

# Broth is Beautiful! Drink Your Minerals!

**"Good broth resurrects the dead," South American proverb**



The importance of properly made bone broths (stocks) from wild or pastured animals in the daily diet cannot be emphasized enough. To begin with, they are a rich source of gelatin (derived from the collagen found in the skin, bones, and cartilage of animals), which has many amazing properties, and other important elements useful in treating many disorders. Here are some reasons to make stock on a regular basis, and to use it in daily cooking, or even as a hot beverage.

1. Gelatin in stock provides hydrophilic colloids which attract digestive juices to the surface of cooked food particles, thus aiding in the digestion of cooked foods. Cooked foods are generally harder to digest than raw because they contain hydrophobic colloids which repel liquids, and therefore repel digestive juices away from the food particles. Bone broth/stock can help remedy this problem.
2. Gelatin is not a complete protein as it contains only two amino acids in large amounts (arginine and glycine) but it has the wonderful property of serving as a protein sparer, which means it helps the body better utilize the complete proteins that are taken in. This makes it a must in the diet of those who cannot afford to eat, or who choose not to eat, large quantities of meat. However, it cannot substitute for complete proteins in the diet.
3. Gelatin is useful in treating many illnesses, including digestive disorders (hyperacidity, Crohn's, and colitis), and chronic disorders (including anemia, diseases of the blood, muscular dystrophy, diabetes, and cancer).
4. Stocks contain the minerals of bone, cartilage, marrow, and added vegetables and herbs in electrolyte form, which means they are very easy to assimilate. When acidic wine or vinegar is added during cooking, it helps to draw minerals into the broth, particularly magnesium, calcium, and potassium.
5. Also present in broth are components of cartilage and collagen which have been proven to be excellent in the treatment of cancer, bone disorders, and rheumatoid arthritis. Broth helps

prevention of and recovery from infectious diseases, and was used in the treatment of colds and asthma by the 12<sup>th</sup> century physician Moses Miamonides.

6. Fish broth is thought to be good for virility because it is especially rich in minerals, including iodine, which is found in seafood. Broth made using the heads of fish, which contain the thyroid glands, will also contain thyroid hormone and other substances that nourish our own thyroid glands. As many as 40% of Americans, including babies and children, suffer from thyroid deficiency with symptoms like weight gain, susceptibility to infection, inability to concentrate, fatigue, and depression, so the importance of regularly incorporating good fish stock cannot be overstated.
7. And of course, fish and meat stocks also allow us to make the most delicious soups, stews, braised meats, cooked beans, and whole grains, gravies, and sauces. So if health reasons are not enough, the flavor and pleasure gained from enjoying good stock certainly is!

Broths can be made with vegetables (which impart flavor), or as a simple stock from the bones, to drink plain with a bit of salt perhaps and to form as the base for other dishes.

### **Basic Stock**

Fill your pot to the brim with bones: beef, lamb, chicken, or fish. With chicken and fish, use the head, feet, tail, etc, for added nutrition and flavor. Add a couple table spoons of organic apple cider vinegar, to help leach minerals out of the bones. Use clean well water or filtered municipal water. Cook for 7 to 24 hours. Fish broth is ready after 4 hours. Ladle out broth as needed and refill the pot with water. A slow cooker is very handy for making broth!

Store the cooled stock in pint and quart sized containers in the refrigerator or freezer. If using glass, make sure the container has straight sides to prevent cracking as it expands.

You can reduce stock by boiling down for several hours until it becomes very concentrated and syrupy. It can be stored in small containers or zip-lock bags (be sure to label them since they all look alike when frozen!). To thaw, run under hot running water. Add water to turn it back into stock.

Quick Stock: each time you serve a meat dish that includes bones, save what's left in the freezer until you have enough to fill a medium sized pot. Make a quick stock by placing all the bones in a pot, cover with filtered water, add some vinegar (approximately 2 tbspn per quart), bring to a boil, skim and simmer for 3-6 hours, with some cut-up vegetables if you wish. Strain and cool and store in the freezer for later use. This stock will be lighter in color and milder in flavor and probably not become gelatinous, but it will add flavor to cooked beans and whole grains and crock pot stews. Do not use bones with remnants of strong-flavored BBQ sauce or the like, or your stock will taste like it. Feel free to mix various types of red meat bones: pork, lamb, beef, goat, veal, venison, etc.

