

# FOODS: How & Why

CAROLE LYONS



Management and Foods, rewritten & updated

# **FOODS: HOW & WHY**

**Carole Lyons, B. Ed. U.B.C.**

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First Edition June, 2019

## History of Home Economics Textbooks in British Columbia:

- Recipes for Home Economics Classes was published by the Department of Education in 1927 for elementary and junior high school pupils of Home Economics.
- In 1928, Recipes for Home Economics Classes was enlarged to include the needs of senior students. It was renamed Foods, Nutrition and Home Management Manual and was revised again in 1932.
- Miss Bertha Roberts, Inspector of Home Economics 1941 – 1946, Provincial Director of Home Economics 1946 – 1959 with the assistance of Miss Mildred Orr, Inspector of Home Economics 1945 – 1959 and Provincial Director of Home Economics 1959 – 1968 revised the book in 1957.
- Beginning in 1961 there was a major review of all Home Economics courses and revisions were introduced between 1962 and 1966.
- In 1970, the Home Economics and Community Services Textbook Selection Committee stated that there continued to be a need for a basic book related to foods and to management.
- Management and Foods, written by Myrtle Siebert, was published in 1975. This wonderful resource has not been updated in over forty years.
- It has now been rewritten and updated at the request of the Home Economics Teachers of B.C. The title, FOODS: How and Why, reflects the change of focus from Management to a Senior Foods Resource Textbook.

I am grateful to have been able to include the following information from Management and Foods:

### Text:

Bacterial Food Poisoning, chart, page 457

Steps in Preparation of Any Flour Mixture, text, pages 280 - 283

Characteristics of a Good Yeast Bread and Reasons for Variations, chart, pages 304 – 305

Properties and Proportions of Thickening Agents Commonly Used, chart, page 352

Syrups for Canning and Freezing, chart, page 401

Drug Store Wrap, diagram, page 436

Freezing Fruit, chart, pages 439 – 440

Proportions for White Sauce, chart, page 460

Sandwich Shapes, diagrams, pages 467 - 468

Forms in Which Fish May Be Bought, diagrams, page 246

### Recipes:

White Cake, page 517

Never Fail Pastry, page 528

Marshmallows, page 546

Peanut Brittle, page 547

Chili, page 472

Sweet and Sour Pork, page 496

Carole Lyons, 2019

## ACKNOWLEDGEMENTS

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Poultry refers to domestic birds such as chickens, turkeys, ducks and geese which are sold in Canada. Chickens are sold as whole birds as well as breasts, thighs, legs, wings and drumsticks. Much of the fat is found in the skin. So, if the skin is removed, there is less fat in the chicken being served. Poultry, especially chicken, is one of Canada's favourite meats. Poultry appeals to young children and the elderly. It contributes to a healthy diet by providing complete protein, vitamins and minerals.

### Inspection

The Canadian Food Inspection Agency ensures that poultry leaving federally inspected plants is healthy and wholesome.

### Grading

Poultry is graded according to the following points:

- **conformation** – the proportion of flesh to bone is checked as well as the straightness of the keel bone (*the main bone that runs down the centre of the breast*).
- **flesh** – the even distribution of flesh on the breasts and thighs.
- **fat** – the distribution of fat on areas of the carcass.
- **dressing** – the condition of the carcass – no feathers or tears; the wholeness of all parts are considered.

### Poultry grades

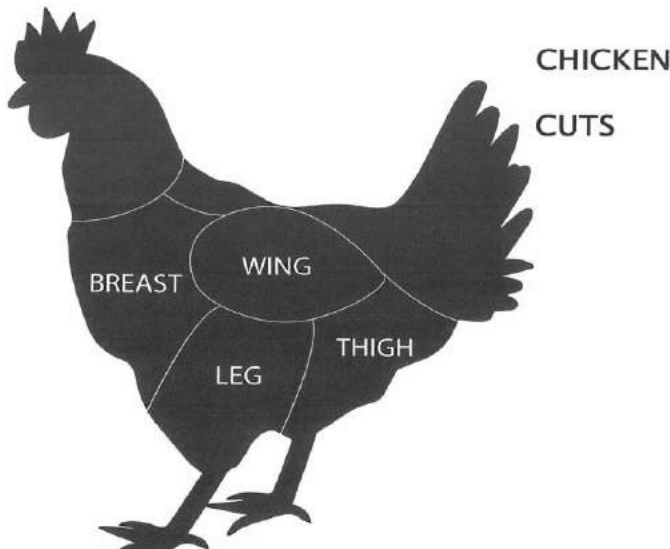
- **Canada Grade A** is a perfect bird; there are no tears or parts missing. Most of the chicken sold in Canada is Grade A.
- **Canada Grade Utility** may have a missing part or a skin tear. A utility bird is a Grade A bird that has been damaged during processing. It is considered to be a bargain as it is usually sold at a lower price.
- **Canada Grade C** birds are older and have had a lot of exercise. Like older beef there is more connective tissue, so the meat is tougher and will require moist heat cooking to tenderize it.

