

## A Braintan Short course

What is buckskin? “Buckskin is a soft porous material that is made from animal skin with the aid of lubricants, physical manipulation and wood-smoke (usually) “. It can be made from any of the hoofed animals, and it is the way it is tanned that gives it its name, not that it was made from a deer. The texture of the finished product has some characteristics of leather, some of cloth, and some all its own. It is strong, durable, and soft, quiet, washable, warm, cuts wind, allows your skin to breathe, stretches with the movements of your body, but is by no means waterproof.

### Layers of the Skin

*Epidermis*- the outer-most protective layer of the skin. It as well as hair is composed of keratin.

*Grain*- the grain lies below the epidermis, consists mostly of active living cells, and is composed of mucus, with some small thin fibers offering support and structure.

*Fiber Network*- located just below the grain, these fibers are composed of very small spiraling proteins known as collagen. These proteins are twisted around each other in opposite directions, much like rope. These fibers are randomly interwoven into a strong fabric that is the basis for buckskin.

Bucking- soaking the hide in a lye solution, which causes the hide to swell, making removal of the hair and grain easier.

Fleshing- to remove the mass of flesh and fat from a hide.

Graining- to remove the hair, epidermis, and grain from a hide

Membraning- removal of fleshy and weak fibered tissue from a hide.

*Why use lye?* To loosen the mucus from the fiber network, allowing it to be easily washed from the hide, leaving a clean and open fiber network. This process also loosens the hair follicles, allowing the hair to all but fall off the skin.

*What do dressings do?* (brains, eggs, soap&oil) Dressings contain emulsified oils which coat the fibers of the hide, providing lubrication of the fibers during the stretching process, and preventing the glue bonds from setting up the fibers as long as they are moved during the process.

*Why smoke the hide?* It coats the fibers with water resistant resins so that the glues cannot be reactivated and it is a highly concentrated gaseous form of natural formaldehyde. This natural formaldehyde changes the actual chemical structure of the collagen fibers, creating cross-links, like little bridges from fiber to fiber that keeps them separated from one another and permanently preserves the soft state of the buckskin.

## Steps of Braintanning

1. Obtain and flesh hide. This entails scraping all the meat and fat from the flesh side of the skin. Care now makes the job easier later.
2. Buck (de-hair) hide in a solution of 6 to 8 ounces of Red Devil Lye to 20 gallons of water until the hair slips easily.
3. Using a fleshing beam and tool, grain and membrane the hide, being careful to cover the complete unit.
4. Soak the hide in a flowing creek or mild vinegar water to remove lye.
5. Wring hide completely, removing as much water as possible.
6. Mix up a dressing by mixing one gallon of warm water (not over 120 F) with one of the following:
  - one dozen eggs
  - one brain from animal you are tanning
  - ¼ cup oil (olive or neat's-foot) and ¼ bar Ivory soap
7. Work hide in the dressing until thoroughly saturated.
8. Wring as much liquid from hide as possible using a stake, tree or post. You can help wring with a stick if it helps.
9. Work hide in dressing till thoroughly saturated. (You cannot overdress a hide!!)
10. Wring as much liquid from hide as possible.
11. Sew up any holes at this time.
12. Using a cable, breaking post, or combination, work the hide until it is soft and completely dry. This is the most important step of brain tanning and controls the outcome of your finished product. Make sure you work all parts of the hide, in all directions to keep the fibers separated. Constant working is not necessary, however all fibers must be stretched in both directions every 30 to 45 minutes. To fail to do so will cause hard spots in the hide. This can take from 4 to 10 hours

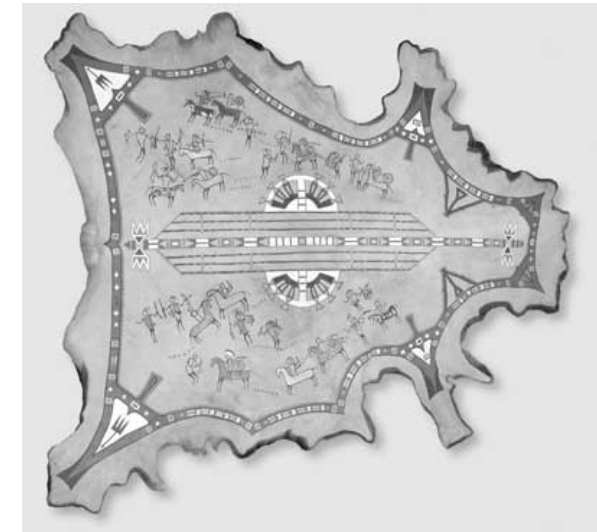
depending on hide thickness, work area temperature, and humidity.

13. When the hide is completely dry and soft, sew into a sock shape, smoke till smoke stains saturate thickest parts of hide, turn wrong side out and repeat.
14. Admire your work, rub it, smell it, enjoy it.

## Making Rawhide

Rawhide is exactly what it sounds like—“raw” hide. It is useful for many crafts, moccasin soles, and as a lashing material. It does not stand up to repeated soakings in water unless it is treated heavily with oil, which essentially tans it.

