FISHER ~ AKA: FISHER CAT, PEKAN

Identifying characteristics: A small, weasel-like mammal (long body, short legs, long neck, triangular head, protruding ears, long whiskers) that tends to look stockier than other weasels due to its fluffy fur. They are medium to dark brown with either gold or silver hoariness around the top of the head and shoulders. The legs and tail are black. A cream-colored patch may be present on the neck or chest.

Size: From 30 to 45 inches in length (not including their tails, which make up 33% of their total length) and weighing up to 8 pounds. Males are roughly 20-40% larger than females. Habitat: Coniferous or deciduous forests with a closed canopy. Hollow trees are preferred dens and habitats with plenty of hollow trees are preferred. Fishers will also create dens in the snow for winter and connect them with tunnels.

Food: Carnivorous. Mice, porcupines, snowshoe hares, squirrels, birds and other small mammals. Sometimes found easting carrion. They will often invade their prey's burrows. The Fisher will often prey upon porcupine, attacking its face until it collapses from its wounds. It will then roll it over and chow down! A porcupine is more than enough food so it will cache some for later.

Vocalization: Various hisses, grunts and one distinct call that sounds like a child screaming.

Predators: Humans. The young are preyed upon by raptors, bobcats, coyotes, American Martens and other larger predacious mammals. Reproduction: Litter sizes average 3, with one litter every 1 year. Young stay with the mother for up to 5 months. Mating season is in late winter through early spring.

Other Info.: Solitary and nocturnal, but may be active during the day. Is a very good climber and is often found in trees. Decent swimmer.

Tracks

Fishers have 5 toes and claws and, like other weasels, their prints are paired when walking and the fore prints overlap slightly with the hind prints. Their prints are wide (2 inches) with a 30 inch stride. In the diagram above, light gray represents the slightly larger hind print.

Irregular track patterns are almost always present due to the animal's erratic foraging strategy.

DID YOU KNOW... 

- There is only one breed of domestic rabbit that changes color. It is the Champagne D’Argent. They are born black and change to a dull silver.
- The maximum speed of a domestic rabbit is about 35 mph.
- The only continent without reptiles or snakes is Antarctica.
- Most pig sows have two litters per year with 7 to 12 piglets in each farrowing (giving birth to piglets).
- The Aperea, the guinea pig’s nearest extant wild relative, is found at altitudes of up to 13,000 feet.
- A cat's whiskers are usually as wide as its body and as such, help them navigate through tight and narrow spaces. The average cat has 24 whiskers, 12 on each side.
- Americans spend almost $4 billion a year on cat food - more than they spend on baby food.
- Thirty-three percent of cat owners talk to their pets on the phone or through the answering machine.

Source: Creatures Corner News

WEED-SUPPRESSIVE GROUNDCOVERS

Butterfly Milkweed

What’s in a name? A groundcover is a perennial plant used en masse for its visual wallop and to crowd out weeds. Many are gorgeous perennials that gardeners have used in flower borders for years. Now we’re finding that some are top performers in the “tough sites” department too. Fewer weeds means less herbicide use. Good news for you ... and for the environment.

The plants listed here have been evaluated under different growing conditions for their ease of establishment, low maintenance characteristics and their ability to exclude weeds. Our initial screening tests took place in Ithaca (Finger Lakes region, zone 5) and Riverhead (eastern Long Island, zone 7), New York. Since then demonstration plots have been established across New York State. This brochure summarizes the growth characteristics for top rated groundcovers. All of these plants will perform well in full sun, and some are shade tolerant as well. If you are interested in native plants look for those that originate in North America. Nursery retailers can mark the plants in this guide that are available and suited to local conditions.

