

Owners Manual

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Watering Landscape Plant Materials

Over the years we have found that most plant material dies from improper watering. This can be caused by too much or too little water. The best way to test if your plant materials are getting just the right amount is through proper amending of soil, programming your irrigation system based on the time of year or weather patterns and to test the soil at least 6" below the base of the plant. In the hot months (June-August) your plants may need more water than in the cooler months (Sept.-October). As always it is best to discuss your landscape specific needs with your landscape designer or contractor.

New Plants – Drip Systems

- Drip System- For the first 2-4 weeks you will need to have your drip system set to 20-30 everyday, preferably in the morning hours.
- After plant material seems to be integrating into the soil (after 3-4 weeks) you can take down the watering to every other day for 20-30 min.
- After plant material matures (after one year) the drip can most likely run every third day for 30 min. or twice a day at 15 min. Due to Colorado's changing weather please note that the above schedule is generalized and does not apply to every landscape. In the warmer months plants may need supplemental watering and in the cooler months you may not have to water as often.

Pop-Ups

Planting beds that use pop-up irrigation heads output more water than a drip system over the same amount of time. Depending on the size of your planting bed over head spraying times will vary. On average anywhere from 5-10 min. twice a day, every other day during the hot months and every third day in the cooler months is usually adequate.

Sod Areas

Sod requires more water during the summer season than plant material does. If trees are planted in a grass area, no additional irrigation should be required. Trees will get too much water if it has two types of irrigation. Sod should only be watered three times per week once established. Most developments, cities or county's have their own guidelines for a watering schedule that should be followed by the homeowner. New sod does need to be watered more for the first month, where a permit is usually required. A schedule for watering new sod is to follow in the manual.

Late Fall & Winter Watering

For the months that your sprinkler system is turned off, the most important thing to do for your new landscape is to WINTER WATER. During the months of October-March, on a sunny day (40 degrees or above) take your hose to your trees, shrubs and perennials. Let the hose drip on a slow trickle, water each tree for 10-15 minutes, each shrub for 5 minutes and each perennial for 3-5 minutes. This will help promote the root growth of your plants and success of newly or transplanted material. Winter watering should be done up to 2 times per month, especially if it is a dry winter.

Fertilizing Landscape Plant Materials:

Trees and shrubs can be fertilized anytime between March and July. A slow release fertilizer is best for trees and shrubs. A slow release fertilizer is applied only once per year and usually comes in a granular form. Products such as miracle grow tree and shrub work well also.

Perennials and annuals can be fertilized once with a slow release fertilizer, such as Osmocote, or a few times per growing season with Miracle Grow hose-end fertilizer.

Most fertilizers work well for what they are specified for. As always **READ THE LABEL** of any chemical/fertilizing product, as each product has different application rates and conditions in which to apply to the plant material.

Trees

Staking

Newly planted trees should be staked for two years. Staking helps prevent the root ball from shifting away from the trunk that can cause damage or death to a tree. Trees should be staked for two years after planting. In high wind areas the stakes may stay on longer depending on trunk vs. root ball size. After a tree has been staked for one year it is good to check the straps that wrap around the trunk. If the straps are becoming too small and digging into the trunk, the straps should be removed immediately. If the straps are left on, this can cause girdling of the trunk which can cause major damage to the tree.

It is a good idea to periodically inspect the stakes and straps to ensure they are anchored properly without being too tight. Check also that the straps are not retaining excess moisture or providing a hiding place for insects or disease.

Pruning

It is sometimes necessary to prune trees for several reasons. If you are unsure how to prune, we advise contacting a certified arborist. Some of the common reasons to prune trees are as follows:

Broken Branches should be pruned as soon as possible. Broken branches are an ideal place for insects and diseases to infect the tree.

Diseased Portions of the tree should also be removed as soon as possible. They are typically seen as discolored areas of bark, distorted growth habit, swollen areas of bark or excessive oozing of sap. The pruning cut should be made below the affected area and your pruners should be disinfected after each cut to avoid spreading the disease. If you do think that your tree is diseased it is best to contact Landscape Connection or your local certified arborist.

