> Carbohydrate	Potassium Magnesium	Wash and eat alone, or with fruits. Good candy substitute.	A natural laxative. Good for constipation. Fig juice is an alternative drink when acid fruit juice cannot be taken.
<i>Grapefruit, Fresh</i> Mineral Carbohydrate	Sodium Potassium Calcium	Eaten alone, or with fruit or protein. Buy grapefruit when it has a brownish-yellow cast.	For fevers, reducing blood cooling, and catarrh elimination.
<i>Grapes</i> Mineral Carbohydrate	Potassium Magnesium	Wash and serve alone or with other fruit or protein. Concord grapes are best.	Blood purifier. Grape diet once or twice every year should be taken. Good for intestinal cleansing. Especially good in all catarrhal conditions.
<i>Halibut, Smoked</i> Protein	Phosphorus Potassium Chlorine	Serve with green vegetables and grapefruit or tomatoes. Steam, bake, or broil.	Good source of complete protein. Good source of brain and nerve fat.
<i>Honey</i> Carbohydrate	Potassium Calcium Phosphorus	Because it is a concentrated sweet, use starches and green vegetables.	Honey in conjunction with onions makes good cough syrup when allowed to stand overnight. Eucalyptus honey is good for throat ailments.

Food & Type	Predominant Chemical Elements	Best Way Prepared and Served for Digestion	Remedial Measures
<i>Lettuce, Sea</i> Mineral Carbohydrate	Iodine Potassium Phosphorus Iron	Use powdered over salads, in drinks, or sprinkled on steamed vegetables.	Good source of iodine.
<i>Limes</i> Mineral Carbohydrate	Calcium Magnesium Potassium	To be used in a drink or on salads served with a protein meal.	Limes in whey, good as a blood cooler. Marvelous in congestion of the brain.
<i>Mangoes</i> Mineral Carbohydrate	Potassium Calcium Chlorine	Eaten like melons or served in salads.	Good for irritated intestinal disorders.
<i>Milk, Cow</i> Protein	Calcium Sodium Phosphorus	To be served with fruits. Served as a protein.	Complete protein. Use on eyes as a pack for inflammation.
<i>Milk, Goat</i> Protein	Sodium Fluorine Calcium Phosphorus	Use in place of cow's milk. Always have raw.	Better source of fluorine than cow's milk. Easier digested than cow's milk. Use raw.
<i>Musbrooms</i> Mineral Protein Carbohydrate	Potassium Phosphorus Iodine	Used as flavoring in meat substitutes, roasts, and in sauces.	Body mineralizer.
<i>Muskmelon</i> Mineral Carbohydrate	Sodium Potassium Silicon	Eat alone or with protein, or cut up in salads with other fruit.	Good mineralizer, blood cooler. Use instead of artificial soft drink.
<i>Mustard Greens</i> Mineral Carbohydrate	Sulfur Potassium Calcium Magnesium	Wash thoroughly, cut fine, and use in salads, or steam as a green vegetable. May be mixed with other greens.	Good body mineralizer, or source of calcium. Good liver and gall bladder cleanser.
<i>Oats, Steel Cut</i> Mineral Carbohydrate	Silicon Iodine Magnesium	Use with green vegetables, or raw salad. Must be well cooked. Soak before cooking.	Excellent children's food, especially when they lack silicon. Good source of silicon.
<i>Okra</i> Mineral Carbohydrate	Sodium Chlorine	Wash pods. Cut off stems. Use in broth and soups or steam. Serve separately with butter.	Good for stomach ulcers, irritated intestinal tract. Use in all broths for stomach disorders.

Food Remedy Troubleshooting Chart—Continued

Food & Type	Predominant Chemical Elements	Best Way Prepared and Served for Digestion	Remedial Measures
<i>Radishes, Black</i> Mineral Carbohydrate	Potassium Phosphorus Magnesium	Use as seasoning.	Has Raphanon which is extremely good in gall bladder and liver disorders.
<i>Radishes, Red</i> Mineral Carbohydrate	Potassium Phosphorus Magnesium	Use raw in salads, with green vegetables and starches.	Good source of sulfur. Good for catarrh.
<i>Raisins</i> Mineral Carbohydrate	Potassium Phosphorus Chlorine	With vegetables, starch, or protein. Wash well. Soak. Use in cereals for sweetening or in salads.	Concentrated sweet. Good body builder and good energy food.
<i>Raspberries</i> Mineral Carbohydrate	Sodium Iron	Wash well. Serve alone or with fruit or protein.	Blood mineralizer. Neutralizes acidity. Good for anemia.
<i>Rice, Natural</i> Brown Carbohydrate	Phosphorus Sodium	Steam and serve with green vegetables.	Good body building food. Good for bones, teeth, etc.
<i>Rye, Whole</i> Carbohydrate	Phosphorus Magnesium Silicon	Use with raw green vegetables.	Good source of silicon.
<i>Spinach</i> Mineral Carbohydrate	Potassium Silicon	Cut off roots and dead leaves. Wash, cut fine, and use raw or steamed.	Body mineralizer.
<i>Squash</i> Carbohydrate Mineral	Sodium Magnesium	Cut into pieces, or leave whole, and bake or steam.	Body builder, and bowel regulator.
<i>Strawberries</i> Mineral Carbohydrate	Calcium Sodium	Wash, and use fresh with or without fruit or protein.	Acid neutralizer when eaten ripe.
<i>Swiss Chard</i> Mineral Carbohydrate	Sodium Calcium Magnesium Iron	Wash thoroughly. Cut up in one inch pieces. Steam. Tender sections may be used raw in salads.	Body mineralizer.
<i>Tomatoes</i> Mineral Carbohydrate	Potassium Sodium Chlorine	Use only ripest tomatoes. Use in salads, broths, or steamed. Use with proteins.	Consider canned tomatoes best. Always use with a protein. Use also in packs and poultices.

