

Fact Sheet: Slender False Brome for Homeowners

In the interest of protecting our local environment (our native redwood forests and the insects, birds, plants, and animals that live in them), the Midpeninsula Regional Open Space District (MROSD) is implementing a plan to eradicate the weed Slender False Brome (SFB) from our public open space and private lands. We need your help and participation to accomplish this goal.

The Problem

Slender False Brome (*Brachypodium sylvaticum*) is an invasive weed spreading through forests and communities around Woodside and Portola Valley. If left unchecked, SFB could eventually alter the landscape and disrupt the native ecosystem by displacing native plants. SFB is a bunch grass that forms large clumps and reproduces rapidly from seed. The species name, *sylvaticum*, means woods or forests, which is where SFB grows so well and so quickly.

A perennial grassy weed, SFB is native to North Africa and Eurasia. It was first recorded as a weedy invader near Eugene, Oregon in 1939 and has since spread throughout Oregon and has recently been found in the Woodside area of California. It is considered a noxious weed in both states. In Oregon, SFB forms dense stands where it outcompetes native plants and tree seedlings.

For help identifying this weed, see the MROSD Slender False Brome ID Fact Sheet. If you wish to search online for information, use the scientific name "*Brachypodium sylvaticum*" in quotes to get the most pertinent information from universities, forestry departments, and government agencies.

Management and Control

There are three methods that can be easily used by property owners to control this weed:

1. Hand pulling.
2. Sheet mulching.
3. Herbicide treatment.

1) Hand Pulling

If you have a relatively small area or scattered plants to control, hand pulling is the easiest, safest, and most effective way to control this

weed. Plants should be pulled with as much of the root system as possible, since SFB can resprout from root fragments. Hand pull SFB when it is young, as it is easier to pull, you are more likely to get the whole root system and root fragments are less likely to resprout. Weeding is easier when the soil is moist, about 24 hours after rain or irrigation. Use a tool like a flat-tined pitchfork or tined cultivator to loosen the root ball and increase the chance of removing the majority of the roots.

Disposal of SFB Plant Debris

Hand pulled SFB should be put into plastic bags and sealed tightly. MROSD will pick up the bags and take them to a safe site to be composted. This will kill the seeds and plants and prevent accidental spread of the weed to new areas. Do not dispose of hand pulled SFB in your regular garbage or green waste pick-up. Do not put other plants or material in with the bagged SFB.

2) Sheet Mulching

This method requires two items, an organic sheeting material laid on top of the weeds and a 3" to 6" layer of organic compost or mulch to cover the sheeting. Organic sheeting is usually recycled cardboard or newspaper, although 100% organic fabric (cotton, wool), rugs or carpeting may also be used. Avoid synthetic weed fabrics as these will need to be pulled up and discarded to a landfill. Organic sheeting decomposes into the soil.

Stomp or mow down the weeds first if the stand is very dense. Put layers of cardboard sheeting directly on top of the weeds (1 layer of cardboard box, or 2 layers of cardboard rolls, or 10 to 15 sheets of newspaper). Make sure that the edges of the sheeting overlap 6" to 8" to prevent weeds from getting any sunlight or pushing through the sheeting. Wet the sheet

material down to keep it in place and to help the compost/mulch adhere to the surface. The sheeting perimeter edges should extend 1' to 1.5' beyond the edge of the weed patch and be secured with soil and/or U-shaped wire landscape stakes. Apply 3" to 6" of weed-free compost/mulch over the sheeting, taking care to keep the mulch about 6" away from the trunks of desirable trees and shrubs. Compost or mulch piled up against trunks can cause crown rot, which can be fatal to the tree or shrub.

