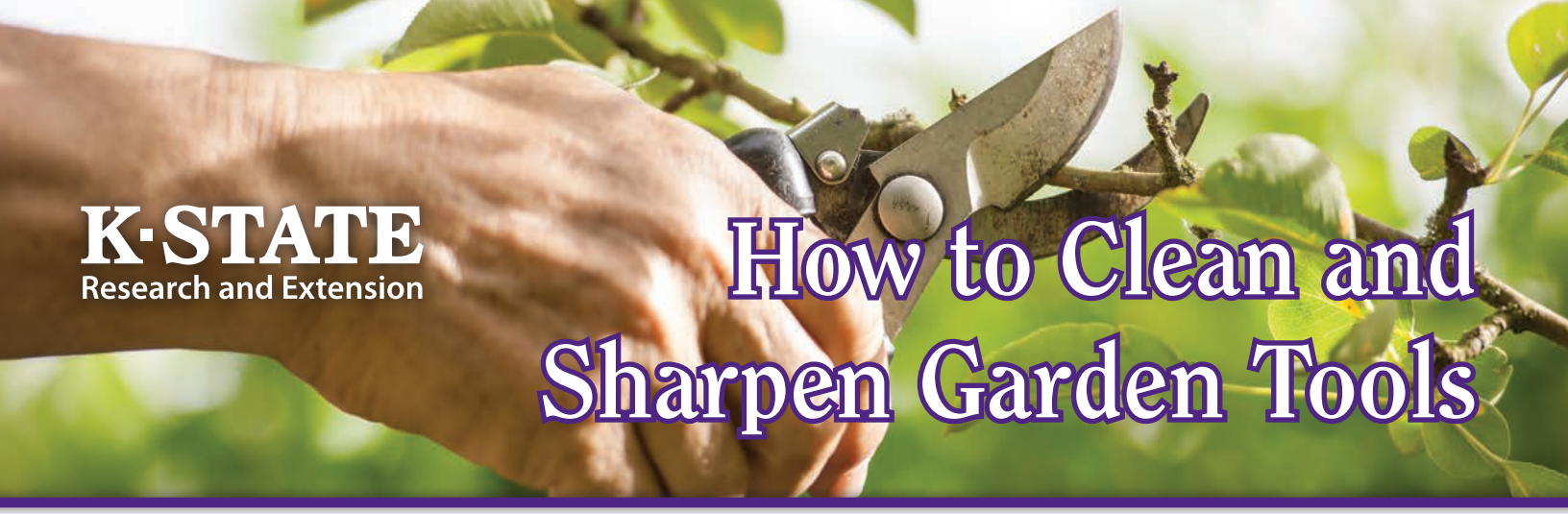

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How to Clean and Sharpen Garden Tools

A clean, sharp garden tool makes a big difference in performance and takes less time to maintain. Hand pruners kept in relatively good condition can be sharpened in about 10 minutes. Well-maintained tools provide a cleaner cut, are more rust resistant, and last longer than tools that do not receive proper care. Wooden handles are less likely to splinter or break with proper care.

Shovels and other digging tools do not have a sharp edge at the time of purchase. The buyer will need to add an edge for the tool to work as intended. Pruning tools are sharp at first but have to be cleaned and sharpened after a period of use. Blades stick when cutting surfaces become grimy. Even a sharp blade eventually moves roughly over the hook and does not cut cleanly. Use dictates how often a tool should be sharpened. Well-maintained pruners only need sharpening every six weeks, even with heavy use. Gardeners who spend 4 hours a week pruning may need to sharpen once or twice a year.

Supplies

Whetstones, also known as sharpening stones, come in many shapes, sizes, materials, and varying degrees of roughness, or grit — extra fine, fine, and coarse. The lower the grit level, the coarser the stone. Coarse stones typically are used to regain an edge after extended use. Large whetstones are easier to work with, but a small stone comes in handy when tucked into a pocket or work apron. Whetstones work best for tools that have been disassembled for access to individual parts. The stone should be wet thoroughly before use by soaking it in water or a lightweight oil such as boiled linseed, which is made specifically for use with whetstones. Oil lubricates the tool surface to carry away grit generated during the stoning process.