Health Cocktails for Common Disorders—Continued

Disorder	Health Cocktail
Insomnia (sleeplessness)	Lettuce and celery juice.
Jaundice	Tomato and sauerkraut juice, one glass every day for a week.
Kidneys	Celery, parsley, and asparagus juice; carrot and parsley juice.
Kidneys (bladder) problems	Black currant juice with juniper berry tea; pomegranate juice and goat whey; celery and pomegranate juice.
Liver	Radish and pineapple juice; black cherry concentrate and chlorophyll; carrot, beet, and cucumber juice.
Memory (poor)	Celery, carrot, and prune juice and rice polishing.
Nervous tension	Celery, carrot, and prune juice; lettuce and tomato juice.
Nervous Disorders	Radish and prune juice and rice polishings.
Neuralgia, neuritis	Cucumber, endive, and pineapple juice; cucumber, endive, and goat's whey.
Overweight, obesity	Beet greens, parsley, and celery juice.
Perspiration	Celery and prune juice; cucumber and pineapple juice.
Rheumatism	Cucumber, endive, and goat's whey.
Rickets	Dandelion and orange juice.
Sinus	Sip lemon juice with a little horseradish; sip mixture of cayenne powder in a cup of water.
Teeth	Beet greens, parsley, and celery juice with green kale.

The Twelve Body Systems—Continued

System	Structure	Function	Vitamins
Integumentary System	Skin, hair, nails, oil and sweat glands.	Regulate body temperature; eliminate waste; temperature, pressure, and pain receptor.	Pantothenic Acid, PABA, D, A, B-Complex, B₂, B₆, B₁₂, B₁, C, E, F, K, Biotin, Choline, Folic Acid, Niacin, Bioflavonoids.
Lymphatic System	Spleen, thymus, appendix, tonsils, lymph nodes, lymph vessels and fluid.	Filter blood; produce white blood cells; protect against disease; return protein to cardiovascular system.	A, C, Choline, B-Complex, B₁, B₂, B₆, Biotin, Pantothenic Acid, Folic Acid.
Excretory System	Large colon.	Complete nutrient absorption; manufacture certain vitamins; form and eliminate feces.	A, F, Choline, B-Complex, B₁, B₂, B₆, B₁₂, C, E, Inositol, Niacin, Folic Acid, Pantothenic Acid.
Circulatory System	Heart, blood vessels, blood.	Distribute oxygen and nutrients to cells; transport Carbon Dioxide and wastes from cells; acid/base balance; regulate body temperature; form blood clots.	B-Complex, B₆, Niacin, B₁₂, C, E, Bioflavonoids, Choline, Folic Acid, Inositol, Pangamic Acid.
Nervous System	Brain; spinal cord; nerves.	Regulate body function through nerve impulses; sensory perception and motor response.	B-Complex, A, B₁, B₂, B₆, B₁₂, B₃, C, D, E, F, Choline, Folic Acid, Inositol, Niacin, Pantothenic Acid, Pangamic Acid.
Urinary System	Kidneys, bladder, ureters, urethra.	Eliminate liquid waste; regulate chemical composition of blood; fluid/electrolyte balance; acid/base balance.	A, B-Complex, B₂, B₆, C, D, E, Choline, Pantothenic Acid.

Disorder	Health Cocktail
Diarrhea, infection	Carrot and blackberry juice.
Eczema, scurvy	Carrot, celery, and lemon juice.
Fever, gout, arthritis	Celery and parsley juice.
Gall bladder	Radish, prune, black cherry, and celery juice; carrot, beetroot, and cucumber juice; prune, black cherry, celery, and radish juice.
Gallstones	Beetroot and radish juice; green vegetable juices.
Glands (for building)	Pineapple juice with one egg yolk, one T. wheat germ, 1/4 tsp. powdered Nova Scotia dulse—take daily between meals; 1/4 cup carrot juice, 1/4 cup coconut milk, one T. wheat germ, one tsp. rice polishings or rice bran syrup, 1 cup tomato juice, one T. cod liver oil.
Glands and nerves	One T. cherry concentrate, one tsp. chlorophyll, and one egg yolk.
Glands, goiter, impotence	Celery juice, one tsp. wheat germ, and one tsp. Nova Scotia dulse.
General house cleaning	Celery, parsley, spinach, and carrot juice.
Gout	Celery juice; combination of celery and parsley juice.
Heart	Carrot and pineapple juice with honey; liquid chlorophyll (alfalfa); parsley, alfalfa, and pineapple juice.
Hair (to improve)	One T. cherry concentrate, one tsp. oat straw tea to a cup of boiling water. Steep tea 10 min., then add cherry concentrate.
Indigestion, underweight	Coconut milk, fig juice, parsley, and carrot juice.
Infections	Carrot and blackberry juice.

