
Tanning Goatskins

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Introduction

Many people are interested in tanning goat or other skins such as deer. Learning the art of tanning skins can be very rewarding, through acquisition of new skills and the attractive products resulting from the endeavor. The supplies needed to tan skins can be purchased or much of it can be fashioned from items found around households or farms. Tanning chemicals are readily available from many suppliers and kits can be purchased that will tan one or two skins. The art of tanning skins is a learning process that requires effort and labor to produce a soft, attractive product and your skills will improve through practice. Although home tanning may not match the quality of a professional tannery, good quality, long-lasting products can be made. However, if you do have a special skin, it is best to send it to a professional rather than attempting to tan it yourself. This is particularly true if you are new to the art of tanning.

This chapter deals with tanning skins leaving the hair on. The techniques discussed are intended for those persons wishing to try tanning a skin for hobbyist use. However, skinning and preparing hides for taxidermy are not covered. Consult a taxidermist should you wish to have an animal skinned and the skin or cape tanned and mounted.



Hand-tanned goat, deer, and elk hides.

Tanning Methods

Many of the tanning methods suitable for home tanning are used in the taxidermy industry to prepare deer capes and other skins for mounting. Tanning agents are available in powder, liquid, or cream form. Most liquid and cream tanning agents are designed to be applied directly to the prepared skin using a paint brush or by hand wearing gloves. The powdered forms, and some liquid forms, require mixing the chemical into a water and salt solution and immersing the prepared skin for a specified length of time. There are advantages and disadvantages to both paint-on and immersion tanning systems.

Paint-on tans are easy to use, result in a well-tanned skin, and are preferred by many tanners and hobbyists. Paint-on tans require fewer solutions to prepare and dispose than do immersion systems. All areas of the skin must be covered with the paint-on tanning agent but care is needed around skin edges as the solution may be oily and could stain the fur or hair requiring later cleaning. The amount of paint-on tan to use may be difficult to gauge. Too heavy an application on thin skins may result in the tanning liquid being absorbed through the skin potentially discoloring the hair and leaving it feeling somewhat greasy or oily. Solvents and detergents can be used to clean the hair, but care is needed. Examples

of paint-on tans sold by various distributors include¹: Liqua-Tan™, Rittel's Kwiz-n-Eze, McKenzie Tan, Tannit Solution™, Bollman's Mammal Tanning Cream, Rinehart Tanning Cream, Curatan®, and Trapper's Hide Tanning Formula™. Other products are also available.

Immersion tanning methods require making solutions, monitoring pH, and safely disposing spent solutions. Through soaking, the tanning agent has access to both sides of the skin, although the skin should be stirred occasionally while in the tanning

¹ Listing of trade names, proprietary products, or vendors does not imply endorsement by Langston University of the products or vendors named or criticism of similar products or vendors not mentioned.

solution to ensure even and adequate chemical penetration. Please note that the hair of deer is hollow and deerskins will float so stirring may need to be more frequent. If tanning is done correctly, weighting a deerskin to keep it submerged in the solution is not necessary. Goatskins do not have this problem. There are many kinds of immersion tanning agents. Examples are Rittel's EZ-100, Rittel's Kwik-Tan, and Lutan® FN.

For initial attempts at tanning, it is beneficial to purchase a kit complete with tanning chemicals, instructions, and a list of the needed supplies. Some kits come with instructional videos. Many distributors sell kits using either the immersion or paint-on tanning methods. Examples of some kits include EZ 1000 Kit that includes EZ-100 powder, Saftex Acid, and tanning oil; Liqua-Tan™ Tanning Kit with Liqua-Tan™, acid, and tanning oil; and McKenzie Tan Tanning Kit with McKenzie Tan, acid, and oil. Kits using other chemicals, e.g., Para Tan, Curatan®, Krowtann 2000, Kwik-Tan, Lutan® FN, etc., are available or one can purchase tanning chemicals individually. Finally, while not covered in this article, chemicals and kits are available for tanning birds and reptiles.