Continued on page 3
## Weed-Suppressive Groundcovers

<table>
<thead>
<tr>
<th></th>
<th>Moss Phlox</th>
<th>Butterfly Milkweed</th>
<th>Catmint</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Habit</strong></td>
<td>Mat forming</td>
<td>Sprawling</td>
<td>Upright and sprawling</td>
</tr>
<tr>
<td></td>
<td>4-6 inches high</td>
<td>12-24 inches high</td>
<td>18-24 inches high</td>
</tr>
<tr>
<td><strong>Zone</strong></td>
<td>Zones 3-9</td>
<td>Zones 3-9</td>
<td>Zones 3-8</td>
</tr>
<tr>
<td><strong>Origin</strong></td>
<td>North America</td>
<td>North America</td>
<td>Eurasia, Africa</td>
</tr>
<tr>
<td><strong>Aesthetics</strong></td>
<td>Profusion of early springs blue blooms, glossy evergreen foliage.</td>
<td>Dark green foliage. Bright orange flowers in summer are very attractive to butterflies. Interesting upright seed pods late in the season.</td>
<td>Green-grey foliage. Long lasting blue flowers in spring/summer.</td>
</tr>
<tr>
<td><strong>Culture</strong></td>
<td>Full sun. Tolerates drought and even a little salt. Grows best in well drained soil.</td>
<td>Full sun. Drought tolerant. Prune back spent stems in late winter or spring. New foliage emerges later than most</td>
<td>Full sun. Vigorous grower, allow room so it doesn’t crowd out neighboring plants.</td>
</tr>
</tbody>
</table>
### Autumn Goldenrod
**Solidago sphacelata**
- ‘Golden Fleece’

### Salvia
**Salvia nemorosa/S.sylvestris**
- ‘Blue Hill’

### Little Bluestem
**Schizachyrium scoparium**
- ‘The Blues’

<table>
<thead>
<tr>
<th>Habit</th>
<th>Upright 18 inches high</th>
<th>Clump forming 18-24 inches high</th>
<th>Clump forming 20-40 inches high</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zones</td>
<td>Zones 2-8</td>
<td>Zones 4-8</td>
<td>Zones 5-9</td>
</tr>
<tr>
<td>Origin</td>
<td>North America</td>
<td>Europe</td>
<td>North America</td>
</tr>
<tr>
<td>Aesthetics</td>
<td>Broad dark green foliage with late summer display of yellow blooms.</td>
<td>Blue flowers late spring through early fall attractive to pollinators and hummingbirds</td>
<td>Tall, slender blue-green leaves turn to golden bronze in fall. Looks best planted in large groups. Free to bend and sway, proved a prairie look</td>
</tr>
<tr>
<td>Culture</td>
<td>Full sun. Removing spent flower stalks in the spring gives the plant a more refined look.</td>
<td>Full sun. Cut back after first bloom to encourage vigorous re-bloom.</td>
<td>Full sun. Remove last year’s foliage by cutting to ground in late winter/early spring.</td>
</tr>
<tr>
<td>Habit</td>
<td>North America</td>
<td>North America</td>
<td>Asia</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------</td>
<td>---------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Zone</td>
<td>Zones 3-9</td>
<td>Zones 3-9</td>
<td>Zones 3-8</td>
</tr>
<tr>
<td>Origin</td>
<td>North America</td>
<td>North America</td>
<td>Asia</td>
</tr>
<tr>
<td>Habit</td>
<td>Clump forming</td>
<td>Low, dense mound</td>
<td>Creeping</td>
</tr>
<tr>
<td></td>
<td>24-28 inches high</td>
<td>3-6 inches high</td>
<td>3-6 inches high</td>
</tr>
<tr>
<td>Aesthetics</td>
<td>Graceful fine textured grass. In late summer tall lightly fragrant flowers/ seed heads are produced. Foliage fades golden to bronze in fall/winter.</td>
<td>Mounding dark green foliage covered with white flowers in September.</td>
<td>Low growing with small, fleshy, evergreen leaves and pink flowers in late summer and early fall.</td>
</tr>
<tr>
<td></td>
<td>Blue Wood Sedge</td>
<td>Leadwort</td>
<td>Liriope</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------</td>
<td>----------</td>
<td>---------</td>
</tr>
<tr>
<td><strong>Carex flaccosperma</strong></td>
<td>Clump forming</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6-12 inches high</td>
<td>Mat forming</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8-12 inches high</td>
<td>8-12 inches high</td>
<td>Clump forming</td>
</tr>
<tr>
<td><strong>Ceratostigma plumbaginoides</strong></td>
<td>Zones 5-8</td>
<td>Zones 5-9</td>
<td>Zones 4-10</td>
</tr>
<tr>
<td><strong>Liriope spicata</strong></td>
<td>North America</td>
<td>Asia</td>
<td>Asia</td>
</tr>
<tr>
<td><strong>Habit</strong></td>
<td>Blue-green wide bladed grass-like foliage. Interesting slender seed heads from in the spring.</td>
<td>Lime-green foliage with tinges of red. Clear blue star-shaped flowers with red seedheads, summer to fall.</td>
<td>Dark green grass-like evergreen foliage, summer flower spikes in shades from light purple to violet.</td>
</tr>
<tr>
<td><strong>Zone</strong></td>
<td>Partial shade to shade. Benefits from cutting back in late winter.</td>
<td>Full sun to partial shade. Grows best in dry soils. Vigorous grower, may spread in garden bed.</td>
<td>Full sun to partial shade. Can benefit from spring shearing if foliage becomes winter damaged.</td>
</tr>
<tr>
<td><strong>Aesthetics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Culture</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Lady’s Mantle
*Alchemilla mollis*