Suckers should be removed from trees to redirect energy to the desirable portions of the plant. Trees such as Aspen, Chokecherries, Willow etc. are water loving plants and tend to sucker. Do not apply herbicides to tree suckers as they are directly connected to the host plant and may result in killing the tree. There is no great cure for tree suckers, only trees that tend not to sucker.

Crossing branches, Weak branch crotches and thinning is done for aesthetic and structural purposes. Unless the homeowner is properly trained in tree trimming, it is recommended to have a certified arborist perform the above pruning techniques.

DO NOT use pruning sealers or paints to cover wounds of a tree. Trees will naturally heal themselves. If pruning properly the cut should be made above the “collar” of the branch, this is a swollen area at the base of the branch. If the cut is made below the collar the tree’s ability to heal itself will be impaired.

Root Aeration

Root aeration for trees and lawn areas should be done in early spring. Aerating trees and lawn help add oxygen into the soil to allow the roots to breathe. Colorado soils tend to be clay and compaction can occur with more water. Even if the soil has been amended the organic matter eventually decomposes and the clay will build back up.

Aerating a lawn can be done with an aerator and most lawn companies offer the service. Tree aeration can be done with a pitchfork or similar tool to poke holes into the root ball. The aeration holes should go no deeper than 6-12”, since most of the roots are in the top 6” of the soil.

Tree Wrapping

Wrapping is recommended for soft or smooth barked trees such as Lindens, Maples and Locusts after the leaves have dropped in the fall. This is to prevent sunscald.

Using a tree wrap product start at the bottom of the trunk and wrap the tree up to the first set of branches, allowing for overlap as you wind your way up the trunk. Secure with duct, electrical tape or panty hose to prevent the tree wrap from unwinding. Do not use rubber bands or wire.

Be sure to remove the tree wrap in the early spring when buds start to appear – roughly late March/early April.

Rule of thumb “Wrap on at Thanksgiving, Wrap off at Easter”.

PRUNING

Trees

Trees should be inspected structural pruning after the first two years of growth. A lot of trees will have breakage due to snow loads, heavy winds, human interaction or other occurrences. Having your trees pruned every 1-2 years will improve the strength and health of your tree.

Shrubs

Pruning and trimming shrubs on an annual basis is important to maintain healthy, full and vigorous plants. The best time to prune flowering shrubs is immediately after flowering "Prune after Bloom". This is so you do not prune off new buds for the upcoming season. Pruning non-flowering shrubs is best to be done in the spring time before or during budding. It should be apparent what new growth vs. dead growth there is.

Shearing of plant material is not recommended for healthy growth of plant material. Shearing tends to tear the stems instead of actually making a clean cut. This can leave a plant to send out unwanted shoots due to plant stress. Shearing can also lend room for disease and insects. It is recommended that pruning should be done by an expert to avoid potential problems.

Other Plants

Ornamental grasses can be fertilized in spring-early summer. In most cases miracle grow or any garden fertilizer that can be applied once per year is sufficient. Every spring ornamental grasses should be pruned 6" above the ground. Grasses send up new growth every year, if grasses are not pruned back the old growth will stay and the plant will not thrive.

Perennial plants should be pruned or cleaned up in the spring or fall seasons. This is the removing of the dead flower heads, leaves and branches that are unwanted. All perennials come back from the base of the plant so to give your plant a "haircut" is welcomed.

Fall Cleanup

It is very important to clean up your landscape at the end of the growing season to remove debris and leaves from bed and turf areas. Aside from harboring diseases and insects this debris can also promote the growth of detrimental molds and fungi.

Fall is also a good time to clean out your vegetable and annuals beds. This will be helpful for the upcoming season. You can prep your beds in the fall or spring.

It is also an ideal time to add wood mulch products to planting beds to help conserve moisture and to incubate dormant plants.

Wildflower and Native Seeded Areas

Newly seeded areas require moist conditions to allow the seed to germinate. Seeding should only be done in the spring and fall when the temperatures are cooler and moisture is more abundant. If seed is set before a frost it is best to water new seed everyday for twice a day to keep the seed moist, allowing it to germinate.