Files come in assorted sizes, shapes, cuts, and tooth configurations. The most common type, the mill file, is rectangular, tapering slightly in both width and thickness from the point where the file meets the handle, or tang, to the end. The file cut refers to the fineness of the teeth. From roughest to smoothest, the cuts are rough, middle, bastard, second cut, smooth, and dead smooth. A single-cut file has one set of parallel teeth. A cross-cut or double-cut file has a second set of teeth that form a diamond. Some files have teeth on all surfaces, while others only have teeth on one face or edge. To use this type of file, make a smooth stroke in one direction. Then lift the file and repeat the motion.

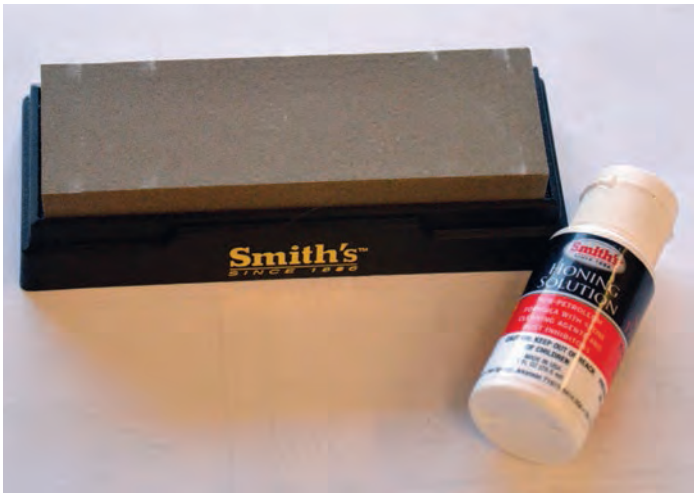

Figure 1: Whetstone with honing oil for the stone.

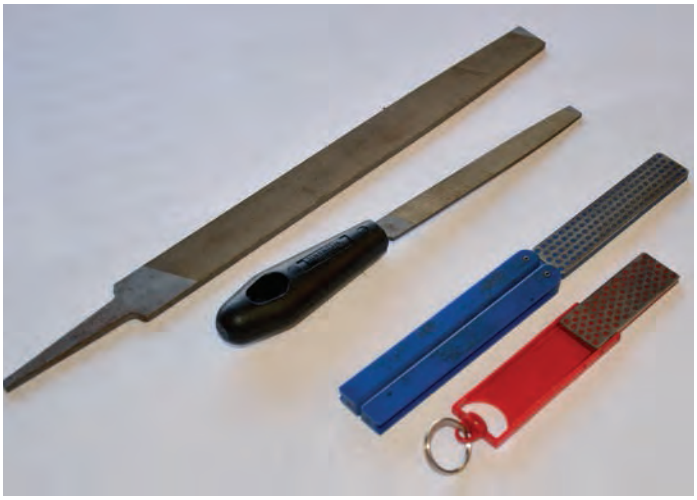

Figure 2: Files in varying degrees of roughness.

Pruning tool care and maintenance

Clean the tool with a scouring pad before sharpening, or rub with warm soapy water to remove plant sap, dried plant bits, and other debris. A solvent such as mineral spirits or kerosene can be used to remove sap. A wire brush works well for cleaning pruning saws, along with coarse steel wool to remove rust, and fine steel wool to restore the sheen of the metal. If sharpening is not necessary, lubricate the tool head by applying WD-40, Tri-Flow, Boeshield T-9, or bicycle chain oil with a clean rag.