Basic Tanning Steps

Whatever method is chosen to use in tanning a skin - immersion or paint-on, kit or purchase of separate chemicals - many of the basic steps are the same: skinning the animal, preserving the skin, fleshing the skin, pickling and neutralizing, the actual tanning process, oiling, drying and softening, and finishing. As with any craft there are many variations on the main themes and different texts will provide different tanning recipes, order of steps, chemicals to use, and tips on how to successfully follow their method. It is a good idea to read through several methods and speak with someone knowledgeable on tanning skins before selecting a particular one. As each method or tanning recipe is slightly different, it is best to follow the instructions and learn the basics. One can then experiment in the future.

It is not the goal of this chapter to address all of the tanning procedures and variations available. Rather, only some pertinent information on each of the basic steps will be given. More detailed information can be found in the sources listed at the end of this chapter or websites listed for some of the companies that sell tanning chemicals. Finally, the information presented is designed for the hobbyist tanner and, as such, no use of tanning machinery is required.

Skinning

Most people who want to tan a skin will also use the carcass for meat and will take the animal to a meat locker or abattoir for processing. Inform the facility that you

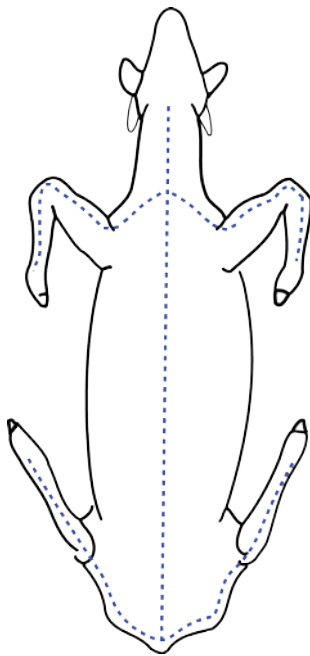
wish to tan the skin and that extra care should be taken when skinning. Make arrangements to pick up the skin as soon as it is removed from the carcass.

If you wish to skin an animal, be sure the carcass is fresh as decay begins immediately upon death. Bacteria become active breaking down tissue, damaging the skin, and causing hair slippage. Also, ligaments under the skin can shrink as the carcass cools making skinning more difficult. If you do your own butchering, ensuring that a carcass is fresh is no problem; however, if an animal is found dead caution is warranted. In addition to possible problems with skinning and hair loss, you may be in danger of contracting a disease. Diseases such as tuberculosis, rabies, tetanus, and anthrax can be transmitted to humans through contact with infected animals. Animals that are ill, acting strangely, or found dead from an unknown cause should be buried or disposed and not skinned, even when wearing gloves.

For people who hunt or raise deer and elk and wish to tan their skins, Chronic wasting disease (CWD) is of concern. CWD is a transmissible spongiform encephalopathy (TSE) of which bovine spongiform encephalopathy, BSE or mad cow disease, is the most well-known. Scrapie in sheep and goats is also a TSE. There is currently no evidence that CWD can be transmitted to humans but wearing gloves when skinning and butchering deer has been recommended. Hunters are advised not to consume meat from suspect animals. As the disease agent is found in central nervous tissue, the practice of brain tanning has been discouraged in some areas. Information on CWD can be found at the USDA Animal Plant Health Inspection Service CWD website (http://www.aphis.usda.gov/animal_health/animal_diseases/), the Chronic Wasting Disease Alliance Website (<http://www.cwd-info.org/>), and state wildlife departments and websites.

Finally, caseous lymphadenitis or abscesses is a common disease of goats that can be transmitted to humans. Take care when skinning goats as abscesses not apparent on the live animal can be found under the skin. Abscesses contain greenish, cheesy pus that should be trapped on paper towels and burned or buried. Use gloves when skinning goats suspected of having abscesses. Try to avoid using skins of goats having an abscess. In addition to disease concerns, the skin at the abscess site is thin and weak and can tear during the tanning process.