Minerals	Foods	Drinks	Herbs
Fluorine, Calcium, Copper, Iodine, Zinc, Sulfur, Sodium, Silicon, Iron, Potassium, Phosphorus, Magnesium	Sesame seed, kale, millet, celery, barley, okra, almonds, collards, turnip greens, raw goat's milk.	Black mission figs/raw goat's milk; black cherry juice; green kale juice; celery/parsley juice; veal joint broth.	Comfrey, kale, boneset, poke root, chicory, juniper berry, arnica flower, elderflower, oat straw, alfalfa, Irish moss.
Calcium, Potassium, Magnesium, Silicon, Nitrogen, Iron, Chlorine.	Olives, yve, lima beans, rice bran, bananas, sprouts, watercress, complementary proteins (grains, legumes), apples.	Potato peeling broth; dried olive tea; nut milk/liquid chlorophyll.	Juniper berry, tansy, rosemary, black willow, horseradish, wild cabbage, kelp, dulse, watercress, horsetail, black walnut.
Calcium, Iron, Silicon, Potassium, Fluorine, Manganese, Copper.	Garlic, onions, leeks, turnips, grapes, pineapple, honey (eucalyptus), green leafy vegetables.	Celery/papaya juice; carrot juice; watercress/apple juice/1/4 tsp. cream of tartar; rose hip tea; goat milk whey.	Mullein, elderflower, pepper-mint, yarrow, lobelia, comfrey, cayenne, marshmallow, sage, coltsfoot.
Iodine, Silicon, Phosphorus, Calcium, Chlorine, Magnesium, Sodium, Potassium, Sulfur, Iron, Manganese.	Sea vegetables, kelp, dulse, Swiss chard, turnip greens, egg yolks, wheat germ, cod roe, lecithin, sesame seed butter, goat milk, RNA/DNA.	Pineapple juice/egg yolk/wheat germ/dulse; black cherry concentrate/egg yolk/chlorophyll.	Kelp, dulse, ginseng, dong quai, licorice, echinacea, golden seal, dandelion.
Sodium, Chlorine, Magnesium, Potassium, Iron, Sulfur, Copper, Silicon, Zinc, Iodine.	Papaya, liquid chlorophyll, spinach, sun dried olives, Swiss chard, celery, kale, beet greens, whey, shredded beet, watercress, yogurt, kefir.	Parsley juice; papaya juice; chlorophyll/carrot juice, potato peeling broth; whey drinks.	Papaya, alfalfa, aloe vera, peppermint, slippery elm, cayenne, burdock, comfrey, ginger, fennel, anise.
Zinc, Calcium, Iodine, Phosphorus, Iron, Sodium, Chlorine, Potassium, Fluorine, Silicon.	Sesame seeds, pumpkin seeds, seed and nut butters, cod roe, lecithin, egg yolk, raw goat's milk.	Black cherry concentrate/chlorophyll/egg yolk; pineapple juice/egg yolk/wheat germ/dulse; 3/4 cup carrot juice/1/4 cup coconut milk/tbsp. wheat germ oil/tsp. rice polishings.	Black cohosh, licorice, dong quai, ginseng, blessed thistle, blue cohosh, uva ursi, raspberry, squaw vine, chickweed, saw palmetto, false unicorn.

Health Cocktails for Common Disorders—Continued

Disorder	Health Cocktail
Asthma	Celery and papaya juice; celery, endive, and carrot juice.
Bedwetting	Celery and parsley juice.
Bladder ailments	Celery and pomegranate juice. (Pomegranate juice is the best for the bladder.) Also good, shavegrass herb tea.
Blood ailments	Blackberry juice; black cherry juice; parsley juice; dandelion juice; tomato juice and desiccated liver.
Blood pressure (high)	Carrot, parsley, and celery juice; lime juice and whey powder; grape juice and carrot juice.
Blood pressure (low)	Parsley juice, also capsicum and garlic.
Bronchitis	Juice of 2 lemons, 3 T. honey to one pint of flaxseed tea. Use one tsp. every hour. Or bake a lemon, juice half of it and add to one cup of oat straw or boneset tea. Then, go to bed and perspire.
Catarh, colds, Sore throat	Watercress and apple juice with 1/4 tsp. pure cream of tartar.
Circulation (poor)	Beet and blackberry juice; parsley and alfalfa juice with pineapple juice; grape juice with one egg yolk.
Colds and sinus	Celery and grapefruit juice; watercress and apple juice with 1/4 tsp. pure cream of tartar, coconut milk and carrot juice; celery and grapefruit juice with 1/4 tsp. cream of tartar.
Colitis, gastritis, gas	Coconut milk and carrot juice.
Complexion (yellow)	Grapefruit juice.
Complexion problems	Cucumber, endive, and pineapple juice; one T. apple concentrate; 1/2 glass cucumber juice and 1/2 glass water.
Constipation, stomach ulcers	Celery with a little sweet cream; spinach and grapefruit.