Seeding takes 2-4 years to get a full re-vegetated look. Each seed produces a 6" clump grass that over time will fill in. In most cases it is best to re-seed the second and possibly third year to help fill in areas where seed could have blown away or not germinated.

Fertilizing your native areas can be done however is usually not necessary. Native seeding and wildflower seeding is to resemble nature and no one fertilized nature.

Herbicides must be used carefully and strategically. Many wildflowers look like weeds and with out proper knowledge you may get rid of all of your flowers and not your weeds. Pulling large weeds that are common in wildflower mixes for the first few years is best.

Mowing your wildflower and seeded areas at least once every year in late summer- fall to redistribute the seed heads will help thicken the planting. Mowing more often may be required depending upon specific characteristics of the mix used on your property.

Flagstone, Concrete and Hardscapes

Caring for your flagstone, concrete or other hardscape surfaces is important in Colorado. When the seasons change and the temperatures go from 30 degrees to 70 degrees the next day is hard on natural stone. Temperature changes along with snow, sun, chemicals etc. can take a toll on your hardscape materials.

Sealing is recommended for flagstone and concrete patios, walkways and other surfaces once every 1-2 years. Pavers and Siloam do not need a sealer. Flagstone and Siloam are natural stone that will tend to flake layers with our expandable weather. To help minimize flaking it is best to start with a flagstone such as Colorado or Rose that tends not to flake as much, shovel snow off asap and to seal the hardscape area.

Patterned concrete needs to be sealed every year to maintain the color and integrity of the concrete.

Water Features

Periodic maintenance of your water feature is important. On a weekly basis it is best to peak on your water feature to make sure it is performing at its best. Some of the items to check and take care of are:

- Clearing debris from basins, drains and skimmers
- Skim the surface of the water feature of trash and debris.
- Check water levels and proper flow of water.

Listen for a gurgling sound that could be a pump malfunction or low water.

This will keep the water clean and prevent clogging and overheated water pump.

If your water feature comes with a bromine feeder, check the feeder every couple of weeks and add bromine tablets, if required.

- If the water in your feature is green increase the amount of bromine in the feeder

If the water is frothy or sudsy decrease the amount of bromine in the feeder

At certain times of the year, such as when it is windy, or in the fall when leaves are dropping, you should inspect your drains and baskets more often and clean them out as required.

If you plan on draining your water feature and shutting it down during the winter make sure you know how or contact the Landscape Connection for service before starting in order to minimize potential damage. While each water feature may have similar components, each feature is unique and may require special consideration.

New Sod

Above Ground Watering Systems

Your sod will require more water than any other plants in your landscape. When your sod is first installed it will need to remain moist at all times until the roots have become established in the soil. Watering to the point of runoff is required for a couple of weeks until the sod roots in. The following are intended as guidelines, as each property has its own unique characteristics and may be treated differently as required.

NEW SOD:

First Two Weeks: Everyday

<u>3 times per day:</u>	<u>Pop-Up Heads</u>	<u>Rotor Heads</u>
6:00 A.M.	7 Minutes	10-15 Minutes
12:00 P.M.	7 Minutes	10-15 Minutes
6:00 P.M.	7 Minutes	10-15 Minutes

After Two Weeks (Once Sod Established): Every Third Day

<u>2 times per day:</u>	<u>Pop-Up Heads</u>	<u>Rotor Heads</u>
6:00 A.M.	10 Minutes	15-18 Minutes
6:00 P.M.	10 Minutes	15-18 Minutes

Watering times may vary depending on the unique characteristics of your landscape such as exposure, slope, drainage, etc.

Sub-Surface Irrigation Systems

With this system you will see significant water savings versus a traditional pop-up system. A sub-surface irrigation system is designed to water plants and sod directly at the root zone. This design prevents water evaporation from topographical watering. This also reduces run-off due to over watering. We recommend you operate the system in several short watering cycles to allow maximum saturation. We have outlines some simple programming guidelines to help you achieve a lush, beautiful landscape and save water at the same time.