How to sharpen a tool without taking it apart

For best results, start with a coarse file and progress to the finest. First, pat the file with a moist cloth. Water keeps the file from becoming clogged with tiny bits of metal removed from the blade during filing. Hold the file at the same angle as the beveled cutting edge, normally between 10 degrees and 20 degrees. Starting with the inside of the blade, use moderate pressure drawing the file toward the tip in a curved motion that follows the shape of the blade. This motion is easy, safe, and sharpens the blade evenly. For well-maintained pruners, 10 to 20 draws with the file should be enough. Poorly maintained pruners need about 40 to 50 passes or may need to be taken apart completely.

Switch to a finer grit file to further sharpen the beveled edge. Use the fine file first, followed by the extra-fine file. As you progress, use the same number of passes you did with the coarse file. Finish by running the extra-fine file over the back of the blade a few times to remove any burrs.

Test blade sharpness by holding the cutting edge up to a light source. If light reflects off the edge, it hasn't been adequately sharpened. Next, try it on a branch of the right size for the tool. If sharpened correctly, the cut will be easy and clean. If the blade pulls or catches when cutting, it is not sharp enough. Use the fine side of the stone and continue with a few more strokes.

When you are satisfied with the blade sharpness, apply a dry or silicone-based lubricant to repel water and hinder rust and oxidation. Lightly coat the blades with a lubricant a few times throughout the year. This keeps dirt and other materials from harming the pruners without drying or making them sticky.

How to sharpen a tool after taking it apart

Dismantle the tool and carefully lay out the parts in order. Clean with a scouring pad and warm, soapy water. Scrub to remove plant sap, dried plant bits, and other debris. Dry with a clean rag. A solvent such as mineral spirits or kerosene can be used to remove sap. Use a wire brush to remove plant sap from pruning saws, followed by coarse steel wool to remove rust and finer steel wool to restore the sheen of the metal.

Check blade sharpness. The correct sharpening angle is about 10 to 20 degrees. A curved type, scissor, or bypass pruner should be sharpened on the side away from the curved anvil. Sharpening both sides damages the blade. If using a whetstone, maintain the proper 10 to 20 degree angle by pressing the blade lightly into the stone. Use smooth strokes and move the blade in one direction

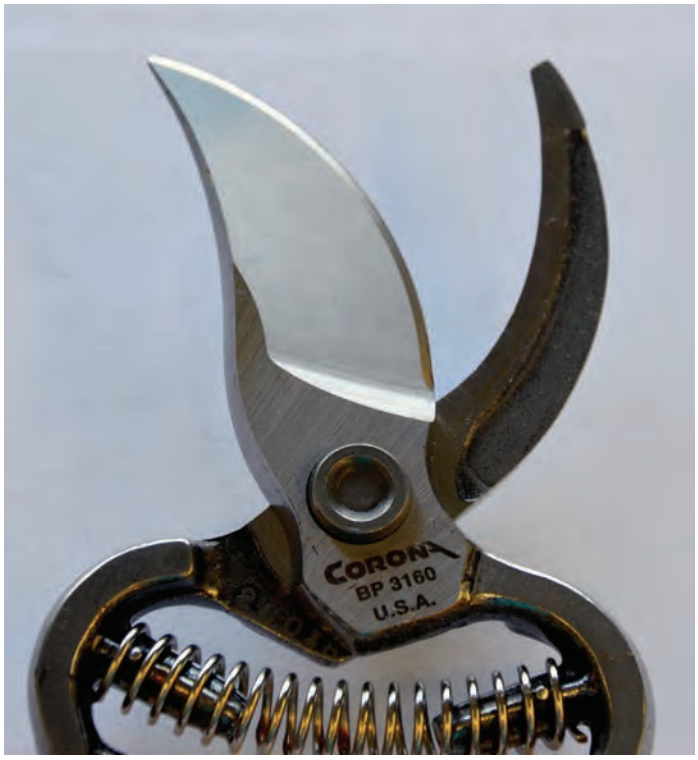

Figure 3: This type of pruner would not be disassembled.