3) Herbicide Treatments

The use of herbicides is a serious decision that should be well thought out before purchase and use. If you choose to use an herbicide, be sure to wear proper Personal Protective Equipment (PPE). It is very important to use and store herbicides safely, out of the reach of children and pets. Products containing "Glyphosate" [Roundup Pro (EPA# 524-475) and Roundup Ready-to-Use (EPA # 71995-33)], used in Oregon and by MROSD, are effective against SFB in field treatments. Glyphosate was selected as the preferred herbicide because it is systemic. When applied to the leaves, the herbicide moves through the plant killing both the top and the root system. This systemic action prevents new plants from resprouting from undamaged roots left in the soil.

Which Roundup product should I use?

If you have a relatively small infestation, less than 1,000 square feet, a Roundup Ready-to-Use (RTU) (EPA # 71995-33) herbicide is your safest and most effective choice. RTUs are safer and more convenient to use since they are pre-mixed and come with their own sprayer. Concentrates, like Roundup Pro (EPA# 524-475), must be measured and mixed with water in a separate sprayer. The challenge of ensuring safe storage, the extra handling, open containers, mixing, and clean up involved with using concentrates presents risks that can be avoided by using RTUs for small infestations of SFB.

If you choose to use herbicides for a large infestation (over 1,000 sq.ft.) there are two options:

1. Do it yourself using Roundup Pro (EPA# 524-475) concentrate and a tank-type pump sprayer.
2. Hire a licensed professional Pest Control Operator (PCO), who may be a landscaping maintenance or dedicated pest control company, to do the treatments.

If you choose a PCO, consider joining with neighbors for one bid, and be sure that they are insured, licensed, registered in San Mateo

County and have taken the MROSD class on Slender False Brome.

If you choose to do it yourself, be sure to thoroughly read and follow all label directions to the letter. Be sure to read the precautions and warnings on the label and to store the concentrate in a safe location, preferably locked, out of the reach of children and pets. It is a violation of Federal, State, and local law to use this product in any manner inconsistent with its labeling.

The decision to use herbicides is always a serious step, whether using Glyphosate, contact botanicals or other herbicides. Below are handling and use recommendations for any kind of herbicide.

Personal Protective Equipment (PPE)

For your protection, MROSD recommends more PPE than the label requires. When applying any herbicide make sure you protect *yourself* and *the environment*. Albert Einstein defined the environment as: "Anything that isn't me." PPE can usually be found in hardware, garden center and paint stores. MROSD recommended PPE for Glyphosate herbicides, whether using a RTU or concentrate, are:

1. Chemical resistant safety glasses with brow and temple (side) protection. Most plastic safety glasses or goggles are sufficient.
2. Rubber or Nitrile gloves, unlined.
3. Waterproof boots or water-resistant covers over shoes or boots. Always wear socks.
4. Long pants. Tyvek pants or coveralls (paint dept.) are better yet.
5. Long sleeve shirt, unless you are wearing a Tyvek coverall.

PPE should be put on **before** you handle herbicides and should be removed only after all cleanup is complete.

Assembling the Equipment

Gather all of the equipment you need to mix and apply the herbicide and to clean up following the application. The equipment includes:

- PPE (see list above), which should be clean and in good repair.
- Garden hose connected to a spigot.
- Herbicide.
- Measuring implements (**not kitchen measuring tools!**) are available at garden centers and paint stores.
- Pump-type sprayer.
- Plastic paint mixing stick, **not steel or wood.**
- Funnel, 8" or larger spill-proof (straight sides).

- Plastic pan for herbicide bottle to sit in to contain any spills or drips.

Some Important Points

- DO NOT treat wet foliage or if rain is expected within the next 48 hours. Heavy, misting fog is the same as rain in this instance.
- DO NOT irrigate the treated area for at least 48 hours following application.
- Use only *clean* water for mixing Glyphosate. Dirt in the water may *inactivate* the spray solution.
- Use only plastic or fiberglass sprayer and tools for mixing and applying Glyphosate, never use steel. Steel can react with Glyphosate to produce hydrogen gas. See the label for details.
- Apply herbicides only when wind speeds are *less than 5 miles per hour* to avoid spray drift.
- When inspecting the areas to be treated, search for signs of animals, birds, and reptiles. The MROSD pre-treatment inspection will also look for signs of wildlife.