The Twelve Body Systems

System	Structure	Function	Vitamins
Skeletal System	All bones, cartilage, joints.	Support and protect body, leverage, mineral storage, red blood cell production.	C, D, A, B Complex, B ₆ , B ₁₂ , E, F, Folic Acid, Nicotin, Pantothenic Acid, Bioflavonoids.
Muscular System	All muscular tissue.	Facilitate body movement, produce heat, maintain body posture.	B ₆ , D, E, A, B-Complex, B ₁₂ , C, Biotin, Choline, Pantothenic Acid.
Respiratory System	Lungs, trachea, bronchi, bronchial tubes, alveoli.	Oxygenate; eliminate Carbon Dioxide; regulate acid/base balance of body.	A, C, D, B-Complex, B ₁ , B ₂ , B ₆ , B ₁₂ , E, F, Inositol, Choline, Nicotin, Folic Acid, Pantothenic Acid, Bioflavonoids.
Endocrine System	Glands: pineal, pituitary, thyroid, parathyroids, thymus, adrenals, pancreas, ovaries, testes.	Regulate body action by secreting hormones; through circulatory system to target organs.	B-Complex , E, C, Choline, Inositol, Folic Acid, Pantothenic Acid.
Digestive System	Gastrointestinal tract with exception of large colon (part of the Excretory System), salivary glands, liver, gall bladder, pancreas.	Mechanical and chemical breakdown of food for cellular use.	A, C, B-Complex, B ₁ , B ₂ , B ₆ , B ₁₂ , D, E, F, Folic Acid, Inositol, Nicotin, Pantothenic Acid.
Reproductive System	Ovaries, ova, testes, sperm.	Reproduction of the organism.	B-Complex , E, A, B ₁ , B ₆ , C, D, F.

Grains and Grain Products

Grains are the seeds of food grasses and other plants and include barley, corn, millet, oats, rice, rye, the hybrid triticale, and wheat. Buckwheat, usually grouped with grains, is actually a botanical relative of rhubarb. Grains were the first cultivated food. Once man learned to plant crops he could give up the nomadic way of life and settle down to farming. Usually, the locally grown grain became the staple food of the area—rice in the Far East, oats in Scotland, wheat in North America. Grains can be eaten whole, such as brown rice, or those processed into cereals or flour for a multitude of other food products.

How to keep. Store grains and grain products in an airtight container—preferably a glass jar with a tight lid—in a cool, dry place. To prevent whole grains and whole-grain products, such as whole-wheat flour, from turning rancid, keep at room temperature for no more than two weeks or refrigerate for longer use. **What to look for** and specific storage information are mentioned in individual entries.

Nutritive value. Grains are very low in fat, sugar, and sodium and high in starch and fiber. The nutrient content will depend on whether the grain is highly milled or not and also on whether the product has been enriched or fortified. Most are a good source of niacin, thiamin, riboflavin, B₆, phosphorus, magnesium, copper, chromium, manganese, selenium, and molybdenum.

Barley

In ancient times, before wheat and rye were used to make raised yeast breads, barley was the chief grain for baking flat breads. The Bible tells that Jesus fed 5,000 people with 5 loaves of bread made from barley. Centuries later, the Scottish poet Robert Burns personified Sir John Barleycorn as the king of grain. Barley was celebrated not only for its role in breadmaking but also because malted barley is the basis of beer and whiskey. Today, a large part of the world's barley crop is fermented into alcohol.

In Scotland, where barley is widely grown, it is commonly eaten as a breakfast cereal and as Scotch broth, a mutton-based barley soup. When barley is boiled with lemon peel and strained, it becomes barley water, an old-fashioned broth for the sick.

Pot barley. Also called *whole barley*, pot barley is the barley grain without its outer hull. It is commonly found in supermarkets. This brown barley is sweeter, nuttier, and chewier than pearl barley and must be soaked before cooking.

Buckwheat

Although used as a grain, the strong-flavored buckwheat is botanically a fruit. Buckwheat seeds, produced from flowers, consist only of a kernel (called a groat) inside a shell. It is a good source of protein, thiamin, riboflavin, potassium, iron, and is low in calories. Groats are used for breakfast cereal, puddings, and stuffings. Roasted groats are called *kasha*, which is a traditional Eastern Euro-

comes malted milk.

barley is combined with milk, it becomes malted barley. When malted from malted barley, it produces the nutrients of the grain, is produced from malted barley, which retains little nutritive value in malt liquor. *Extract of malt*, which retains the nutrients of the grain, is produced from malted barley. The main ingredients in beer and malt whiskey, malted barley is made by sprouting and pulverizing the grain into a powder before processing it into alcohol. There is little nutritive value in malt liquor. *Extract of malt*, which retains the nutrients of the grain, is produced from malted barley. When malted barley is combined with milk, it be-

comes malted milk.

Malted barley. The main ingredients used in soups. **Pearl barley.** The hull and bran of barley are removed to make pearl barley. These small, whitish grains cook up faster than pot barley and are often used in soups.

comes malted milk.

Corn

Now also a vegetable, corn was first thought of only as a grain. Grain products such as grits and cornmeal are made with *field corn*, which has more starch and less sugar than *sweet corn*, the variety eaten as corn on the cob. Both kinds of corn are raised in two varieties: yellow and white. The two are nutritionally similar, but yellow corn is richer in vitamin A.

Hominy. The Algonkian, Indian word for hulled and dried corn, hominy is sold dried (it must be soaked before cooking) or canned (pre-cooked). Hominy has neither the bran nor the germ of the whole corn kernel.