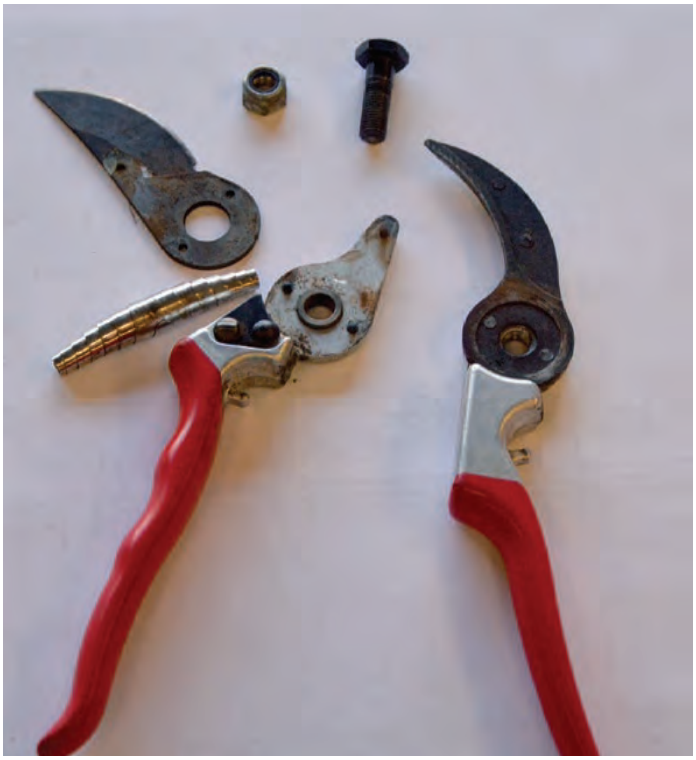

Figure 3: A pruner that can be disassembled.

toward the tip, as if you were trying to shave off a thin slice from the whetstone. Do not press too hard. Keep the stone wet, using water or oil, but don't switch between the two. If the blade has a nick, remove it with a coarse file.

When the proper angle and sharpness are achieved, move to using a finer grain whetstone and continue sharpening until a razor-sharp edge is achieved. Do not reduce the beveled edge to less than 1-mm thickness. A finer edge does not increase cutting ability, but rather makes the blade more fragile and prone to damage or breakage.

Test the sharpness by holding the cutting edge up to the light. If light reflects off the blade edge, it has not been adequately sharpened. When the blade is sharp, apply a dry or silicone-based lubricant to repel water and to hinder rust and oxidation. Once a year, apply a product made for lubricating bicycle chains. Occasionally during the year, coat the blades lightly with olive oil. This is a natural product that keeps dirt and other materials from harming the pruners without them becoming dry or sticky.

Finish by running the extra-fine file over the backside of the blade to remove burrs. Put the tool back together. Test the blade by trying it on an appropriate sized branch. If sharpened correctly, the cut will be easy and clean. If the blade pulls or catches when cutting, it is not sharp enough. Use a fine file and continue with a few more strokes with the tool assembled.

Shovels, spades and digging tools — Why these tools need an edge

Before using a new spade or shovel, bevel the front edge to improve performance. This keeps the tool in line so it pushes soil up and onto the blade. Force is applied when the tool head is thrust into the soil. Pressure exerted against the solid edge is a function of the downward thrust divided by the surface area on the cutting edge of the blade in square inches. The thin cutting edge on a sharp tool increases the pressure per square inch and makes digging easier. The exact angle of the edge is not critical, but a shallow angle improves the cut. But if the edge is too thin, the blade can bend. Although stronger, a straighter blade is more difficult to push through the soil. Aim for a 20-degree angle on light-duty tools, but increase the angle for heavy-duty ones. A blade wears at the thinnest spot so it is important to keep the bevel angle consistent.

How to sharpen digging tools

Clean the blade. Using a stiff brush and/or scouring pad and soapy water, remove any rust, clumped dirt, or other debris. Dry with a clean rag. If heavily rusted, use steel wool or a wire brush.