Resources for making broth:

<http://www.westonaprice.org/food-features/broth-is-beautiful>

<http://www.westonaprice.org/beginner-videos/stocks-and-soups-video-by-sarah-pope>

<http://www.cookingtf.com/cant-keep-up-three-ways-to-simplify-making-stock/>

<http://nourishedkitchen.com/perpetual-soup-the-easiest-bone-broth-youll-make/>

The recipes in this handout are adapted from Nourishing Traditions by Sally Fallon



***“Why is chicken soup superior to all the things we have, even more relaxing than Tylenol? It is because chicken soup has a natural ingredient which feeds, repairs, and calms the mucous lining in the small intestine. This inner lining is the beginning or ending of the nervous system. It is easily pulled away from the intestine through too many laxatives, too many food additives...and parasites. Chicken soup...heals the nerves, improves digestion, reduces allergies, relaxes and gives strength.”***  
**Hanna Kroeger, Ageless Remedies from Mother's Kitchen**

### **Classic Chicken Broth**

*adapted from Nourishing Traditions*

- 1 large onion, coarsely chopped
- 2 large carrots, chopped
- 3 ribs celery, chopped
- 1 bunch parsley, optional
- bones from at least one whole chicken, supplemented with extra feet and heads, if desired.
- 2-4 tbsp apple cider vinegar (½ tbsp per quart of water)

You can purchase stock chicken parts from the farmers at TNG. 5 lbs of bones for 8-10 quart stock pot or one whole stewing hen. You can use the carcass left over from a roasted chicken or roast the raw chicken parts before making stock. The vegetables are optional. You can make an excellent stock from just the bones.

Place bones and vinegar into a large stainless steel pot and add cold filtered water to cover. Fill the pot about three-quarters with bones. You can also use 2 lbs in a 5 quart slow cooker set to low (Hamilton Beach brand is lead free). Let stand 30 minutes, then add all the vegetables except the parsley and bring to a boil. Remove the scum that rises to the top. Reduce heat, cover and simmer on very low heat for 6-24 hours, adding unrefined sea salt occasionally, if desired. Remove vegetables after 6-8 hour to prevent them from going bitter. About 10 minutes before finishing, add parsley for additional mineral ions. Finish seasoning to taste.

Strain stock into a large bowl to cool until the fat forms a layer on top. Skim the fat off and add to your store of chicken fat to be used for frying potatoes and other uses. You can also leave the fat in the stock.

Uses for chicken stock:

Drink broth as an appetizer. Make gravy for pan-fried and oven-roasted chicken and reduction sauces (flavored with wine, herbs and butter/cream). Cook whole grains, potatoes, vegetables, and beans in stock. Braising meat. Use as a base for soups, stews, and crockpot meals.



***“Indeed, stock is everything in cooking...without it nothing can be done.”*** Auguste Escoffier

### **Classic Beef Broth**

*adapted from Nourishing Traditions*

- about 4 pounds beef marrow and knuckle bones
- 1 calves foot, cut into pieces (optional)
- 3 pounds meaty rib or neck bones
- 4 or more quarts cold filtered water
- ½ cup vinegar
- 3 onions, coarsely chopped
- 3 carrots, coarsely chopped
- 3 celery stick, coarsely chopped
- several sprigs of fresh thyme, tied together
- 1 tspn crushed peppercorns (green or black)
- 1 bunch parsley

Good beef stock must be made with several sorts of bones. Knuckle bones and feet impart large quantities of gelatin to the broth. Marrow bones impart flavor and the particular nutrients of bone marrow. Meaty rib or neck bones add color and flavor. Free free to use whatever you have available. The above amounts are only guidelines.

Place knuckle and marrow bones and optional calves foot in a very large pot with vinegar and cover with water. Let stand for an hour. Meanwhile, place meaty bones (if you have any) in a roasting pan and brown at 350 degrees in the oven. When well browned, add them to the pot along with the vegetables, which are optional. You can make an excellent stock from just the bones. Pour the fat out of the roasting pan, add cold water to the pan, set over a high flame and bring to a boil, stirring with a wooden spoon to loosen up the coagulated juices. Add this liquid to the pot. Add water if necessary to cover bones but liquid should not be higher than 1 inch below the rim of the pot. The volume will expand while cooking. Bring to a boil. Remove scum that rises to the top. Reduce heat and add them and crushed peppercorns.