Grits. Also called *hominy grits* or *corn grits*, grits are ground hominy and are sold in fine, medium, and coarse grits. Grits have larger granules than cornmeal. Cooked grits are a traditional dish in the South.

Cornmeal. Made from dried kernels, cornmeal can be stone-ground or ground by steel rollers. It is sold in fine, medium, or coarse grits. The most commonly available is steel-rolled, a process that removes the germ and the bran from the kernels, thus lengthening the storage time of the meal. This is called *degerminated cornmeal*.

Keep cornmeal in an airtight container in a cool, dark place. If stone-ground cornmeal is freshly ground, it should be used within 2 weeks of purchase. If not fresh, it should be refrigerated or it may turn rancid. Cornmeal is used in baked goods, such as corn bread and cornmeal muffins, and also as breading for some fried foods. It is an ingredient in many traditional American specialties, including johnnycakes (or joutney cakes), hasty pudding, corn pone, mush puddles, and hoecakes. Cornmeal is also the basis of Italian polenta and Central American tortillas.

Peanut Butter

A sandwich made with 2 tablespoons of peanut butter on enriched white bread or whole-wheat bread is a very nutritious lunch—and an economical one as well. It supplies 20 percent of the recommended daily protein intake for an adult, as well as 30 percent niacin, 10 percent iron, 6 percent calcium, 18 percent magnesium, 17 percent phosphorus, and 7 percent zinc. Peanut butter is about 50 percent fat, most of which is unsaturated.

There are few government regulations covering the composition of peanut butter in Canada. All the ingredients in the product must be listed on the label, although the proportions need not be mentioned. The percentage of peanuts that are included in the final product is left up to the manufacturer. There are, however, strict limits on the concentration of aflatoxin, a carcinogenic substance that can develop in peanuts.

Look for peanut butter that is light brown and avoid any that is grayish or uneven in color. When you open the jar, it should not have a musty or chemical odor.

Peanut butter can also be easily made at home by grinding unsalted peanuts in your blender or food processor. You may need to add a tablespoon of oil per ½ pound of peanuts for smoother blending. The natural peanut oil that rises to the top can be stirred back in. Refrigerating homemade peanut butter will prevent it from separating.

are black and English. Black walnuts have a strong flavor, and their dark brown shells are difficult to open. The more popular *English*, or *Persian walnuts* (grown in California), are white on the inside and golden tan to amber on the outside. Their light-brown shells are easy to open. English walnuts can be eaten raw or cooked and are sold unshelled, shelled, whole, chopped, or ground.

Pumpkin Seeds. These thin-shelled seeds are sold shelled, unshelled, fresh, and dried. They can be eaten raw (shell and all), toasted, or salted. Keep them refrigerated.

Sesame Seeds. Also called by their African name *benne*, these tiny beige or brown seeds are sold whole and are eaten raw or toasted. The term "open sesame" is based on the ease with which the seeds pop out of their hulls.

Sunflower Seeds. These high-protein seeds can be eaten raw, toasted, or cooked. They are available shelled, unshelled, plain, or salted. To prevent discoloration when cooking with the seeds, use a small amount of one of the following: vinegar, lemon juice, orange juice, brown sugar, baking soda, or molasses. Refrigerate the seeds to retard spoilage.

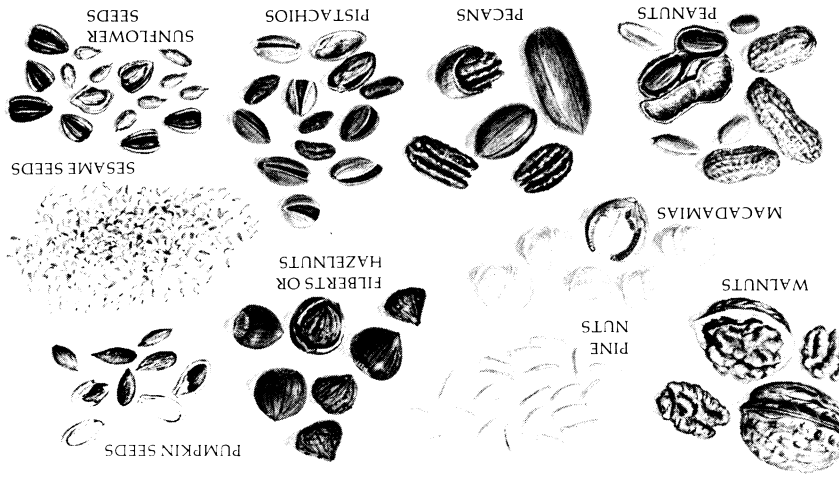
Of *peas*, *ground nuts*, and *goobers*. *Spanish peanuts* are used for candy, larger, oval-shaped *Virginia peanuts* are used whole. Peanuts are sold shelled, unshelled, plain, roasted, salted, or blanched. About half of the U.S. peanut crop is made into peanut butter.

Pecans. The soft nutmeat of pecans is twin lobed and wrapped in thin, shiny, light-brown shells. They are available shelled, unshelled, whole, halved, chopped, dry roasted, plain, or salted.

Pine Nuts. Also called *Indian nuts*, *pinons*, *diguolias*, and *pinocchios*, these sweet-flavored, high-protein nuts vary in size (½ to 2 inches), shape (cylindrical to round), and color (white to pale yellow). Pine nuts are mostly sold shelled and blanched.