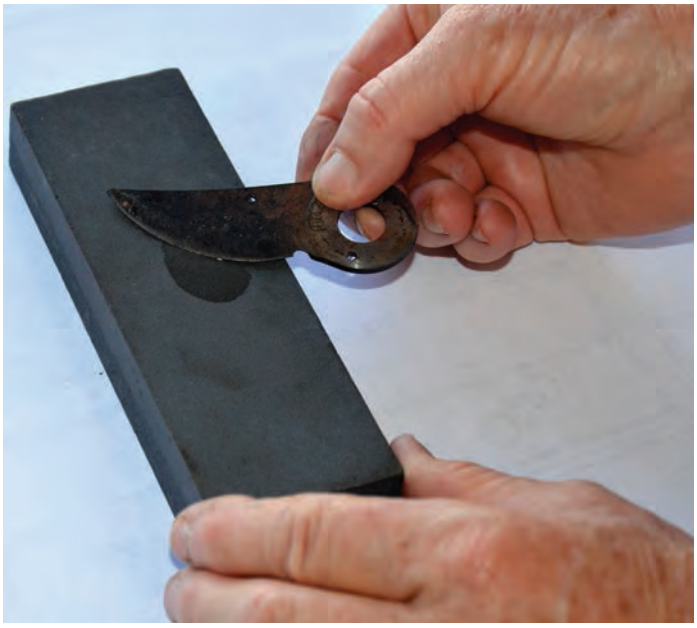

Figure 4: Lubricate constantly to prevent the pores in the whetstone from becoming clogged with metal shavings and to reduce heat from friction while sharpening.

Secure the tool in a vise or with clamps. Fasten the tool securely, positioning the tool horizontally with the front of the blade facing up. If a vise is not available, secure the tool with a firm-gloved hand while using the other gloved hand to hold the file. Movement makes it difficult to keep the correct angle with the file and can lead to injuries, so be careful. Consider enlisting a helper to hold the tool firmly in place.

Examine the blade. Is the blade edge almost completely flat, badly dinged up, or is it beveled on both sides? A spade or shovel should be beveled on the top of the blade only. This is the side that holds the soil when lifted up.

Grinding. An electric grinder is best for repairing a dull or damaged blade because it is faster and requires less manual labor. A medium-grit aluminum oxide wheel or a handheld angle grinder works well. Always wear hearing and eye protection when operating a grinder. The sparks coming off the grinder should fly toward the tool but may not always do so. Grinding leaves a rough edge that will need to be touched up with a flat-mill, bastard-cut file.

Hand filing. A hand file works as well but takes more time and elbow grease. A mill file, also known as a single-cut file, is recommended. To sharpen, hold the file with both hands. The file handle should be toward you and the flat edge against the edge of the spade or shovel at the same angle as the existing bevel. If filing a new tool or one with no remaining bevel, hold the file at an angle of 45-degrees in relation to the flat surface of the tool head.

Files have forward-facing teeth that remove a layer of material as they are pushed forward over the surface to be

filed. Never pull the file toward you as this bends the file teeth and can permanently damage the file. Push down while moving the file forward, using the whole length of the file. Use little to no pressure on the backstroke. Use straight, even strokes. Work from one side of the spade to the other, rather than going over the same spot multiple times. Hold the file slightly skewed so it almost moves sideways as you push it forward. Look for small pieces sticking out along the edge. These will need to be filed off to avoid cutting injury.