### Buying poultry

The main types of poultry available in Canada are:

- whole birds, fryers and broilers are young, tender birds from 5 – 10 weeks old, weighing 2 ½ - 3 ½ pounds (1 – 2 kg). This is the most popular size to buy. As it is younger, the meat is very tender.
- roasters are slightly larger birds. They range from 10 weeks to 7 months old and typically weigh over 4 pounds (2 kg). Roasters are a flavourful bird that roasts very well.
- fowl or stewing hens are mature birds which are over 10 months old. These hens have been used for breeding or for laying eggs. Due to age and exercise, they have developed more elastin and produce tougher, more stringy meat. So moist heat cookery such as stewing is used to break down the connective tissue.
- capons are neutered male roosters weighing 4 to 10 pounds (2 – 4.5 kg). Their growth is slower and they put on more body fat. They tend to produce a higher ratio of white to dark meat. A capon's meat is more tender and flavourful than chicken of a similar weight. Capons are not easily found in B.C.
- ground chicken and turkey are considered to be a healthier choice than ground beef. The fat content varies depending on whether there is more thigh meat or all white breast meat used.
- chicken pieces are sold in packages of thighs, drumsticks, wings and breasts. Most of these can be purchased as boneless and skinless, making them a convenient choice as they save the cook more

preparation and cooking time. It should be noted that better flavour is achieved by cooking chicken with bone in and skin on.



**CHICKEN CUTS**

Domestic birds such as turkeys, ducks and geese are usually available whole and not often segmented and sold as pieces. Recently, however, more stores are selling turkey breasts, cutlets and ground turkey. Chicken is sold in stores as either the whole bird, pieces or ground. Of major importance is the fact that all forms of poultry must be kept at 4°C (40°F) to prevent spoilage. Fresh poultry products should be used within 48 – 72 hours and kept separate from other foods. Make sure that raw poultry juices cannot drip onto other foods in your refrigerator. Always wash your hands well before handling raw poultry. Use a separate cutting board to cut up poultry and wash cutting boards, utensils, dishes and work surfaces that the poultry has touched with hot, soapy water. Chicken is tender unless older birds such as fowl or stewing hens are purchased so dry heat methods are the best way to cook the following cuts of chicken:

**CHICKEN BREAST** is available bone-in or deboned. It is more expensive than other cuts but is waste-free. Removing skin before or after cooking reduces fat content

**CHICKEN WINGS** are a popular appetizer and are usually chewed off the bone after being cooked. Wings may be served with a variety of seasonings or sauces

**CHICKEN LEGS & THIGHS** are reasonably priced. They can be served and cooked whole or cut into legs & thighs. Legs are usually bone-in. Thighs are available bone-in or boneless. Chicken thighs have slightly more fat than legs or breast meat



# KNOW YOUR CUTS



HALF CHICKEN



QUARTER CHICKEN



CUBES & STRIPS



GROUND CHICKEN



BONE-IN SKIN-ON  
BREAST



BONE-IN SKINLESS  
BREAST



BONELESS SKINLESS  
BREAST



LIVER & GIBLETS



WING



DRUMMETTE &  
WING MID-SECTION



BONE-IN SKIN-ON &  
SKINLESS DRUMSTICK



BONE-IN SKIN-ON &  
SKINLESS AND BONELESS  
SKINLESS THIGH



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## WHAT IS THE DIFFERENCE?