The steps for preparing a hide to make rawhide are the same as for braintanning, up to the actual dressing step (step 6 above). Once the hair is removed and the hide wrung out, it must be stretched on a frame to keep it from shriveling up and wrinkling as it dries. This is best done by either stapling/tacking it to a board or by placing it on a frame made of lumber, saplings, etc. Allow it to dry until it is completely stiff and dry, and then use it.



## Alum tanning your hide:

Alum tanning is a chemical process that accomplishes many of the same things as brain, bark, oil, or chrome tanning. The process uses an acid solution created by adding water to aluminum sulfate to preserve the skin and fiber network of the hide. Like brain tanned hides, the skin requires smoking or further tanning with bark or chrome tans to make the hide withstand repeated wetting. Alum tanned hides can be “slick” on one side like a commercial tan, or can be prepared just as you would a hide for brain tanning.

Alum tanning is an excellent method for tanning hair-on hides, as it tightens the skin and helps retain the hair. If you tan a hair-on hide for use as a sleeping mat or clothing, you will probably want to oil and smoke it as outlined below.

You prepare a **de-haired** hide for tanning the same way you would for brain tanning.

1. Flesh it well to remove all fat and meat.
2. Buck the hide in lye, or use lime if you want a smooth hair-side surface.
3. Neutralize the lye/lime with 1/4 cup of vinegar per gallon of water. Soak for about 30 minutes, moving the hide around in the solution. You can also neutralize the hide by leaving it in running water (a stream, for example) overnight.
4. Scrape the hair and mucus off of the hide as you would for brain tanning, using a very dull scrubbing motion on the hair side if you want a smooth finish.
5. Rinse thoroughly -- you may use washing soda or even dish soap at this point if you want, but rinse thoroughly if you use anything other than water.

For a hair on-hide, you flesh the hide thoroughly, rinse it in mild borax or bleach solution (4 oz borax, or ¼ cup bleach per 5 gals water), flush it with clean water, then proceed with the tanning process.

## Tanning the hide:

1. The ingredients required for tanning with Alum are Aluminum sulfate, available from garden and feed stores for about \$5-10 for a 15# bag, and common non-iodized salt. Mixing salt is available from feed stores for about \$4 a 50# bag. You will need either a clean plastic trash can or a 5-gallon bucket with a lid (the seven gallon buckets are best for a five gallon tanning solution), depending on how many hides and how large they are. One hide, several furbearers or a whole bunch of squirrels can be done in a five-gallon bucket.
2. Mix 2-1/2 pounds of the salt and 1 pound of alum together in five gallons of water. Stir until all of the solution dissolves.
3. Place the hide in the solution and work it around with a wooden stick or piece of PVC pipe.
4. Stir the hide(s) twice a day for about five or six days. When the hides are white all the way through, the hide is tanned. You can leave it in longer than this to make sure it is completely tanned; it won't hurt the hide. Smaller, thinner hides such as furbearers may be tanned in only 48 hours; large, thick hides like elk, cow, or buffalo can take longer.
5. Remove from the tanning solution and neutralize the acid in 4 oz, of borax (“20 mule team”) per gal of water, or 1 oz. Bicarbonate of soda (baking soda) per gallon of water, allowing it to soak for about 30 minutes.

## Oiling and smoking the hide:

To make the hide soft and supple, and to protect the tan from being washed out by water, you should oil and smoke the hide. The procedure is:

1. For a hair-off hide: Mix ½ pint of neat's-foot oil and 1½ pints of warm water in a bucket, add the hide and work the mixture thoroughly into the hide. If it is a large hide, you may need to add additional oil/water. For a hair on hide, spray or wipe the oil and water mixture onto the flesh side only of the hide, not the hair.
2. Squeeze excess oil/water from the hide and lay it out flat (hair side up if a hair-on hide) to soak up the oil overnight.

You will probably want to use a large plastic sheet, tarp or garbage bag underneath it to avoid making a mess or getting the hide dirty.

3. The next day, hang the hide to drip dry for about 4 hours (less if it's hot or in the sun). As soon as it begins to have a few spots that appear to be drying, start the breaking process.
4. Break the hide as you would a brain-tanned hide, working it until it is soft and supple. A stake or cable works well here. Work it until it is completely white and dry, or it will become stiff. You can re-oil it and break it further if this happens, but it is a lot of work.
5. Smoke as you would a brain-tanned hide. Alum tanned hides don't usually get as dark as brain-tanned hides do.

## Sources for further information:

- [Deerskins into Buckskins](#), Matt Richards.
- [Blue Mountain Buckskin](#), Jim Riggs.
- [Wet-Scrape Braintanned Buckskin](#), Steven Edholm and Tamara Wilder.

All three of the above are available at Traditional Tanner's Supply: <http://www.braintan.com>

- [The Complete Book of Tanning Skins and Furs](#), James E. Churchill (available at Amazon and Barnes and Noble)
- [Tan Your Hide the Alum Way](#), Kent Klein (available from the author for \$10--1537 W. 4920 So. Taylorsville, UT84123 email: [kjckjk@hotmail.com](mailto:kjckjk@hotmail.com))

Tools, supplies and information on many tanning subjects are available from Traditional Tanner's Supply: <http://www.braintan.com>  
Other sources include: New Mexico State University Extension  
Service site: [http://www.cahe.nmsu.edu/pubs/\\_1/1-103.html](http://www.cahe.nmsu.edu/pubs/_1/1-103.html)