- **Habit**: Clump forming, 12-18 inches high
- **Zone**: Zones 4-7
- **Origin**: Asia
- **Aesthetics**: Large round light green-gray leaves sparkle when holding moisture droplets. Sprays of small yellow-green flowers.
- **Culture**: Full sun to partial shade. Likes moist soil.

### Coral Bells
*Heuchera americana*—‘Chocolate Veil’

- **Habit**: Clump forming, 18-24 inches high
- **Zone**: Zones 4-9
- **Origin**: North America
- **Aesthetics**: Deep maroon foliage, small delicate pink flowers on tall flower spikes.
- **Culture**: Full sun to partial shade. Evergreen in mild winter. Prune out damaged foliage in spring.

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### Getting plants established

Once established, these plants are tough and weed suppressive, but need some care when you put them in the ground.

**To ensure good establishment**

START CLEAN

Plant only on a site that is free of weeds. If there are perennial weeds with fleshy roots, take time to complete kill or remove them before going any further. These plants can suppress weed that germinate from seeds, but may not able to compete with weeds sprouting from root pieces.

- **ADD COMPOST**
  - To loosen a heavy soil or help a sandy soil hold onto water and nutrients, till in organic matter-comp is best.

- **MULCH**
  - About 3 inches of shredded bark mulch works wonders to keep weeds out while plants are young. Find mulch at your garden center.

- **WATER**
  - Soak well at planting and keep soil moist until they’re established.

- **HAND WEED**
  - Keep the weeds out while groundcovers are filling in! Don’t expect them to work miracles—your plants need to become well established before they can stand up to weeds. Plan to hand weed once or twice during the first year. Once established, your plants should require little weeding.

The groundcovers that have late season flowers like autumn goldenrod will benefit from a late fall, winter or early spring shearing to remove the spent seed heads and damaged foliage.

To discourage weed encroachment, apply mulch to plot margins.

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**Source:**
http://nysipm.cornell.edu/nursery_ghouse/weed_supp_grcovers.asp
Felling trees is serious business. It is a skill that requires much practice. This text covers the basics, but by itself it will not provide the knowledge to do the job. Have an experienced person show you how to fell a tree; practice under his or her watchful eye. Be sure to wear a hard hat to protect you head from falling wood. There are plenty of woodworkers who proudly wear dented hard hats. They know that without their hat, they would either be permanently disabled or dead as a result of their close call.

Several things must be kept in mind when felling trees:

1. Assume nothing. Each tree is different. Anything from a difference in grain in the branches to a difference in the health of the tree could make it fall differently from another tree.

2. Trees can kill. Look up before you start to cut, and plan both the path of the tree fall and your escape route from the tree as it starts to go over. Your escape route should be about 130 degrees in a counterclockwise direction from the direction of the tree fall. Leave the tree as it begins to fall; it can split and jump 10 to 15 feet straight back off the stump.

3. Check the top of the tree for widowmakers - dead wood hung up in the tree - and for branches that may break off the tree as it falls. Be sure to wear your hard hat to deflect widowmakers if they fall on you.