Many people who hunt or butcher at home have experience skinning and have their own favorite tools and methods. Skinning can be done with the carcass hanging or lying. Initial cuts should be made down the midline of the belly from the anus to neck and from the legs inwards. Cuts on the legs should be done on the side



Proper placement of initial cuts.

Illustration by K. Williams.



Well-shaped skin after skinning.

where the hock and knee bend, the rearmost portion of the hind leg and the foremost portion of the front leg. This will result in a more rectangular shaped skin.

It is easier to skin a hanging rather than lying carcass as the skin can be pulled downwards and “fisted” away from the body by using your fist to push between the skin and carcass. This lessens the need to use a skinning knife. A skinning knife should be very sharp and used sparingly to decrease the chance of cutting the skin and causing holes that mar the skin and must be sewn later. Skins can also be removed using mechanical means. No matter how the skin is removed, a large amount of fat or meat should not be left on the skin as this material must be removed as it can impede salt penetration when preserving. Any obvious blood spots or dirt should be washed off. A good job in skinning will make the initial tanning steps easier.

Preserving

If the skin will not be tanned immediately it must be preserved. The goal of preservation is to stop the decay begun by bacteria immediately upon death. Never leave fresh skins rolled up or stacked. The heat remaining in them will encourage bacterial growth and increase the possibility of hair slippage. If skinning takes place in a different location than preservation, try to cool the skin as quickly as possible by laying it open. If available, place ice on the flesh side. While plastic garbage bags may be useful in handling a wet, bloody skin do not leave skins

in a closed bag. This traps the heat allowing decay to start. Begin your preservation technique as quickly as possible.

The main methods of preservation are salting and freezing. Salt removes moisture from the skin and creates an unfavorable environment for bacterial growth. Use only non-iodized salt such as table or pickling and curing salt. Rock salt should never be used as it has impurities. A fine grain salt is preferred and penetrates the skin more readily than large grain products.

To salt a skin, lay it flat on a plastic tarp or piece of wood and pour a generous amount of salt, approximately 1 pound salt per pound skin, on the skin and rub in thoroughly covering every portion. Fold the skin flesh to flesh, roll it up, and place it on a slanted board to drain. The following day check the condition of the salt and add new salt if needed. If the salt is dirty or bloody, shake off the wet salt, and resalt with new salt. After the second day, continue in the tanning process or, if tanning will take place at a later date, resalt and lay the skin flat to dry. Drying may take several days or longer depending upon the weather. Skins should not be dried in direct sunlight or where temperatures are very high. Dried skins can be stored in a dry place until tanning. However, salted skins should be tanned within a reasonable time frame as salt-tolerant bacteria can grow on salted skins and do damage.

When preserving by freezing, the goal is to reduce skin temperature quickly. Immediately after skinning lay the skin flat, flesh side up, in a freezer. When it begins to



To salt, rub a generous amount of salt into the skin, covering every portion. Then fold the skin down the midline, roll, and place on a slanted board to drain.

stiffen, fold it flesh to flesh, roll, and place inside a plastic bag. A well-packaged, frozen skin can last for months with no damage to the skin. However, it is best to tan the skin within a reasonable time frame.

To begin the tanning process, the preserved skin must be rehydrated in preparation for fleshing. Frozen skins should be soaked in water to thaw. Salt and a bactericide can be added to prevent bacterial growth. Submerge salted skins in a brine solution of 1 to 2 pounds salt for each gallon of water needed to completely cover the skin. Use plastic barrels and wooden or plastic poles, such as old broom or shovel handles, for all tanning procedures. Skins should be soaked until they are like a wet dishrag. Relaxing agents are available that can assist in preparing the skin for fleshing and tanning.

Dirty skins can be washed of obvious blood, manure, and other dirt after thawing. A more thorough washing is done after fleshing. If slaughtering one of your own animals, you can minimize dirt by care prior to slaughter and during the slaughter process. Angora skins can be a



problem if excessively dirty and have hay or grass matted in the mohair.