Spring/Fall Watering	Summer Watering
3-4 start time	5-8 start times
2-5 days per week	5-7 days per week
4-8 minutes per zone	4-8 minutes per zone

Some considerations to watering: Maturity of Landscape, Topography, Sun Exposure, Soil Conditions.

Mowing

You should plan on your first mowing to occur approximately 2 to 3 weeks after installation or when the sod has taken root. Set your mower to the highest setting and be prepared to make several cuts and remove the grass clippings.

You should plan on mowing at least once per week, gradually dropping the mower blade height to between 2 to 3 inches high. It is recommended that you should not remove more than 1/3 of the height of your sod at any one mowing.

Many times when the grass is tall and more than a third is removed, or after the first cut, the grass will appear lighter and bleached. This is normal and it should green up after a few days with increased exposure to the sun.

Do not mow your lawn if the grass is wet. Be sure your mower blades are sharp to prevent brown tipping which is a result of tearing instead of cutting the grass blade.

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Fertilizing Your Sod

New sod does not require fertilization for at least 2 months. At what point in the year your sod was installed will determine how many fertilizations you should complete for the remainder of the first year. On average, lawns are fertilized at least 4 times per year approximately around the following holidays: Easter, Memorial Day, July 4th and Labor Day. For example, if your sod was installed in early May, the next fertilization should take place in early July and again around Labor Day.

Excess fertilization should be avoided – more is not necessarily better – because of the promotion of excessive salts and the potential for burning.

Slow release fertilizer products are generally preferred to promote continual growth. Quick release fertilizers commonly result in growth spurts with less desirable growth results. Use a fertilizer blend made specifically for sod/turf application, high in nitrogen, and be sure to follow the directions on the label for proper application.

Fertilizer products will stain concrete, flagstone and hardscape surfaces, so be sure to sweep off fertilizer spills.

Sod Aeration

The soil beneath your sod will become compacted as a result of traffic on the lawn from people and pets as well as the amount of water applied to the lawn over the course of the growing season. This compaction can negatively impact turf growth by preventing air and water from reaching the root level. To prevent this we recommend that you have your lawn aerated at least twice per year, preferably in the early spring and fall. At the very least, you should aerate once in the spring to keep your turf in good condition.

Outdoor Lighting

The typical maintenance for an outdoor lighting system is to make sure that plant material and other debris are not covering your fixtures. With “well” lights and “spotlights” you may need to wash the lenses off as needed. Another maintenance procedure is the replacement of light bulbs. Bulb life is about 12 months. As light bulbs burn out they need to be replaced in order to save the life of the remaining bulbs. When one light bulb burns out you can expect to see others burn out as well.

When power outages occur it is a good idea to reset the timers in the transformer. If you have mechanical timers simply spin the dial until the current time appears. Digital timers have battery backups so there should be no need for resetting.

If you replace the light bulb and your fixture does not come back on, check the wire and wire connection. If the connections are good, check to make sure all the breakers in the transformer are in the “on” position. If problems continue your system may need to be serviced by a lighting professional.

Wood Mulch

Mulch products are an important part of many landscapes and serve many functions including: inhibiting the growth of weeds, retaining moisture, aesthetics, etc. Mulch products tend to shift and erode due to foot traffic, wind, rain and snow. In most cases, but not all, mulch needs to be replenished every year for proper coverage and aesthetics. For mulch to serve a purpose of weed reduction and moisture locking, it should be 2-3" in depth.

Landscape Fabric is a permeable fabric that can be used under mulch in large areas to help reduce weeds. Fabric over time will start to decay due to weather and moisture. As plant material increases in size the fabric will no longer be necessary for weed reduction, for the plant material will take over.

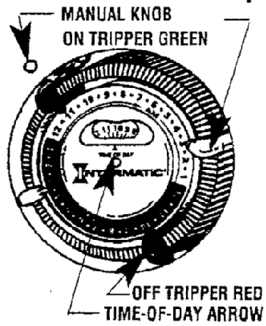
Irrigation System Maintenance and Winterization

Irrigation systems require ongoing maintenance and care for proper and efficient operation. In the mid to late fall irrigation systems should be drained or blown out with compressed air to remove water from the lines. Failure to do so can result in frozen and cracked pipes that can cause major damage to your yard, sprinkler system and house. Vacuum Breakers should be turned off and drained properly and wrapped with a heavy duty plastic bag until spring.