4. Make sure other people are at a safe distance - at least 2½ times the height of the tree.

Once you have selected a tree, you must determine in which direction you want the tree to fall. This step is an important one, so take your time. A small tree can be dropped in any convenient direction. Ideally, you want the tree to fall in an area where it will not damage a promising young tree, where it will not get hung up in the top of another tree, or where you can conveniently cut it into lengths and transport it out of the woods. If the tree is large, you may have little choice of direction; however, with experience and edges you can sometimes change this direction by as much as 30 degrees. Trees with a lean should generally be felled toward the side with the branches. In both these cases, if you fell the trees in any other direction, you will have to make allowances to overcome the effects of gravity. As an inexperienced operator, you should attempt to fell trees only when it is highly certain which way the tree will fall.

If you are on a steep slope, you must take special care when felling straight uphill or downhill. When the tree hits the ground, the butt end could bounce and take an unexpected flip. the consequences could be disastrous. Be sure to quickly move uphill and well away from the falling tree. The best place to drop the tree is diagonally across the slope. Avoid felling a tree on an obstacle, such as a log or a rock, that can cause the tree to thrash around in unpredictable ways. Do not fell trees on windy days; the wind can deflect the tree from its intended line of fall and cause it to fall in an unexpected direction.

A tree is felled by making a series of cuts. The object is to leave a hinge of uncut wood in the tree. This hinge controls the line of fall, and depending upon how you shape it, enables you to aim the tree. After determining where best to fell the tree, the first cutting step is to make a notch or undercut on the side toward which it is to fall. First, make a horizontal cut at a right angle to the line of fall to a depth of one-third the diameter of the tree.
To complete the notch, make another cut a few inches above the first cut angled down about 45 degrees to meet the back edge of the undercut. The back of the resultant notch should be at a right angle to the fall line.

The direction of fall can be tested by placing an axe in the cut and sighting down the handle. It may be difficult at first to get the back edges of the two cuts to meet, but it is better to undershoot than to overshoot. By making the lower cut first, you prevent the chain from binding and being pinched by the wedge of wood from the top cut.

The backcut is the final cut and is made on the opposite side of the tree from the notch. It should be about 1 inch higher than the horizontal cut of the notch and parallel to it. Do not saw all the way through to the undercut. Leave an inch or two of uncut wood to form the hinge. If you cut through the hinge, the tree could fall in any direction. It takes practice to place the backcut correctly. Don’t make the cut too low. If the cut is too high, it will probably fall generally where you want it to. If the cut is too low, however the tree may fall over backwards (fig. 16).

Keep the guide bar of the chain saw in the middle of the cut so the cutters returning in the top groove do not recut the wood. Don’t twist the guide bar in the groove. Guide the saw into the tree - don’t force it. The rate of feed will depend on the size and type of timber.

Remove the saw from the cut and turn it off before the tree falls. The tree will begin to fall as the felling cut approaches the hinge fibers. Move to a safe spot away from the stump and look up for falling branches.

Before starting a cut that will require a long running period, it is a wise idea to check the fuel supply. Also, if you are tiring and the saw has not progressed to a near fall, remove the saw, shut it off, and rest until you are able to proceed with confidence. If there is any rotten wood in the tree base, it will not hold a hinge. To be safe, make the undercut well above the rot.

Wedges

Although not absolutely essential, wedges come in handy for preventing or freeing a bound saw and for helping direct a tree along the desired line of fall. Use only wooden, aluminum, magnesium, or plastic wedges - not steel or iron - to prevent the wedge from damaging the chain and guide bar if they should come into contact.

To prevent your saw from getting stuck in the cut, place a wedge into the backcut as soon as there is room for it. Using a sledge, a mallet, or a stick cut for the purpose tap the wedge until it is firmly in place. It should be pointed in the desired direction of fall. As you cut, periodically tap the wedge in further. Strike the wedge squarely with firm but not excessive blows.

Careless blows may cause the wedge to pop out. For larger tree, you may need to use two or more wedges.

Figure 16. Leave an inch or two of uncut wood between the notch and backcut to form the hinge. The hinge controls the line of fall.
If the tree does not fall after the backcut is completed, remove the saw and drive the wedge in further until the tree begins to fall. An inexperienced woodsworker is wise to use wedges. They can give you more control over the tree and prevent problems with saw binding (fig. 17).