Fleshing

To flesh a skin means to scrape all fat, meat, and membrane from the skin in preparation for the actual tanning process. This can be done before the skin is salted to allow easier salt penetration. Fleshing is most easily done by using a fleshing beam and fleshing knife. A fleshing beam is a structure over which the skin is draped for scraping and can be made from wood, logs, or PVC pipe. Wooden fleshing beams are commonly made from a 2" x 6" or 2" x 8" board 5 or 6 feet long. Hardwood is recommended. One end should be cut to a blunt point and all edges rounded and smoothed. Legs are attached near the pointed end so that the fleshing beam slants upward from the ground to waist level. Unused or scrap PVC pipe 4 to 8 inches in diameter works well and is very sturdy.

A fleshing knife is a blade with a handle on both ends allowing even pressure to be exerted as the blade is



At left is a PVC pipe fleshing beam. Above are examples of different styles and sizes of fleshing knives.

pushed down the skin. The knife edge of the blade should be dull as the goal is to push and scrape off all fat, meat, and membrane, leaving only the skin. A blade that is too sharp can cut the skin exposing hair roots leading to subsequent hair loss. Fleshing knives can be purchased from many taxidermy supply stores at a reasonable cost. Most fleshing knives have a single beveled edge, others are double beveled. Even a square-edged piece of metal can be used. Mill planer blades can be fashioned into fleshing knives and these types of knives are available on the internet.

To flesh a skin, pull the skin from the rehydration bath and drape it, flesh side up, over the pointed end of the fleshing beam with the neck farthest from you. Lean into the beam with your midsection to hold the skin in place while you are scraping. Push the fleshing knife down the skin scraping off unwanted material. To make fleshing easier and lessen the chance of cutting the skin, flesh with the lay of the hair. Begin by fleshing the legs towards the tail and midline, then from the rear pushing towards the neck. Wear gloves while fleshing. This protects your hands and is essential if abscesses are suspected.

Fleshing takes practice and, initially, can be time consuming but must be done properly; removing even the thin membrane held tightly onto the skin. The thin membrane on the flesh is shiny and feels slippery; after removal the skin will look duller and lose the slippery feeling. Keep the skin wet when fleshing. If it becomes too dry, soak in water before proceeding.

After fleshing, plunge the skin up and down in water mixed with a small amount of dish detergent to remove remaining dirt, blood, and some of the grease on the skin. Then rinse thoroughly to remove all soap. There are commercial products to remove blood and other stains, if desired. Once the skin is fleshed, it should be salted to draw out fluids and substances not wanted in the tanning process. This salting occurs even if the skin was salted originally for preservation. For frozen skins, fleshing occurs upon thawing and is then followed by salting.

Fleshing machines, found in taxidermy supply catalogs, are available for fleshing and shaving skins. The cost is usually prohibitive for the hobbyist tanner. Even with machines, some professionals still do initial fleshing with a traditional fleshing knife and beam. Fleshing machines do have distinct advantages in shaving skins. Shaved skins are thinner, use less tanning chemicals due to reduced weight, and result in a softer finished product. This is especially true for skins from large animals such as elk that have thick skins. Whilst shaving can be tried by using a very sharp knife, it is difficult to achieve



Fleshing means to scrape all meat, fat, and membrane from the skin.

a consistent thickness and avoid cutting through the skin. Generally, goatskins can be tanned and softened adequately without shaving.

Pickling and neutralizing

Pickling is the use of an acid solution to acidify and temporarily preserve a skin while physically and chemically preparing it for tanning. Most tanning recipes will use an acid pickle, though it may be included in the tanning process itself and not a separate step. Some paint-on tans, such as Tannit™ solution and Liqua-Tan™, can be applied directly to the fleshed skin without the skin undergoing a pickle.