Mixing and Applying Herbicides

Always mix herbicides on level ground to prevent spills. It is best to keep the herbicide bottle in a plastic pan to contain any spilled material should the bottle tip over or drip. DO NOT mix more material than you expect to use in one day. Storage of herbicides in the spray tank for more than 24 hours can reduce its effectiveness. If you do have herbicide left over, make sure that it is stored securely away from children and pets.

Step by Step Instructions for Do-It-Yourself Roundup Pro (EPA # 524-475) Treatment:

Step 1: Carefully read the complete label. Know the areas that you want to treat, mark the areas to be treated with stakes or small flags. Flag areas where animals may be nesting and make sure that you avoid any herbicide treatments near these locations. Clear away any obstructions.

Step 2: Get children and pets out of the mixing and treatment areas. They should be kept out of the treated area for 48 hours for safety and to increase the efficacy of the treatment.

Step 3: Assemble your equipment in a safe area near the application site if possible.

Step 4: To test your sprayer for leaks, fill the spray tank $\frac{1}{4}$ full with *clean water only*. If you are preparing a gallon of spray, put 1 quart of clean water into the spray tank.

Important Point: Never put the garden hose inside the spray tank! Contaminants can be

siphoned back into the garden hose and in extreme situations can enter the water pipes.

Step 5: Put the top on the spray tank and pump it up to the operating pressure recommended by the spray tank Operator's Manual.

Step 6: Test the sprayer for leaks by depressing the trigger and then releasing it. Do this a number of times to check for leaks around any of the unions or joints, or anywhere there may be a washer or O-ring. If the sprayer leaks, it will need to be repaired before you can use it.

Step 7: If the sprayer passed the leak test, invert the sprayer and pull the trigger on the wand pointed toward the ground. This will release the water in the hose as well as the pressurized air in the sprayer so that you can reopen it safely.

Step 8: Turn the sprayer upright. Add additional water to the tank so that you have about $\frac{1}{2}$ of the desired total volume. For 1 gallon of spray solution you would add water until you have about $\frac{1}{2}$ gallon of clean water in the tank

Step 9: Carefully measure the appropriate amount of herbicide and add it to the tank. Thoroughly rinse the measuring device so that the rinse water goes into the tank. A large funnel, 8" or wider at the top, will allow rinse water to easily flow into the tank without spilling down the sides of the tank onto the ground. If you are using a spray dye or marker, add that after the Roundup.

Step 10: Add the additional water needed to bring the solution to the appropriate level. *Do not put the garden hose inside the tank!* Most plastic sprayers have graduations on the side so you can easily see how much finished spray solution you have in the tank.

Step 11: Mix the spray solution with the plastic paint mixing stick (not steel or wood) to ensure that the solution is uniform.

Step 12: Pump up the spray tank according to the directions in the sprayer's Operator's Manual.

Important Point: DO NOT over pressurize the spray tank as this can cause "misting" and "spray drift" on to you and desirable plants. A low pressure coarse spray is best.

Step 13: Apply the herbicide to SFB to wet the foliage but not to the point that the herbicide runs off of the leaves. Coverage of 100% of the leaf surfaces is not necessary, about 80% coverage should be adequate for control. Any herbicide that runs off of the plant onto the ground has no effect on the plants.

Step 14: If you have any herbicide left in the tank, hopefully you don't, look around for areas of SFB or other weeds to treat.

Clean Up

Step 1: Invert the spray tank with the wand and nozzle pointed toward the SFB you just treated. Depress the spray trigger, a small amount of herbicide left in the hose and wand will come out and then there will be a rush of air as the tank depressurizes. You must release the pressure in the tank before loosening the cap on the tank. If the pressure is not released, it may cause any remaining spray solution to gush out of the top or could turn the pump mechanism into a projectile that could cause injury.