In the spring when the growing season starts and the chance of a freeze is unlikely it is time to activate your irrigation system. At that time it is best to adjust sprinkler heads and test lines to make sure everything is up and running.

During the growing season and even in winter it is good to mark out where your sprinkler heads are located so they are not hit, cut or broke due to lawn mowers, yard trimmers and shovels.

INTERMATIC® RAIN-TIGHT OUTDOOR TIMER
PROGRAM REPEATS EVERY 24 HOURS
TO SET TIMER: (SEE ILLUSTRATION)



1. Insert **ON (GREEN)** and **OFF (RED)** trippers into dial at desired **ON** and **OFF** times.
2. Turn dial **CLOCKWISE** → one or more complete revolutions until the arrowhead is aligned with time-of-day (AM or PM) in window.
3. Turn lamp or appliance **ON**.
4. Plug extension cord, lamp or appliance into timers receptacle and plug timer cord into

wall outlet, suitable for "wet locations" if outdoors.

FOR EARLY ON OR OFF OPERATION,

Turn manual knob counter clockwise ← to desired **ON** or **OFF** position, Timer will follow next scheduled automatic operation.

IN CASE OF POWER FAILURE, RESET TIMER, (SEE STEP 2)

WARNING: To avoid shock hazard, timer must be installed **VERTICALLY** and at least 3 ft. **ABOVE** ground level. **WATTAGE OF LAMPS OR APPLIANCES BEING CONTROLLED SHOULD NOT EXCEED CAPACITY OF TIMER. WHEN USED WITH EXTENSION CORD OR DEVICES DO NOT EXCEED THEIR RATING OR 15 AMPS.**

MODEL: HB31R 15 AMP (1800 WATT) RESISTIVE; 15 AMP (1800 WATT) TUNGSTEN; 15 FLA (90 LRA) MOTOR-120 VOLT 60 HZ.

INTERMATIC INCORPORATED
 154SB19358



Fall and Winter Watering

by J.E. Klett and C. Wilson¹

Quick Facts...

- Water trees, shrubs, lawns, and perennials during prolonged dry fall and winter periods to prevent root damage that affects the health of the entire plant.
- Water only when air and soil temperatures are above 40 degrees F with no snow cover.
- Established large trees have a root spread equal to or greater than the height of the tree. Apply water to the most critical part of the root zone within the drip line.

Dry air, low precipitation, little soil moisture, and fluctuating temperatures are characteristics of fall and winter in many areas of Colorado. There often can be little or no snow cover to provide soil moisture, particularly from October through March. Trees, shrubs, perennials and lawns can be damaged if they do not receive supplemental water. The result of long, dry periods during fall and winter is injury or death to parts of plant root systems. Affected plants may appear perfectly normal and resume growth in the spring using stored food energy. Plants may be weakened and all or parts may die in late spring or summer when temperatures rise. Weakened plants also may be subject to insect and disease problems.

Plants Sensitive to Drought Injury

Woody plants with shallow root systems require supplemental watering during extended dry fall and winter periods. These include European white and paper birches; Norway, silver, red, Rocky Mountain, and hybrid maples; lindens, alder, hornbeams, dogwood, willows, and mountain ash. Evergreen plants that benefit include spruce, fir, arborvitae, yew, Oregon grape-holly, boxwood, and Manhattan euonymus. Woody plants benefit from mulch to conserve soil moisture. Herbaceous perennials and ground covers in exposed sites are more subject to winter freezing and thawing. This opens cracks in soil that expose roots to cold and drying. Winter watering combined with mulching can prevent lawns also are prone to winter damage. Newly established lawns, whether seed or sod, are especially susceptible to damage. Susceptibility increases for lawns with south or west exposures.