**RAISED WITHOUT ANTIBIOTICS** means that the chickens were not treated in any way with antibiotics

**FREE RUN** chickens must be able to move about freely in the barn. All chickens raised for meat in Canada are considered free run

**FREE RANGE** chickens are not caged and must have access to the outdoors

**HORMONE/STEROID FREE** labelling is a bit of a marketing tactic since the use of hormones and steroids in raising poultry has been banned in Canada for over fifty years

**ORGANIC CHICKEN** is raised to a specific standard laid out by the Canadian General Standards Board. Organic chicken must be raised with a certified organic feed that contains no animal by-products or antibiotics. Any supplements, such as vitamins, must be approved by a certification body

**HALAL** is a term used to describe chicken that has been raised according to Muslim law. Chicken must be well rested and handled in a way that minimizes suffering

**KOSHER** refers to the content and production requirements of Jewish law. Kosher means "fit" or "proper" indicating what foods may be eaten together and how those foods are prepared

**GRAIN FED** chicken means that all chickens in Canada are fed a feed that contains over 85% grain

**VEGETARIAN GRAIN FED** means that the feed contains only vegetable protein, such as soy, which can alter the flavour and colour of the meat



# DID YOU KNOW?

Chickens raised for meat are called broilers.



Chickens are free to roam inside clean, well-ventilated climate controlled barns.

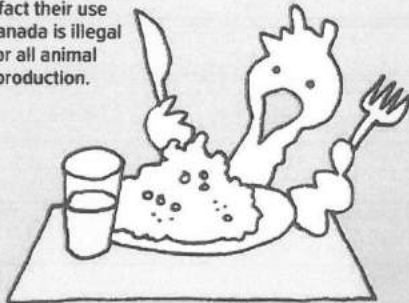


There are feeders and drinkers that provide the chickens with access to fresh water and quality food whenever they are hungry.



A baby chicken is called a chick, a female chicken is called a pullet and a male chicken is called a cockerel.

Hormones and steroids are not used in broiler feed in fact their use in Canada is illegal for all animal production.



All chickens are grain fed, which means that the main ingredients in their food come from grains, usually wheat, corn and barley.

Farmers work very hard to make sure that chickens are raised in a clean and safe environment. Chicken barns are thoroughly cleaned and disinfected after every flock.

The barn floor is covered in soft, dry bedding to keep the chickens comfortable.



**GUESS WHAT?** How time flies... but not chickens! A chicken reaches its full weight in only 5 to 8 weeks, so farmers can have up to 5 or 7 flocks each year. Talk about a big family!

## **Preventing salmonella**

Raw poultry requires careful handling. If poultry is not handled properly, salmonella bacteria can easily multiply and cause food poisoning.

### **The “rule” for preventing salmonella is to keep hot food hot and cold food cold!**

Any hot chicken product should either be kept hot or quickly refrigerated. Chicken will spoil at room temperature (*the danger zone*) and should never be left out for more than 2 hours. If the accumulated time is over 2 hours, salmonella bacteria can multiply into such large numbers that people can get very sick after eating “bacteria loaded” poultry.

Always follow these four basic rules for keeping chicken safe: chill, separate, cook and clean.

### **Chill**

The temperature of poultry is of utmost importance. Always keep raw poultry very cold 4°C (40°F) or less or keep cooked poultry very hot at 60°C (140°F). What does this mean in real life? Plan ahead when grocery shopping; poultry should be the last thing put in your grocery cart. Put poultry in an insulated bag with cold packs when loading it into the car and go directly home. Refrigerate or freeze poultry as soon as you get home.

- be very careful about keeping chicken cold when taking it on a picnic or to the beach. If you buy it hot, it has to be eaten quickly.
- refrigerate leftovers immediately. Don’t wait for them to cool before putting them in the refrigerator. If you can’t refrigerate the leftover chicken right away, it will not be safe to eat.
- thaw frozen poultry slowly in the fridge not on a kitchen counter. It takes about ten hours per kilogram to defrost in the fridge.

### **Separate**

- keep raw poultry away from other foods. Do not cut anything on a cutting board that you have used to cut chicken.
- use a separate cutting board & knife to cut up poultry and use another clean cutting board & knife for fruits and vegetables.
- make sure raw poultry juices do not drip onto other foods in your fridge. Defrost on a plate on the bottom shelf of the fridge.
- always put cooked chicken on a clean plate/platter after cooking.