Pickling solutions are mixtures of water, salt, and acid made in a plastic barrel. There are a number of acids and formulations used in pickling and the tanning recipe followed will have specific instructions. Enough pickle solution should be made to completely submerge the skin without overcrowding if several skins are pickled together. At a minimum, make 2 quarts of pickling solution for every pound of wet, drained skin. The pH must be carefully monitored and eye protection, a protective apron, and rubber gloves should be worn when using acids. Monitoring pH can be done using simple pH paper and adjustments made using the recommended acid



Use pH paper to check pickle pH.

or an alkaline substance such as sodium bicarbonate (baking soda). Acids should be added slowly to the pickle, pouring them along the side of the container so as to run gently into the solution. Use a wooden stick and mix slowly. For example, the EZ-100 tanning kit recommends 0.5 fluid ounces Saftee Acid (included in the kit) and 1 pound salt per gallon water resulting in a pickle solution of approximately pH 1.0.

Skins should remain in the pickling solution for a minimum of 3 days, stirred occasionally. Skins can be temporarily stored in a pickle for up to 2 weeks with pH monitored and adjusted if needed.

After being in the pickle, skins must be neutralized. Neutralizing raises the pH of the skin through soaking in a solution containing an alkaline substance such as sodium acetate, sodium formate, sodium bicarbonate, or other similar compound. A common neutralizing solution is one made up of 1 ounce sodium bicarbonate per gallon water, making enough to submerge the skin. If a scale is not available, use one heaping tablespoon of baking soda per gallon water as a neutralizing solution. The tanning recipe or kit should have complete instructions on the neutralization method.

Neutralization is generally brief, 20 to 30 minutes, after which the skins should be rinsed with clean water, drained, and tanned. After draining and prior to tanning, any holes in the skin should be sewn closed using nylon thread. Dental floss can be used. This will prevent further ripping of the skin during softening.

Dispose of pickling and neutralizing solutions properly. Acid pickles should be raised to a pH of 7.0 before dumping. Do not dump or dispose of solutions where they can contaminate streams or ground water. Dispose via drains leading to sewage treatment plants, not storm water runoff drains. If in a rural area and no other disposal means is available, neutralized solutions should be dumped in a driveway or other area where vegetation does not grow. Chemical and salt water solutions should never be put into septic systems as these can kill the microflora needed to break down waste. Contact local authorities about proper disposal methods.

Tanning

There are many tanning recipes and methods found in various books, taxidermy supply, or tanning chemical dealer catalogs and websites, and in the instructions included with tanning kits or chemicals. The main tanning process may be as simple as one of the paint-on tans mentioned earlier or a more complex immersion tan entailing the application of chemicals in a tanning soak or bath. To illustrate these tanning processes, examples are given of a paint-on tan and an immersion tan.

Paint-on tan

Some paint-on tans, such as Liqua-Tan™ and Tannit™ solution, among others, do not require the use of an acid pickle. McKenzie Tan recommends using a pickle solution and acid pickles can be used with other paint-on products. In either case, prior to tanning the skin is soaked in a rehydrating (if salted only) or neutralizing (if pickled) solution, rinsed, and drained. Remove excess moisture to get the skin in a damp state. This is commonly done by rolling the skin in a towel. After the excess moisture is removed, lay the skin flat on a plastic tarp or piece of



To apply a paint-on tan, roll the skin in a towel to remove excess moisture. Apply the tan by hand covering all of the skin.

wood and apply the tanning solution. Using a gloved hand or paint brush, apply an even coat of the tanning solution on the skin, covering every portion while taking care around edges and holes. It is best to warm the tanning solution slightly prior to applying.

After several hours, or overnight, work the excess solution into the skin. Some paint-on tans recommend rinsing the skin in cool water after tanning. Softening oil is then applied. Some paint-on tans state that oils are included in the tanning solution. Knobloch's recommends applying Liqua-Soft™ softening oil the day following application of Liqua-Tan™ if the tanned skin will be used for a flat skin or rug. Stains and greasiness left on the hair after rinsing can be removed during drying and softening by washing the area with a grease-cutting dish detergent or by using odorless mineral spirits poured on a rag and rubbed on the hair.