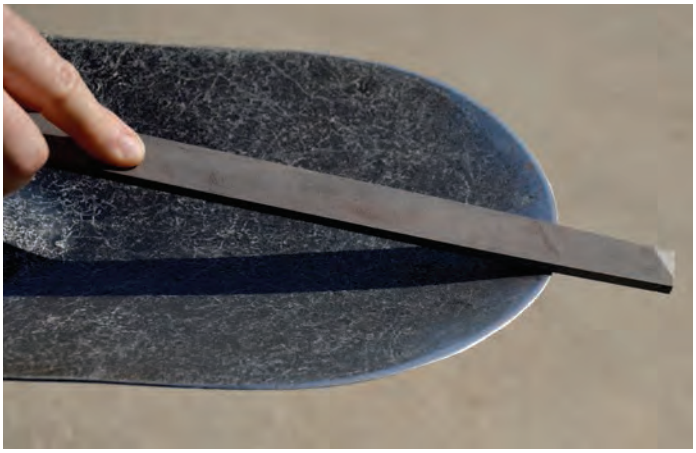

Figure 5: Bevel the front edge using a hand file or grinder.

Maintain the proper angle. The ideal cutting angle is sharp enough to cut easily through soil, sod, and roots. A steep angle is less sharp but gives a more durable edge than a low angle. As a general rule, try to have ¼ inch of new metal showing when finished sharpening the tool. If the tool has retained the original bevel, keep that same angle during filing.

Remove burrs. Keep filing until the edge is sharp and pieces spread evenly across the entire blade. Then flip the tool and carefully run a finger across the back edge of the blade. If you feel burrs, remove them by holding the file flush against the back of the blade. Be careful not to round the top edge you have just finished filing. Removing the burr usually takes only a few strokes with a fine file.

Lubricate. Apply a light layer of linseed oil or synthetic lubricant such as WD40, Tri-Flow, or Boeshield T-9 to the tool head. Cleaning and lubrication protects metal tools and slows further rusting even when tools are stored in a damp or unheated garden shed.

Caring for wooden handles

Wooden-handled tools require proper care to keep them smooth and to resist damage. During use, moisture works its way into the wood and can cause splitting and splintering. Get in the habit of washing away mud or other materials after each use and drying handles with a rag before storage. Before using a new tool, remove the varnish from the handle, sand lightly until smooth, and coat with linseed oil. A few times during the season, sand lightly again and wipe with boiled (not raw) linseed oil. This penetrates the wood and seals it in places where the varnish has worn away from use.

High-quality tools have a closed-socket or solid, shank-type construction to keep out dirt, debris, and moisture. Over time, the wooden handles of less expensive tools may shrink where the handle joins the head, which is also the main stress point. Low-quality tools have a two-piece head with a tang that fits into the hole of the handle that is sheathed in a metal casing, or ferrule. An open socket where the wooden handle meets the tool head allows in soil and moisture. This type of tool is more likely to shrink and loosen over time. The problem can be addressed by pouring a small amount of glycerin into the socket. Glycerin causes the wood to swell and does not evaporate. Chair-Loc is another product that can solve the problem of wood shrinking away from the tang. As the product soaks into the grain, wood fibers inside the joint swell, permanently locking the handle into the socket.

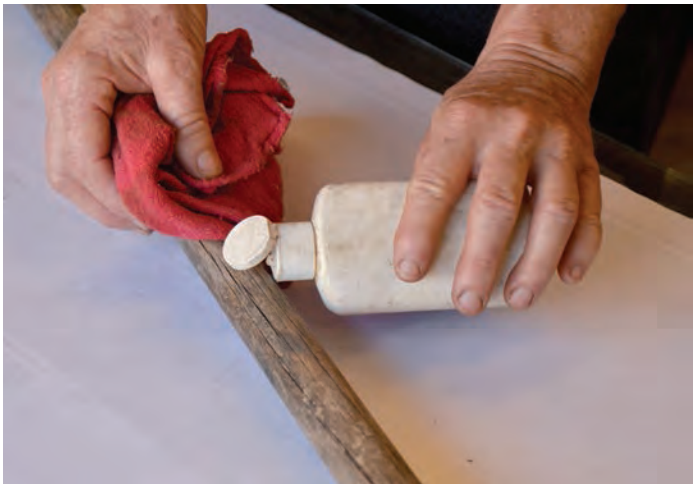

Figure 6: Oil wooden handles a couple times a year.

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