*Figure 17. Using a wedge to keep the saw from getting stuck.*

A tree that leans heavily in the direction it is being felled is not the ideal tree. It tends to fall prematurely. As it falls, it puts stress on the back of the hinge, but because the grain of the tree is weaker than the hinge, the tree splits up the stem along the grain. To avoid this, make a cut in each side of the hinge after making the notch but before making the backcut. The depth of each of these cuts should be 1-2 inches deep for a tree of about 10 inches in diameter. Make the cuts at a 30 degree angle to the undercut. (fig.) 18.

*Figure 18. The proper way to cut a tree that is leaning heavily in the correct direction. A cut made in each side on the hinge will prevent the tree from splitting along the grain.*

Again, if at all possible, plan to fell the tree in the direction that gravity is likely to pull it - that is, toward the direction it is leaning or toward the side with heavy branches. If you have no other choice and the tree is leaning slightly in the wrong direction, you may be able to overcome the lean by “holding a corner”. Do not attempt this on your own; have an experienced person show you first. To hold a corner, you saw closer to the undercut on the side of the lean than you do on the side opposite the lean. The thicker side of the hinge holds the tree longer and pulls it to that side when it falls. As an extra precaution, you should drive wedges into the side of the backcut that the tree leans toward. The tree that leans heavily in the wrong direction should be left standing in the woods. A well balanced tree may have to be wedged, pulled, or pushed in the desired fall direction.

The manipulation of fall control comes with experience. Approach complex falls with extreme caution. Do not neglect wind effects. Always keep the felling direction as simple as possible and avoid working on windy days. Once in a while you will end up with your tree lodged in the crown of another; it happens to even the most experienced loggers.

*Continued on page 11*
First, cut the tree the rest of the way off its stump if it hasn't completely fallen off. Be careful, though; the tree may spring back at you. If this does not do the job, you may be able to use a peavey to rock the tree free, if it is small. Jam the peavey between the ground and the end of the tree. Push up and back away from the holding tree, and the tree may slide backwards and come free.

A tractor or winch may be necessary to pull out a more difficult tree. If the tree still won't come free, cut chunks off the end of the hung up tree. Make the first cut 3 or 4 feet up from the butt, but to avoid pinching the saw, cut only a couple of inches into the top side and complete the cut from the underside. Keep your feet out of the way of the falling chunk. Continue successive cuts until the tree either falls out or until it is too high to cut safely. Never use a chain saw at a level above your shoulders because you do not have enough control over it. If all else fails, leave the tree. Do not cut the standing tree or climb either tree - it is too dangerous. Remember, you should not attempt to free a hung-up tree until you have enough skill and experience to feel comfortable with the saw and with felling trees. Watch an experienced person first before you attempt new maneuvers.

Whenever you are working in the woods, it is a good idea not to work alone. More than one person has been injured and has succumbed to exposure because no one was there to get help. Make sure someone know where you are when you expect to be back.

Source: Wanda Richberger and Ronald A. Howard, Jr., 4-H Leader’s Guide, New York State College of Agriculture and Life Sciences, A statutory College of the a State University, at Cornell University

**CENTRAL NEW YORK FARM PROGRESS SHOW**

MARK YOUR CALENDAR!!!

September 10 & 11, 2008

10:00 am to 4 pm

Len-Lo Farms in Mohawk, NY
Leonard and Lois Gilbert - Darrel and Jill Gilbert

*Plowing and Secondary Tillage
* New Equipment
*Field Demonstrations
*Forage Harvesting
*Food and Refreshments

Be sure to stop by the Cornell Cooperative Extension exhibit in the main tent.
Hope to see you there!
A myth perpetuated during World War II is that pilots were fed excessive amounts of high carotene carrots to help them see in the dark and, therefore, spot Nazi airplanes quicker.

Facts:
- The First radar system was produced in 1935 by Sir Robert Watson-Watt.
- By 1939, the UK had radar stations all round its south coast.
- In 1940, John Cunningham was the first pilot to down an enemy using radar.
- To cover-up the use of radar from the Germans, pilots were praised for being able to see in the dark through a “secret” diet.
- The government said it was because they ate carrots, rich in Vitamin A.