Immersion tan

Different powder and liquid tans are available that require application using an immersion or tanning bath. The following example describes using Rittel's EZ-100 synthetic tanning powder. Just prior to tanning, the skin should be removed from the acid pickle and placed in the neutralizing solution. After neutralizing, the skin should be drained for up to 45 minutes and then weighed. Rittel's EZ-100 instructions state that for every pound of wet, drained skin use 4 ounces salt, 0.5 ounces EZ-100, and 2 quarts lukewarm water. Dissolve the EZ-100 powder in a small amount of hot water and bring to volume to make a lukewarm solution. After mixing with the salt, check the solution pH. An EZ-100 tanning solution must have a pH of 4.0. If the pH is too high, lower it using small amounts of Saftee Acid. If the pH is too low, raise it using an alkaline substance such as sodium bicarbonate (baking soda). Immerse the skin into the tanning solution and recheck the pH after 30 minutes. Adjust to pH 4.0 if needed. Skins should be stirred occasionally while in the tanning solution to ensure proper penetration of the tanning agent. Skins will tan in 16 to 20 hours after which they should be removed, rinsed, and drained for 20 minutes prior to oiling. Do not leave skins in the tan longer than recommended.

Oiling

Oiling is done to increase the softness of the finished product and many oils are available in the marketplace. If a tanning kit is purchased, the recommended oil will be included. Some oils, such as Liqua-Soft™, are ready to use from the bottle. Others require mixing one part oil to two parts hot water before use. To oil the skin, lay it flat with the flesh side up. Liberally apply the oil being careful around the edges of the skin. Fold the skin flesh



Dissolve EZ-100 powder in a small amount of hot water and bring to volume to make a lukewarm solution.



Ensure the EZ-100 tanning solution is pH 4.0 and immerse skins. Check pH after 30 minutes and adjust if needed. Tan 16 to 20 hours.



This skin is dry enough to begin softening.

to flesh and allow it to absorb oil for 4 to 6 hours or even overnight. Then, hang the skin to begin drying.

Drying and softening

Drying methods range from simple hanging to tacking on wood or tying in a frame. Allow skins to air dry, using a heat source dries the skin too fast making softening difficult. Check the skin as it dries to determine when softening should begin. If the skin is stretched and pulled when too wet it can become misshapen. If one waits too long, the skin stiffens and is difficult to soften. As the skin dries, it will become white and less pliable. The thinner edges will dry more quickly than the thicker center line and edges are usually worked first.

If the skin is drying too fast or time constraints prohibit you from working on the skin, you can place the skin in a plastic bag for several hours or overnight to slow down the drying process. You can also wrap the skin around damp towels and place it in a plastic bag overnight to partially rehydrate the skin. Continue working the skin as it dries.

Softening involves stretching and bending the skin to break up fibers in the skin. The time and effort spent on this step directly determines the suppleness of your final product. Initially, roll the skin in your hands to make the skin more flexible. As the skin dries and becomes stiffer, the skin can be staked and cabled. Staking involves use of a staking beam, boards cut and fashioned in the shape of a braced, inverted “T” with the upright end rounded to a blunt edge. The flesh side of the skin is pulled back and forth over the blunt edge to stretch and break up skin fibers.

Cabling is a more effective method than staking and involves stretching and pulling the skin around a cable. Regular rope can be used but aircraft cable (wire rope) clamped around a pole works very well. Often, both methods are used on the same skin, staking to begin



Pull the skin back and forth over the staking beam to stretch and break up the skin fibers.



Cabling a skin results in a very soft, supple skin.



Trim rough edges from the skin.

breaking up very stiff areas followed by cabling to finish softening to create a soft, supple skin.