Simmer stock for at least 12 hours and as long as 72 hours. Add water as needed to keep the pot full. Remove vegetables after 6-8 hours to prevent bitterness. Just before finishing add parsley and simmer another 10 minutes. Season according to taste or leave unsalted.

Remove bones with tongs or slotted spoon. Strain the stock into a large bowl. Let cool and remove the congealed fat that rises to the top. Transfer to smaller containers, and freeze for long term storage.

The marrow should be removed from the bones and spread on whole grain sourdough bread or fed with a spoon to babies and young children. Dogs will enjoy the leftover meat and bones. The congealed fat can be used to make pemmican or put outside to feed birds.



***“Fish broth will cure anything” South American Proverb***

### **Classic Fish Broth**

*adapted from Nourishing Traditions*

- 3 or 4 whole carcasses, including heads, of small non-oily fish such as sole, turbot, rockfish or snapper (or 1 large carcass, chopped into pieces)
- 2 tbsp butter
- 2 onions, coarsely chopped
- 1 carrot, coarsely chopped
- several sprigs of fresh thyme
- several sprigs of parsley
- 1 bay leaf
- ½ cup dry white wine or vermouth
- ¼ cup vinegar
- about 3 quarts filtered water

Ideally, fish stock is made from the bones of sole or turbot. Unfortunately, in American sole arrives at the fish market pre-boned. But Snapper, rock fish and other non-oily fish work equally well. Check out your local farmers' market for a seafood vendor who will save carcasses for you. They should be free or cost \$1 to \$2 per pound. Whole Foods will save carcasses if you call and ask. It's good to call first thing in the morning or a day in advance. Specify non-oily fish because the highly unsaturated oils in oily fish may become rancid during cooking. Non-oily fish generally have white flesh: halibut, sole, turbot, rockfish, snapper, non-oily trout. You'll need about 4 pounds or a large pot of stock. You may have to chop up the carcass at home, so you will need a large, strong knife.

Very important: make the stock the same day as you receive the carcasses, or wrap enough for one pot

of stock in brown paper, package tightly in plastic bag and freeze immediately. If you save fish carcass pieces longer than one day, they will no longer make a good broth.

Melt butter in a large stainless steel pot. Add vegetables and cook gently until they are soft. Add wine and bring to a boil. Add fish carcasses and cover with cold, filtered water. Add vinegar. Bring to a boil and skim off the scum that rises to the top. Add herbs to the pot. Reduce heat, cover and simmer for at least 4 hours or as long as 24 hours. Generally, 4-6 hours makes a really delicious broth that will gel nicely (a sign that it is nutritious). If you go longer, remove vegetables after 4-6 hours to prevent bitterness. Season with sea salt, or leave unsalted. Remove carcasses with tongs or a slotted spoon. Strain liquid into storage containers and refrigerate or freeze. Remove any congealed fat before freezing (optional).

Uses for fish stock:

- Drink a bowl of fish broth before a meal. Scallions, onions, leeks, shallots, garlic, parsley, and cilantro are great additions. Keep a pyrex dish of chopped veggies in the refrigerator, to add when heating broth for lunch or dinner. This is a great way to start a meal and aids digestion.
- Use fish stock for any seafood dish that calls for water, such as seafood bisque, soups, and stews.
- Make a pan gravy by steaming a fillet of fish or large scallops on the stove top in butter and lemon juice (cover with a lid so it is cooked by steam and release plenty of juices). Remove the cooked seafood, add a large ladle of fish stock, several tablespoons of butter, and some shrimp butter (see *Nourishing Traditions*). Allow to simmer rapidly until reduced and thickened. Season with black pepper and serve over fish or scallops. You may also use fresh herbs and wine.