### **Cook**

- cook poultry thoroughly to an internal temperature of 83°C (160°F) for a whole chicken and 75°C (165°F) for cut up chicken pieces. Use a meat thermometer. If there is no thermometer available, there should be no pink in the meat and the juices should run clear, not pink. Cooked poultry meat turns white when cooked. (thigh meat will be darker)
- stuff a whole bird at the last minute before putting the bird in the oven to roast. Why? It takes a long time for the temperature change to reach the centre of the bird and the bacteria will thrive on the moist stuffing you have put inside the bird.
- remove the stuffing as soon as the bird is cooked and serve separately. Do not let it cool inside the bird.



## Clean

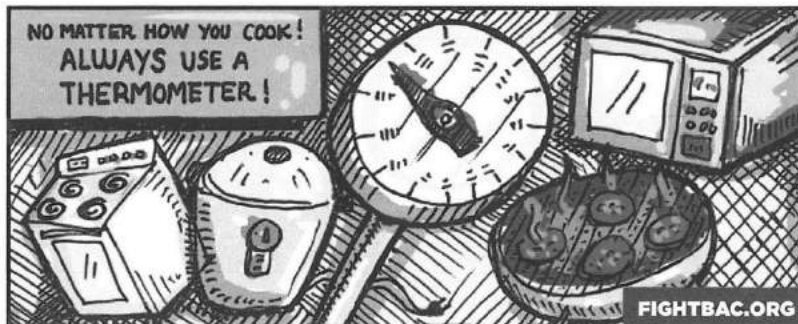
- be sure to wash your hands before and after handling poultry.
- wash cutting boards, utensils, dishes and work surfaces that the poultry touched with hot, soapy water. Rinse in hot water.
- sanitize all plastic cutting boards, dishes, utensils & surfaces that have touched raw poultry in a mild bleach solution. Allow to soak for a minimum of 2 minutes.
- clean your BBQ grill top prior to cooking. Nobody wants blackened pieces of old food on their chicken.

## Storing poultry

Fresh poultry products will keep for 2 to 3 days in the refrigerator. Thawed poultry should be used within 24 hours of thawing. If properly wrapped in moisture-vapour proof wrapping, chicken will keep its quality and can be frozen for up to 1 year.

## Methods of cooking poultry

The same principles that apply to cooking beef also apply to cooking poultry. Young, tender birds may be cooked with dry heat methods. Older, less tender birds require moist heat methods.



## Dry heat methods to cook poultry:

*\*no liquid or lid is used; dry heat methods require a shorter cooking time\**

- **Barbecuing**, like broiling is done close to the heat source. Barbecuing is done on a rack over the heat; broiling is done on a rack directly under the heat source. Chicken is quite delicate so it is important to watch that it doesn't burn. The skin & flesh will burn easily because it is so close to the heat source.
- **Roasting** is done in a roasting pan. It is a method of "baking" large pieces or a whole chicken in the oven. If the chicken is stuffed, it will take longer to cook the bird. A piece of foil loosely placed over a

whole bird will protect the outside of the bird from drying out. The foil should be removed during that last half hour of cooking to allow the surface to brown. (*\*using a lid will create steam*)

- **Pan frying** works best for smaller pieces of chicken. The pieces may be coated in seasoned flour or crumbs after being dipped into milk or beaten egg. It should be noted that the coating absorbs the fat in which the poultry is frying and this adds to the amount of calories in the meal. Larger pieces like legs and thighs need longer cooking time than smaller pieces, like wings, to ensure even cooking.
- **Deep frying** is done by submerging chicken/poultry pieces in hot fat in a deep fryer. This is a quicker method of cooking than pan frying, but the fat absorbed in the process adds to the amount of fat and calories in the meat.

### **Moist heat methods to cook poultry:**

*\*the following methods involve using liquid, a lid and long, slow cooking\**

- **Stewing** is done by simmering older, tougher chicken in seasoned liquid in a deep pot with a lid. This is a longer, slower method of cooking but it produces a very flavourful product. Vegetables may be added during the last half hour of cooking. If they are added sooner, the vegetables will overcook and lose colour, flavour and texture.
- **Braising** is very similar to stewing. The pieces are browned first in a frying pan and a smaller amount of liquid and a lid is added. Again, vegetables other than onions and mushrooms may be added late in the cooking process.
- **Pressure Cooking** is done in a pressure cooker or a hotpot speed cooker. It is a faster method because the meat and vegetables are steamed under pressure in a sealed pot. Steam breaks down the connective tissue. It is important to follow the directions for using a pressure cooker or hotpot because of safety and to ensure that the meal is not over-cooked.