Finishing

After the skin is softened, the hair should be cleaned and brushed. Most goatskins will only need combing or brushing. If the hair feels greasy, one can use dish detergent or even shampoo to wash the hair. If using this method, try not to get the skin too wet as it may need to be staked or cabled again as it dries to maintain softness. The tanning agent is chemically bound in the skin and will not wash out. Some texts explain how to clean the hair using sawdust or corn cob grit dampened with a solvent or cleaning agent. Taxidermy or tanning chemical supply houses sell sawdust and solvents to be used for cleaning. Locally obtained sawdust may contain pitch and be unevenly grained, rendering it not as useful.

Once the hair is clean and brushed, the skin side can be sanded or rasped to remove rough spots and further soften the skin. Staking may make the skin appear brown and dirty and sanding or rasping will make it look cleaner. Cabled skins generally will not need rasping or sanding.

Skin edges are usually uneven and stiffer than inner portions and trimming these results in a more attractive product. Use a box cutter or similar knife and cut from the flesh side making sure not to cut the hair so as to leave a fringe covering the skin's edge.

Optional steps

Some tanning recipes include a degreasing step or recommend degreasing certain types of skins, usually carnivores. Degreasing is removing fat in the skin using a detergent or solvent degreasing agent. One example of a detergent degreaser is Kemal-4™ by Knobloch's. Dish soap, such as Dawn®, acts as a degreaser when washing skins and works well with thin goatskins. Solvent degreasers may be more efficient at extracting fats from the skin, one example being Kemsol by Knobloch's. Degreasers can also be added to the pickle solution, as with McKenzie Relaxer/Degreaser. For most hair-on tanning of goatskins, washing with dish soap is sufficient. If a goatskin has a lot of fat, degreasing may help in the tanning process.

Making Leather

Many people wish to make leather from skins. Some of the tanning chemicals used for hair-on tanning can be used for leather, but a dye is needed to give the leather specific colors. Kits using chromium are available to make leather. However, chromium is a heavy metal requiring special disposal. Great care is needed when using chromium-based kits and local authorities should be consulted on proper disposal of tanning solutions. To make leather, skins are salted and fleshed, then unhaired. The kit used

will contain unhairing chemicals and explain the steps to follow to remove the hair. The tanning procedure may be different than for hair-on tanning but the oiling and softening steps are similar.

Where to Find Additional Information

The instructions included with any tanning chemical will provide detailed instructions on skin preparation and chemical usage. However, for persons interested in obtaining further information on skin tanning, an internet search will provide many articles, forums, and websites on tanning methods and procedures. Companies selling tanning chemicals provide product information on their websites, some of which have "How to" sections that provide excellent information and videos on skin handling and newer tanning methods. A local taxidermist or sporting goods store is another potential source of information and supplies. Books on home tanning and leather craft are available but most were written many years ago and do not contain information on newer tanning methods. One recent book, "The Ultimate Guide to Skinning and Tanning" by Monte Burch, 2002, does contain information on some newer techniques and chemicals.

When searching for tanning information on the internet one will come across the art of "brain tanning." This is the traditional method of using animal brains to make buckskin as done by Native Americans and other cultures. This can certainly be done with goatskins. In addition to websites dedicated to "brain tanning," several good texts have been written on the subject.

Partial List of Supplies Needed to Tan Skins

- Skinning knife, if needed.
- Sharpening stone.
- Non-iodized salt, not rock salt.
- Fleshing knife.
- Fleshing beam.
- Plastic barrel (metal containers should never be used).
- Wooden pole or paddle to stir tanning solutions.
- Tanning kit or chemicals.
- Rubber gloves, protective apron, and eye protection for handling chemicals and solutions.
- pH paper, if pH of solutions must be checked.
- Cable, staking beam, or other softening device.
- Comb or brush for hair.
- Scale to weigh skins and chemicals.
- Source of hot water to mix solutions.

Where to Find Tanning Supplies and Chemicals

The following is a partial list of companies and dealers that sell tanning supplies and chemicals. Other companies, dealers, or distributors can be found on the internet at <http://taxidermy.net> or through using any internet search engine. Local taxidermists and tanneries can also be a source of information and (or) supplies.