Pistachios. These green nuts have ivory-beige shells that split open upon maturity. Those with red shells have been colored with vegetable dye, and those with white shells have been coated with salt. Most are sold unshelled, roasted, and salted.

Walnuts. The two types of walnuts



Legumes

Kidney beans figure in the cuisines of such diverse regions as New England, the southern United States, and Mexico. The Pilgrims supposedly learned how to cook kidney beans and corn together in bear grease from the Narraganset Indians, who called the dish *misticquatash*. Today, this type of succotash is still a favorite in New England—minus the bear grease, of course. In New Orleans a dish of red beans and rice is still the traditional noonday meal on Mondays. Many Central American dishes are made with kidney beans, notably chili, tamales, and *frijoles refritos*, "refried beans" (see also pinto beans). Light-red and white varieties are also available. Most Canadian kidney beans are grown in Ontario.

Lentils. Biblical experts believe that the "mess of pottage" for which Esau sold his birthright was a bowl of lentils, possibly in combination with lamb and herbs. Long scooped at as the poor man's meat, lentils have the most protein of all the legumes except soybeans. Lentils need no advance preparation and are ready to eat after about 45 minutes of cooking. The length of cooking time depends on how old and therefore how dried the lentils are. Lentils and split peas (see separate entry) are the only legumes that do not require soaking before being cooked. Most of the lentils available in this country are brown or brown-green but are called green lentils. A red variety may also be found. Grown in the Prairie Provinces of Canada, lentils are used mainly in soups or pureed and made into patties. Lentils are a popular food in Mediterranean countries, the Middle East, Asia and North Africa.

Lima Beans. There are two main types of lima beans: small, known as *baby lima beans*, and large, called *butter beans*. Choose baby limas when possible because the large ones

shed their skins during cooking. *Calico beans* are limas with purple markings on them. Lima beans are grown chiefly in California and Ontario. They are sold fresh, but are available frozen. Baby limas can be served as a separate vegetable or in a casserole, whereas the larger butter beans are favored in soups.

Preparation Tips

Although legumes are easy to prepare, you may find the following hints helpful.

- Legumes should first be rinsed and any foreign matter and damaged beans removed.
- All legumes—except split peas and lentils—must be soaked before cooking. Soak overnight or for 6 to 8 hours, or bring to a slow boil, simmer 2 minutes, and soak (covered) 1 hour away from heat.
- Split peas and lentils will cook in 45 to 50 minutes; others take 2 to 3 hours after soaking.
- Remember to allow room for legumes to expand. One cup of dry legumes will yield 2 to 3 cups of cooked beans or peas.
- Legumes should always be simmered; rapid boiling breaks them apart.
- Add 1 tablespoon of vegetable oil or other fat to the pot to reduce the amount of foam that develops during cooking.
- Keep the lid of the pot partially open to prevent the beans from boiling over the sides.
- Do not add salt or acid substances such as lemon, tomatoes, or vinegar until the legumes are nearly cooked, since these ingredients will impair the softening of the beans.

Mung Beans. Best known for their use as sprouts (see pages 164-165), these small, round beans can also be served as a vegetable or added to soups and casseroles. Mung beans, which can be green, golden, yellow, or black, are usually available whole, split, or skinned. They are native to India, where they are ground into flour. Split peas can often be substituted in recipes calling for mung beans.

Pinto Beans. Related to kidney beans, these beige-colored, speckled legumes are the basis of many chili recipes and *frijoles refritos*, "refried beans). Refried beans are not actually refried. In Spanish the prefix *re* can mean "well" or "thoroughly." Thus, *refritos* means "well-fried," not fried again. Black beans or kidney beans may be used instead of pintos in *frijoles refritos*. Pinto beans are grown in North Dakota, Colorado, and Idaho and turn reddish-brown after cooking. Thick, hot brews of pinto beans and beef were often relished at chuck wagons and campfires in the Old West. *Pink beans* are similar to pinto beans, but have a smoother, brownish-red skin.

Soybeans. These small, round beans, about the size of peas, have been providing protein to the peoples of the Orient for more than two millennia, and in recent times, to those of the Western world as well. Introduced to the United States in the early 19th century, soybeans were first used as animal fodder. Today, the United States produces most of the world's supply of soybeans. Ontario is Canada's largest soybean grower. Soybeans, which can be yellow, green, brown, black, or mottled, are one of the few known vegetable sources of protein that contain nearly as many essential amino acids as do animal foods. Despite its high protein rating, soy is lower in one of the essential amino acids than animal protein and must be supplemented

Legumes are the dried seeds of certain plants, such as peas, beans, and lentils, which thrive under varied agricultural and climatic conditions throughout the world. Long a part of diets in the Middle East, Asia, Central and South America, legumes have recently gained greater popularity in Europe and North America because of their low cost, high nutritive value, and versatility in cooking.

Available all year, legumes are often sold in clear plastic bags or see-through boxes, usually in one-pound size. They can also be purchased loose in natural food stores and food cooperatives. "Quick-cooking" beans, peas, or lentils require no soaking before cooking. Precooked frozen or canned legumes, such as baked beans, usually cost more than dried legumes. For example, 1 pound—two cups—of dried legumes generally yields almost six cups of cooked beans, whereas 3½ pounds of canned beans is needed to equal the same amount. Unlike the United States, Canada does not grade legumes.