### **Other interesting methods of preparing chicken:**

- **Brining** (soaking) the bird in salt water for 3 to 6 hours before cooking will ensure flavour and juiciness. Brining must happen under refrigeration. Note that this treatment will increase the sodium content of the chicken.
- **Spatchcocking** a whole chicken has become quite popular because it drastically shortens the cooking time. Spatchcocking is done by cutting the backbone out of the bird and then opening the carcass. The keel bone (breast bone) is removed or split and pressure is put on the carcass of the bird to flatten it. This process allows for quicker cooking to take place.

## **CHICKEN CACCIATORE**

2 pieces of chicken	
15 ml oil	1 T.
45 ml onion, sliced	3 T.
½ stalk celery, sliced	
½ clove garlic, minced	
190 ml canned tomatoes, chopped	¾ c.
60 ml tomato sauce	¼ c.
f.g. pepper	
2 ml salt	½ t.

2 ml oregano	½ t.
2 ml basil	½ t.
15 – 30 ml parmesan cheese	1 – 2 T.

1. Brown chicken pieces slowly in hot oil at medium temperature in a small, heavy pot that has a good fitting lid.
2. Remove chicken pieces and add onion, celery and garlic. Cook until tender but not brown.
3. Add canned tomatoes, tomato sauce, pepper, salt, oregano and basil. Bring to a boil and then place chicken into sauce. Cover and **simmer** for 1 hour. Stir occasionally, making sure the sauce is just bubbling gently. *(add a little water or tomato juice if much sauce has evaporated)*
4. Serve cacciatore over cooked pasta sprinkled with parmesan cheese.

Yield: 2

## CHICKEN TETRAZZINI

Preheat oven to 180°C (350°F)

125 g spaghetti	4 ounces
125 ml cooked chicken, diced	½ c.
30 ml margarine	2 T.
30 ml flour	2 T.
310 ml chicken broth	1 ¼ c.
60 ml milk	¼ c.
15 ml apple juice	1 T.
2 ml salt	½ t.
f.g. pepper	
60 ml canned mushrooms	¼ c.
30 ml green pepper, chopped	2 T.
45 ml parmesan cheese, grated	3 T.

1. Cook spaghetti in a large amount of boiling, salted water until barely tender. No lid. It will finish cooking in the sauce.
2. In a heavy saucepan at medium temperature, make a roux. *(the roux is made by melting the margarine and blending in the flour to make a smooth paste. Cook gently for 1 minute.)*
3. Remove the pan from the heat and gradually whisk the broth into the roux. Add the milk and cook and stir over medium heat until the mixture thickens.
4. Add the apple juice and salt and pepper. Divide the sauce in half.
5. Add the spaghetti, mushrooms and green pepper to one half of the sauce and place in a casserole dish.
6. Add the chicken to the remaining sauce and pour the chicken mixture over the spaghetti.
7. Sprinkle the parmesan cheese on top and bake about 20 minutes until this dish is heated through.

Yield: 2

## THAI CHICKEN

Spaghetti or Linguine for 2

30 ml sesame oil, divided	2 T.
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2 cloves garlic	
15 ml ginger, grated	1 T.
2 green onions, thinly sliced	
½ red pepper, thinly sliced	
4 mushrooms, sliced	
15 ml oil	1 T.
2 carrots, grated	
1 chicken breast, sliced in strips	
30 ml honey	2 T.
30 ml peanut butter	2 T.
30 ml soy sauce	2 T.
20 ml rice vinegar	1 T. + 1 t.
15 ml sweet Thai chili sauce	1 T.

1. Cook pasta al dente. Drain and stir in 15 ml (1 T.) sesame oil. Keep warm.
2. Stir fry garlic, ginger, green onions, red pepper & mushrooms in the 15 ml (1 T.) oil until lightly browned. Add grated carrots and cook for another minute. Set vegetable mixture aside & keep warm.
3. Stir fry chicken until cooked thoroughly (*no trace of pink*). Add to vegetables.
4. Mix remaining 15 ml (1 T.) sesame oil, honey, peanut butter, soy sauce, rice vinegar & Thai chili sauce. Heat in frypan at medium temperature until mixture thickens.
5. Add vegetables and chicken to sauce and coat well.  
*\*sauce may need to be thinned with about 30 ml (2 T.) water*
6. Stir vegetable-chicken mixture into pasta. Mix well and serve.

Yield: 2