In 1940, experiments with high carotene varieties were conducted to reduce night blindness in World War II pilots. These high carotene roots were very dry. Due to the advent of synthetically manufactured carotene, cultivation of these varieties ceased in 1947.

During World War II, Britain’s Air Ministry spread the word that a diet of carrots helped pilots see Nazi bombers attacking at night. That was a lie intended to cover the real matter of what was underpinning the Royal Air Force’s successes: the latest, highly efficient on-board, airborne interception radar, also known as AI. The secret new system pinpointed some enemy bombers before they reached the English Channel.

When the Luftwaffe’s bombing assault switched to night raids after the unsuccessful daylight campaign, British intelligence didn’t want the Germans to find out about the superior new technology helping protect the Nation, so they created a rumor to afford a somewhat plausible-sounding explanation for the sudden increase in bombers being shot down. British intelligence instigated news in the British press about extraordinary personnel manning the defenses, including Flight Lieutenant John Cunningham, an RAF fighter pilot dubbed “Cats Eyes, “ on the basis of his exceptional night vision that allowed him to spot his prey in the dark. In fact, during World War II he was the RAF’s top-scoring night fighter pilot, with a total of 20 kills. Cunningham’s abilities were chalked up to his love of carrots.

The Royal Air force bragged that the great accuracy of British fighter pilots at night was a result of them being fed enormous quantities of carrots, and the Germans bought it because their folk wisdom included the same myth.

But this story invented by the RAF to hide their use of radar, which was what really located the Luftwaffe bombers at night, not human carrot-assisted super-vision. The disinformation was so persuasive that many of the English public began growing and eating more carrots so they could find their way at night during the blackouts that were compulsory during the blackouts that were compulsory during the war.

Source: The information written are all courtesy of John Stolarczyk of the World Carrot Museum. For the complete text and more, go to www.carrotmuseum.com

**Septic System Owner’s Guide**

**Use and Operation** - The effectiveness of a septic system in treating sewage depends on how the homeowner uses and operates the system. Water-use habits, fixtures and appliances, product selection, and septic additives and cleaners all affect how well a septic system works. The septic system operates every time sewage enters the system.

**Water Use** - The total amount of water and the pattern of water use affect how well the septic system works. For complete and uniform treatment of wastes, the system needs time to work. The ideal situation would be to have sewage enter the system as evenly as possible throughout.

Continued on page 13
the day and week. Every time water is used, sewage enters the septic tank and an equal amount of water leaves the tank for the soil treatment unit. Large volumes of water entering the septic tank in a short period of time may agitate and resuspend sludge and scum into the liquid contents. If this happens, suspended solids are carried into the soil treatment system, clogging soil pores and preventing adequate treatment.

Excessive water use, or clean water allowed into the system, puts an unnecessary load on the septic system. In most households, toilet flushing is the largest user of water, followed by bathing, laundry, and dishwashing. Allowing faucets to drip and fixtures to leak and using running water to wash and rinse dishes, shave, and brush teeth are wasteful water habits. Systems can also be overloaded with water from high efficiency furnaces and recharge water from water softeners, water purification device, and iron filters. One of the best ways to reduce the amount of water the septic system must treat is to replace old water-using appliances. If a major remodeling is planned, regulations may require a conversion to low water use appliances. Whether remodeling or not, consumers may choose low-flow showerheads, hand-held showers with pause control, and temperature control valves to reduce water use, save energy, and save money. The way appliances are used affects how much water passes through the septic system, as shown in the chart on page 14.

Improving Septic System Performance: Room by Room - By controlling water use, selecting appropriate products, and making wise disposal decisions, the homeowner can improve performance of the septic system and avoid major problems!

A typical person uses from 45 to 100 gallons of water per day. About 60 percent of that water is used in the bathroom. Reducing water use conserves water resources and helps the septic system. In the course of daily living, many materials used in the home enter the sewage system for disposal and treatment. Some are obvious and others much less obvious.

Starters: A starter is not needed to get the bacterial action going in the septic tank. There are naturally occurring bacteria present in sewage.

Feeders: It is not necessary to “feed” the system additional bacteria, yeast preparations, or other home remedies. There are millions of bacteria and plenty of food for them entering the system in normal sewage. If the bacterial activity level is low, figure out what is killing them (for example, household cleaners) and correct it. High levels of activity will return after the correction.