What to look for. Look for beans or peas with a bright, uniform color that are about the same size and that lack visible defects such as cracked seed coats, foreign matter, and pinholes made by insects.

How to keep. Store legumes in tightly covered containers in a dry, cool place. Use within 6 to 9 months. Do not mix legumes purchased at widely different times because the older ones will be drier and therefore require longer cooking.

Nutritive value. Very high in protein, legumes also provide iron, thiamin, riboflavin, niacin, potassium, phosphorus, fiber, and complex carbohydrates. Legumes do not contain cholesterol and are low in sodium and saturated fat.

Black Beans. These popular South and Central American beans are shiny black on the outside and cream colored on the inside. Also known as *turtle beans*, black beans are smaller in size than kidney beans. They are the main ingredient in the renowned black bean soup of the American South; the national dish of Brazil, *feijoada completa* (a stew of meat, greens such as kale or collards, onions, black beans, rice, meat, and sometimes banana); and the traditional black beans and rice dish of Puerto Rico and Cuba. Their flavor is enhanced by adding lemon juice, garlic, or cumin.

Black-Eyed Peas. Also called *cow-peas*, these oval, creamy-white legumes with their distinctive black spot on one side are actually beans. Originally brought to America from Africa.

Broad Beans. Nicknamed *horse beans* because of their large size, these beans are also known as *fava beans* (from the botanical name *Vicia faba*). The Canadian crop is grown mainly in Manitoba. Ranging in color from white to beige or brown, these oversized beans are available fresh, dried, or canned. Some people think that broad beans have a bitter taste. Eat-

ca by slave traders, black-eyed peas have been a standard ingredient in Southern cuisine, particularly in soul food. According to a New Year's Day custom in and around South Carolina, eating black-eyed peas mixed with rice and perhaps some ham or bacon (a dish called hoppin' John; recipe on page 263) will bring you good luck in the coming year. Black-eyed peas make a tasty dish mixed with tomatoes and onion.

Broad Beans. Nicknamed *horse beans* because of their large size, these beans are also known as *fava beans* (from the botanical name *Vicia faba*). The Canadian crop is grown mainly in Manitoba. Ranging in color from white to beige or brown, these oversized beans are available fresh, dried, or canned. Some people think that broad beans have a bitter taste. Eat-

Flagolets. These small, French-imported kidney-shaped beans come in two varieties, green or white. The green ones have a more delicate flavor. They may be available in specialty food shops and can be purchased dried, fresh, or canned. Flagolets are a good complement to meat, especially lamb, and are an ingredient of the French *cassoulet*, a stew of sausage, pork, lamb, or game.

Kidney Beans. These large, dark-red beans are perhaps the most versatile.

ing broad beans or inhaling their pollen may cause favism, a form of anemia that afflicts people of the eastern Mediterranean region, who have a genetic tendency to develop the disease.

cupied Sicily during the Middle Ages, the Sicilians determined a person's French or Sicilian origins by asking him to pronounce the Italian word for chick-peas, *ceci* ("chay-tchee"). If the person failed to pronounce it correctly, he was judged to be French and killed. The Spanish call chick-peas *garbanzos*. Their botanical name, *Cicer arietinum*, refers to the fact that they are shaped like the head of a ram—*aries*. In ancient times, the nut-flavored chick-peas were paired with bacon to make a version of pork and beans; today, navy beans are used. Chick-peas are available whole or split. They are used in salads, casseroles, soups, and as a separate vegetable. When pureed with spices and other ingredients, these legumes make up the well-known Middle Eastern specialties *hummus* (Arabic for chick-peas) and *falafel*. When made into soup with pasta added and topped with Parmesan cheese, the result is an Italian dish called "thunder and lightning." Chick-peas and chick-pea flour are dietary staples in India and throughout the Middle East.

Grains and Grain Products

Unlike wheat and rye, oats do not

have gluten—a protein that interacts with yeast and causes dough to rise. Oats contain fiber and polysaturated fats because the bran and the germ are not removed in the processing. Refrigerate whole oats and Scotch oatmeal to prevent the fats from becoming rancid, or keep in a cool place for not more than 3 weeks.

Whole oats. Called *groats*, whole oats consist of the bran, germ, and endosperm of the whole grain with the outer hull removed. Whole oats are softer than wheat grains and can be crushed at home. They are available in specialty food stores.

Scotch oatmeal. Whole oats are steel-cut to produce coarsely ground, old-style *Scotch oatmeal*. This cereal adds delicious flavor to bread.

Rolled oats. The most common form of oats, rolled oats, or *oatmeal*, are whole groats that have been steamed and flattened between rollers, producing flakes. They are available in three thicknesses. The thicker plump, oval grains, moister than long grains, and cling together when cooked. This cohesiveness makes them good for porridge, croquettes, and desserts. Long and medium grains are usually identified as such. Rice purchased loose may have to be rinsed in cold water before cooking. Some of its water-soluble vitamins, however, will be lost in the process. Packaged rice does not need to be washed unless the directions say so.