Jonas Supply Company

1850 Dogwood St.

Louisville, CO 80027

Phone: 800-525-6397

<http://www.jonas-supply.com>

Knobloch's

1850 Dogwood St.

Louisville, CO 80027

Phone: 303-666-9045

<http://www.knoblochs.com/>

McKenzie Taxidermy Supply

P.O. Box 480

Granite Quarry, NC 28072

Phone: 800-279-7985

<http://www.mckenzieesp.com/>

Dan Rinehart Taxidermy Arts Supply

203 S. Main St.

Edgerton, WI 53534

Phone: 866-296-2782

<http://www.taxidermyarts.com>

Tandy Leather Co.

(Locations throughout the U.S.)

<http://www.tandy-leatherfactory.com/>

Van Dyke Supply Co. Inc.

Phone: 800-737-3355

<http://www.vandykestaxidermy.com/>

WASCO

1306 West Spring Street

P.O. Box 967

Monroe, GA 30655

Phone: 800-334-8012

<http://www.taxidermy.com/>

Resources

Churchill, J.E. 1983. *The Complete Book of Tanning Skins and Furs*. Stackpole Books, Harrisburg, PA. 197 pp.

Hobson, P. 1977. *Tan Your Hide!* Storey Communications, Inc., Pownal, VT. 135 pp.

Rittel, B. 1994a. Syntans as a tanning agent. *Breakthrough* 38:26-31.

Rittel, B. 1994b. When fleshing or shaving- the only way is the right way. *Breakthrough* 36:22-24.

Rittel, B. 1993. The basic principles of pickling and neutralizing. *Breakthrough* 33:48-52.

List of Some Available Books on Tanning and Taxidermy (check your local library)

Burch, M. 2002. *The Ultimate Guide to Skinning and Tanning: A Complete Guide to Working with Pelts, Fur, and Leather*. The Lyons Press. Guilford, CT. 240 pp. ISBN 1-58574-670-3.

Churchill, J.E. 1983. *The Complete Book of Tanning Skins and Furs*. Stackpole Books, Harrisburg, PA. 197 pp. ISBN 0-8117-1719-4.

Edholm, S., T. Wilder and J. Riggs. 2001. *Buckskin: The Ancient Art of Braintanning* (Originally titled "Wet-Scrape Braintanned Buckskin"). Paleotechnics, Boonville, CA. 307 pp. ISBN 0-9654965-4-6.

Gibby, E.H. 1991. *How to Tan Skins the Indian Way*. Eagle's View Publishing, Liberty, UT. 28 pp. ISBN 0-943604-33-8.

Grantz, G.J. 1985. *Home Book of Taxidermy and Tanning*. Stackpole Books, Harrisburg, PA. 160 pp. ISBN: 0-8117-2259-7.

Hobson, P. 1977. *Tan Your Hide!* Storey Communications, Inc., Pownal, VT. 135 pp. ISBN 0-88266-101-9.

Kelly, T. 1987. *Outdoor Life Complete Home Taxidermy*. Outdoor Life Books, Danbury, CT. 271 pp.

Kellogg, K. 1984. *Home Tanning & Leathercraft Simplified*. Williamson Publishing Co., Charlotte, VT. 192 pp. ISBN 0-9135890-4-7.

Richards, M. 2004. *Deerskins into Buckskins: How to Tan with Brains, Soap or Eggs*. 2nd Ed. Backcountry Publishing, Cave Junction, OR. 240 pp. ISBN 0-9658672-4-2.

Riggs, J. 2003. *Blue Mountain Buckskin*. 2nd Ed. Backcountry Publishing, Cave Junction, OR. 140 pp. ISBN 0-0-9658674-1-8.

Roberts, N.H. 1979. *The Complete Book of Taxidermy*. TAB Books, Blue Ridge, Summit PA. 351 pp. ISBN 0-8306-9754-4.