Step 2: Add about 1 quart of water (in a 1 gallon sprayer) and put the cap back on the sprayer and shake the sprayer vigorously for about 10 to 20 seconds.

Step 3: Pump air into the sprayer and spray out the rinse water on weeds or the ground *near* where you treated the SFB. Repeat this procedure 3 times to rinse any residue out of the sprayer. Be sure to rinse the outside of the tank to remove any traces of herbicide that may have gotten onto the tank, hose and wand. When you have finished with the tank, rinse your gloves off too.

Important Point: DO NOT pour or spray rinse water directly on the plants that you have just treated as this will wash off the herbicide before it has had a chance to take affect. DO NOT pour or spray rinse water in a way that will contaminate any surface water, including temporary puddles, or in a place where it may flow into storm drains.

Step 4: While still in your PPE, put the herbicide and clean equipment away in a safe location.

Step 5: If you are wearing rubber boots, rinse them thoroughly with water. If you are wearing shoe covers, remove them and put them in the trash.

Step 6: Remove your Tyvek suit, turning it inside out and throw it in the trash.

Step 7: Wash the outside of your gloves with soap and water. If using disposable gloves throw them in the trash. If using non-disposable gloves, remove the gloves and rinse out the inside of the each glove with clean water. This is a good time to check for leaks. Hang the gloves upside down so the water will drain out.

Step 8: Thoroughly wash your hands with lots of soap and water.

Step 9: Check again to make sure all equipment and the herbicide are stored properly and out of the reach of children and pets. DO NOT store PPE with pesticides, or other hazardous chemicals, as the PPE may become contaminated.

Step 10: In about 3 to 10 days during warm weather and up to about 21 days in cool weather, you should see the effects of the herbicide on the plants. They will turn yellow first and then begin to collapse and turn brown.

Step 11: Monitor for effectiveness of the treatment and for new seedlings. If the treated area is irrigated or there is heavy fog drip, you may see seedlings within a couple of weeks of treatment; these can easily be removed by hand. If the area is not irrigated start looking for seedlings in the fall about a week after the first good rainfall.

Post-treatment

Once the mature SFB plants have been eliminated using any of the described treatments, seedlings will begin sprouting from seeds in the soil. Seedlings are much easier to control. However, if the infestation has been on your property for a long time there may be lots of seedlings and multiple treatments will be required. It may take several treatments to completely eliminate SFB from your property.

Competitive Planting

After you have treated SFB and you feel you have eliminated the majority of it (remember this may take several treatments), now is the time to do sheet mulching and/or competitive planting to occupy the cleared space with desirable plants. Competitive planting is the creation of a solid stand of desired vegetation that completely occupies the growing space, both above- and below-ground. Competitive planting can prevent weeds from gaining a foothold in your recently cleared area. Competitive plants should be an integrated component of the control methods discussed here. Should you wish to plant native plants, contact the Santa Clara Valley Chapter of the Native Plant Society or MROSD for information on native plants and seed.

What about other herbicides?

You may ask, "Why not use some of the new contact botanical herbicides on the market?". Contact herbicides, usually containing clove oil and vinegar (acetic acid), kill only those parts of the plant that they actually touch, leaving the roots to resprout and require repeat applications. The decision not to recommend the use of these contact herbicides is based on these facts:

- Contact herbicides do not kill the roots.
- They require repeat applications, in some cases many re-applications. Additional time, labor and expense for you.
- Repeat applications must be made in a timely manner, miss an application and you are back to where you started from originally.
- Modern contact herbicides are temperature dependent, and don't work very well in the cool, cloudy conditions prevalent in this area.

- Mature root systems will push new growth at accelerated rates when the leaves are damaged or eliminated.
- People with certain food allergies may have an allergic reaction from any contact with the botanical herbicides on the market.

If you have any questions regarding this program, contact: Ellen Gartside, MROSD SFB Coordinator; 650-691-1200, egartside@openspace.org