Rice
A grain that grows in water, rice is one of the two most important foods in the world. The other is wheat. Although the West considers rice as an accompaniment to a main dish or a substitute for potato or bread, rice is central to Eastern cuisine and is prized for its simplicity and nourishment. Rice was first grown in North America in South Carolina. It was so profitable that it came to be known as "Carolina gold." During the American Revolution, however, when the British occupied Charleston, all the

rice was sent to England, including

the seeds for the following year's planting. Thomas Jefferson remedied the situation by smuggling rice kernels out of Italy while on diplomatic business there in 1787.

Rice is mainly a source of carbohydrates, but it also provides protein, calcium, iron, phosphorus, potassium, niacin, and riboflavin. Brown rice and parboiled white rice have similar nutritive values, but brown rice contains more niacin, thiamin, iron, and fiber.

Both white and brown rice are available in long-, short-, or medium-length grains, and are sold packaged or loose in bins or sacks. When cooked, *long-grain rice* kernels are lighter, fluffier, and firmer than short-grain rice and do not cling together. Therefore, long-grain rice is used with poultry, seafood, and meat and for cold salads, pilafs, curries, and Chinese and Japanese dishes.

Medium and short-grain rice are plump, oval grains, moister than long grains, and cling together when cooked. This cohesiveness makes them good for porridge, croquettes, and desserts. Long and medium grains are usually identified as such. Rice purchased loose may have to be rinsed in cold water before cooking. Some of its water-soluble vitamins, however, will be lost in the process. Packaged rice does not need to be washed unless the directions say so.

Brown, white, and parboiled rice will increase in volume about three times when cooked: one cup of raw rice yields three cups of cooked rice. Precooked rice, however, expands to only twice its volume. An average serving of cooked rice is $\frac{1}{2}$ to $\frac{3}{4}$ cup per person. The best way to prevent rice from turning soggy is *not* to stir it while it is cooking.
Rice should be kept in an airtight container in a cool, dry place. If a glass jar is used, store in a dark place. **Brown rice.** Brown rice retains

both the bran and the germ of the rice

kernel. It has a nutlike flavor and a chewy texture. It takes longer to cook than white rice.

White rice. After both the bran and the germ are removed by polishing the rice kernels, only the white, starch endosperm is left. In the United States, most white rice is enriched with some of the nutrients, such as thiamin, niacin, and iron, which are lost during processing. Enriched rice is not sold in Canada, although it may become available.

Parboiled ("converted") rice. This is brown rice that is steamed and preserved before being polished. The steam pressure forces the nutrients from the bran and germ into the endosperm before the bran and germ are removed.

Creamy in color, parboiled rice is not as fluffy as ordinary rice when cooked. Packaged rice dinners sometimes use parboiled rice.

Precooked (instant) rice. This is precooked white rice that has been dehydrated before packaging. It is usually lower in minerals, as well as inferior in flavor and texture, to other kinds of rice.

Wild rice. Not rice at all, but the seeds of a tall aquatic grass, wild rice is expensive because it is scarce and difficult to grow commercially. It is found from New Brunswick to eastern Manitoba, although the greatest natural stands are in the Lake of the Woods region of northwestern Ontario. Most wild rice is harvested from canoes by Manitoba and Ontario Indians using traditional methods. As Waverley Root, the noted late American food historian, describes the procedure, "They harvest it as they always have, from canoes which glide almost invisibly through the water among the tall plants. They bend the stalks over the canoes, smack them with a stick, and the grain drops into the canoe." Grain that falls into the water reseeds the rice beds.

Cornstarch. A common thickener used in cooking, cornstarch is made from the starch in the endosperm of the corn kernel.

Popcorn. A gift from the Indians at the first Thanksgiving, popcorn remains a favorite North American snack. Popcorn kernels are larger than other corn kernels, and when they are heated, the moisture trapped within bursts the kernels open. If the kernels do not pop, it usually means they are dried out. Soak them for a few days in a little warm water and stir occasionally. Try popping them again after the water is absorbed.

The two types available are *yellow* or *white*. White popcorn has slightly smaller kernels and some people think they are more tender and tastier. Store kernels in a cool place in an airtight

container. They will keep for about a year. Popcorn is low in calories (only 25 calories in 1 unbuttered cup), high in fiber, and not without nutritive value. It has a little protein, phosphorus, iron, riboflavin, and niacin.

Millet
A yellow, bland, and nutritious grain, millet is available in specialty food stores in Canada. It is sold *whole* and *cracked* and usually without its tough, inedible hull. Used in cakes, cookies, bread puddings, and as a substitute for rice, millet has nearly as much protein as wheat. Since millet swells greatly in cooking, a small amount will yield a large portion. Millet is a prime staple in the diets of many countries in Asia and Africa. In east-

Oats
First thought of as just useless weeds crowding out other grains, oats have more protein than any other grain plus ample amounts of calcium, iron, phosphorus, and potassium. Long a staple in Scotland and Ireland, oats were also part of the diet of early Canadian settlers. In the United States, however, oats were used only as animal feed until the middle of the 19th century, when a German immigrant, Ferdinand Schumacher, developed the first quick-cooking hot cereal. Cape Breton Scots consider this porridge an insult: they prefer "real oat meal", or Scotch oats.

What Is a Whole Grain?

Most of us never see grain growing in the field—what we buy has been processed to one degree or another. Shown above are stalks of some staple grains and the flowering buckwheat; at center is a representation of a kernel of whole grain. Every kernel consists of the bran, germ, and endosperm inside an inedible husk, and carbohydrates primarily as starch.