Cleaners: Additives effective in removing solids from the septic tank will probably damage the soil treatment system. Some additives may suspend the solids that would normally float to the top or settle to the bottom of the tank in the liquid. This allows them to be carried into the soil treatment system, where they clog pipes and soil pores leading to partial or complete failure of the system.

Other Additives: Additives, particularly degreasers, may contain carcinogens (cancer-causing agents) that flow directly into the ground water along with the treated sewage.

Many state regulations ban the use of septic system additives that contain hazardous materials. In addition, they specify that additives must not be used as a means of replacing or reducing the frequency of proper maintenance and removal of scum and sludge from the septic tank. EPA or USDA approval statements on labels only mean that the product contains no hazardous material. It does not mean the product is effective at what it claims to do.
### Typical Ranges of Water Used (in gallons)

<table>
<thead>
<tr>
<th>Action</th>
<th>Typical Use</th>
<th>Conservative Use</th>
<th>Ultra-Conservative Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toilet-Flushing</td>
<td>6 (old standard)</td>
<td>1.5-3 (low-flow)</td>
<td>Composting/incinerating toilet</td>
</tr>
<tr>
<td>Tub bath</td>
<td>30+ (1/2 filled)</td>
<td>15 (1/4 filled)</td>
<td>Sponge bath</td>
</tr>
<tr>
<td>10 min</td>
<td>50 (5 gal/min)</td>
<td>25 (2.5 gal/min)</td>
<td></td>
</tr>
<tr>
<td>3 min</td>
<td>15 (5 gal/min)</td>
<td>7.5 (2.5 gal/min)</td>
<td></td>
</tr>
<tr>
<td>Shower</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top Loading</td>
<td>50-50 (older models)</td>
<td>20-40 (newer models)</td>
<td>Laundromat</td>
</tr>
<tr>
<td>Front Loading</td>
<td>33 (older models)</td>
<td>17-28 (newer models)</td>
<td>Laundromat</td>
</tr>
<tr>
<td>(water/suds-saver reuses most of the “wash fill&quot; for the 2nd load)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laundry - Full Load</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machine</td>
<td>12-15 (old-reg cycle)</td>
<td>6-9 (new-reg cycle)</td>
<td></td>
</tr>
<tr>
<td>Hand</td>
<td>16 (faucet rinse)</td>
<td>6 (basin rinse)</td>
<td></td>
</tr>
<tr>
<td>(water purification device, pre-rinsing before loading adds 3-5 gal.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dishwashing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teeth-brushing</td>
<td>2 (faucet running)</td>
<td>1/8 (wet brush, brief rinse)</td>
<td></td>
</tr>
<tr>
<td>Hand-washing</td>
<td>2 (faucet running)</td>
<td>1 (basin; brief rinse)</td>
<td></td>
</tr>
<tr>
<td>Shaving</td>
<td>3-5 (faucet running)</td>
<td>1 (basin; brief rinse)</td>
<td></td>
</tr>
</tbody>
</table>

### Apple Tips & Trivia

- **Winter Bananas** originated in 1876 in Cass County, Indiana.
- Rub cut apples with lemon juice to keep slice and wedges creamy white for hours.
- Store apples in a plastic bag in the refrigerator away from strong-odored foods such as cabbage or onions to prevent flavor transfer.
- Apples are the second most important of all fruits sold in the supermarket, ranking next to bananas.
- Tens of thousands of varieties of apples are grown worldwide.
- The history of apple consumption dates from Stone Age cultivation in areas we now know as Austria and Switzerland.
- In ancient Greece, tossing an apple to a girl was a traditional proposal of marriage; catching it was acceptance.
- Folk hero Johnny Appleseed (John Chapman) did indeed spread the cultivation of apples in the United States. He knew enough about apples, however, so that he did not distribute seeds, because apples do not grow true from seeds. Instead, he established nurseries in Pennsylvania and Ohio.
- Three medium apples weigh approximately one pound.
- One pound of apples, cored and sliced, measures about 4½ cups.
- Purchase about 2 pounds of whole apples for a 9-inch pie.
- One large apple, cored and processed through a food grinder or processor, makes about 1 cup of ground apple.

*Source: Unknown*
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