### **Bonito Broth**

*adapted from Nourishing Traditions*

- about 1 cup shaved dried bonito (available in Asian markets)
- 2 quarts cold filtered water
- ¼ cup vinegar
- 4 inch piece of Kombu seaweed
- chopped scallion as garnish

This is an easy version of fish stock. Place all ingredients in a pot, bring to a boil and skim. Cover and simmer for several hours. There is no need to strain this stock as the bonito flakes disintegrate in the broth. Bonito is a type of mackerel, steamed and dried to wood-like hardness, and then shaved into flakes. Remove Kombu. Flavor the broth with soy sauce if desired. Serve with chopped scallion.

Similarly, a broth can be made by simmering dried anchovies, also available at Asian markets. These broths are a quick way to make the base for a miso soup.

### **Stock-related Tips**

- Invest in a large stock pot or slow cooker so you can make large batches and freeze it. Ideally, your stock pot should hold 8-12 quarts. Slow cookers hold up to 6 quarts and Hamilton Beach makes a lead-free model.

- Adopt the practice of making stock regularly, preferably once a week. Always have a pint or two of chicken, beef, and fish or shrimp stock in your refrigerator to encourage the frequent consumption of broths and several backup containers in your freezer for making soups and stews, and in case of illness.
- Serve broth before meals as a simple appetizer, even to babies and toddlers. You may add shrimp or fish butter to seafood broths, and chopped aromatic vegetables (scallion, garlic, leeks, etc) to all types of broths while reheating.
- Be sure to remove vegetables after 6-8 hours of cooking to prevent bitterness. Or do not use them all.
- Experiment to find out what works for you: what combination of vegetables, herbs, bones (pre-cooked or raw), wine, amount of water in order to create a broth that you and your family love. But keep in mind that broth may come out differently each time, even if you make it exactly the same way. This is part of the beauty of homemade stock.
- Stock must be made with sufficient cartilaginous parts in order to become gelatinous when cooled. Stock made with a whole roasted chicken should produce a good gel, as well as broth made with a whole fish carcass (without the meat), and a broth made with plenty of knuckle bones in the case of meat stocks. The concentration of the stock will also affect whether it gels. If you use a very large amount of water and not very many bones, you will not achieve a gelatinous stock. Also, stock made from battery raised chicken may not become gelatinous. How the animal was raised greatly affects the nutritional value of the stock.
- It is essential that all broths start with cold water. As the ingredients warm in the water, their fibers open, releasing their juices to add flavor. Off flavors can result if the broth is not skimmed and the broth must be kept at a bare simmer throughout the cooking process to ensure clarity.
- Though the traditional way of making stock is to cook it for a very long time (sometimes days or even weeks!) you can also make a very good stock by simmering about 6-8 hours, or 3-4 hours in the case of shrimp stocks, and 4-6 hours for a fish stock. Do not make stock making into such a labor that you never get around it doing it! If you want to extract a lot of nutrition from the bones, you need to simmer them as long as possible. A large slow cooker is best for this.
- Storage: stock will last several months in the freezer, and about 4-5 days in the refrigerator, depending on the type. Fish stock is most vulnerable to going sour, usually you need to use it within 3-4 days. Shrimp stock can last 4-5 days. Chicken and meat stock may be reboiled to extend refrigerator shelf life. Without reboiling, it will last about 5 days.
- We will learn more about making delicious soups with your broth at future workshops. To make a really good and easy soup, first make a rich *soffritto* in the bottom of the stock pot by sauteing plenty of chopped aromatic vegetables in several tablespoons of butter: celery, onions, leeks, shallots, garlic, and carrots. In the summer, tomatoes of various colors are good. You can also add dried fish or shrimp for an even richer, flavored soup base. Season with plenty of unrefined sea salt, black pepper, fresh or dried herbs (such as thyme, rosemary, parsley, and sage). Allow vegetables to cook until translucent and very soft. Add stock, cooked whole grains, cooked beans, and more vegetables like squash, kale, zucchini, etc., and allow them to simmer until cooked through. Add the cooked or uncooked meat at the appropriate time. Season to taste.
- Enjoy!

*Compiled and adapted by Lucia Ruedenberg-Wright from information presented in Nourishing Traditions by Sally Fallon. Upper Delaware chapter, WAPF. 2012. <http://upperdelaware-wapf.org>*