Watering Guidelines

Water only when air temperatures are above 40 degrees F. Apply water at mid-day so it will have time to soak in before possible freezing at night. A solid layer (persisting for more than a month) of ice on lawns can cause suffocation or result in matting of the grass. Plants receiving reflected heat from buildings, walls and fences are more subject to damage. The low angle of winter sun makes this more likely in south or west exposures. Windy sites result in faster drying of sod and plants and require additional water. Lawns in warm exposures are prone to late winter mite damage. Water is the best treatment to prevent turf injury. Monitor weather conditions and water during extended dry periods without snow cover—one to two times per month.

Newly Planted vs. Established Plants

Newly planted trees are most susceptible to winter drought injury. Woody trees generally take one year to establish for each inch of trunk diameter. For example, a two inch diameter (caliper) tree takes a minimum of two years to establish under normal conditions. Trees obtain water best when it is allowed to soak into the soil slowly to a depth of 12 inches. Methods of watering trees include: sprinklers, deep-root fork or needle, soaker hose or soft spray wand. Apply water to many locations under the drip line and beyond if possible. If you use a deep-root fork or needle, insert no deeper than 8 inches into the soil. As a general survival rule, apply 10 gallons of water for each diameter inch of the tree. For example, a two-inch diameter tree needs 20 gallons per watering. Use a ruler to measure your tree's diameter. Newly planted shrubs require more water than established shrubs that have been planted for at least one year. The following recommendations assume shrubs are mulched to retain moisture. In dry winters, all shrubs benefit from winter watering from October through March. Apply 5 gallons two times per month for a newly planted shrub. Small established shrubs (less than 3 feet tall) should receive 5 gallons monthly. Large established shrubs (more than 6 feet) require 18 gallons on a monthly basis. Decrease amounts to account for precipitation. Water within the drip line of the shrub and around the base. Herbaceous perennial establishment periods vary. Bare root plants require longer to establish than container plants. Perennials transplanted late in the fall will not establish as quickly as plants planted in spring. Winter watering is advisable with late planted perennials, bare root plants, and perennials located in windy or southwest exposures.

¹J.E. Klett, Colorado State University Extension horticulture specialist and professor, horticulture and landscape architecture; and C. Wilson, Extension horticulture agent, Denver County. 1/04. Revised 7/08.

Colorado State University, U.S. Department of Agriculture and Colorado counties cooperating. CSU Extension programs are available to all without discrimination. No endorsement of products mentioned is intended nor is criticism implied of products not mentioned.

How to Drain Your Sprinkler System

As winter approaches, you will need to take the proper steps to ensure that no damage occurs to your sprinkler system from freezing pipes. **The information in this guide is intended to help you through the correct procedure to drain your sprinkler system. If you have any questions or problems with the procedure please call us.**

Colorado weather is highly variable and unpredictable; there is no exact time of when to drain your system. In most cases, end of October and the month of November is when systems should be drained. Freeze damage will generally occur in the vacuum breaker or valves when the outside temperature falls below freezing for more than six (6) hours. Due to location, elevation, depth of valves and rate of temperature change they do not always freeze.

The best prevention of freeze damage is to drain your system before temperatures are to drop below freezing. If you plan to be out of town during the late fall season it is best to drain your system prior to leaving.

Damage to your system can cause major damage to your house, sprinkler system and pocket book.

Steps to Drain Your System

Turn off your water supply to the sprinkler in the basement. Turn all the way clockwise.

Open valve in valve box closest to vacuum breaker. Turn counter clockwise all the way.

Open both petcocks on the vacuum breaker with a screw driver counter clockwise. These are the two knobs on the vacuum breaker there should be one on the bottom and one on the side (different breakers will have them in different locations). Water should run out of the hole. After the water runs out, lightly insert the petcocks so you do not miss-place them.

Drain sprinkler supply line in basement. There are two valves, leave them half open and half shut (45 degrees). There is a small knob on the supply valve, remove quickly with a bucket in hand allow the water to drain completely into the bucket.*

Run through the system one time all the way through each zone to ensure the water has drained. Turn off sprinkler clock to prevent the need to reprogram in the spring. Turn the clock dial to OFF.

*If you have a knob on the bottom of your vacuum breaker there is no need to drain the inside one.

