

BEST PRACTICES GUIDE

**UTILIZING
WOOD CHIPS**
Are you burning a
valuable resource?



**AGRICULTURAL
PLASTICS**
Why is preparing and
sorting for recycling
important?



**ORCHARD AND
VINEYARD REMOVAL**
Do you have a
disposal plan?



Includes a BEST
MANAGEMENT
PRACTICES
CHECKLIST

Partners in Protecting our Air, Land and Water

CONTENTS

Why does it matter?	3
About valley communities	4
Concern over wood smoke	6
NEVER burn garbage or farm waste.	7
Orchard/vineyard removal	8
STEP 1: Make a disposal plan	9
STEP 2: Remove and safely dispose of SURFACE MATERIALS	9
A. Support wire	10
B. Irrigation tubing, sprinkler heads, PVC pipe and tree bands	11
C. Treated wood support posts	12
STEP 3: Remove and dispose of TREES or VINES.	13
A. Excavation.	13
B. Wood Salvaging	14
C. Wood chipping	15
WOOD CHIPS as a mulch	16
WOOD CHIPS in compost	17
WOOD CHIPS for landscaping and dust suppressant	18
WOOD CHIPS for bedding	18
WOOD CHIPS for pellets	18
D. Burning wood waste	19
Air Curtain Burners	20
Land Clearing	20
Ventilation Index	21
Prunings	22
Nursery Waste/Composting	24
Agricultural Plastics Recycling	26
Livestock Feed Plastics	27
Nurseries and Greenhouses	28
Plant Pots and Trays	29
Orchards/Vineyards	30
Vineyards	31
Ground Crops/Berries	32
Chemical containers.	33
BMP Checklist	34
Resources	back cover

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Why does it matter?

As a society, we often need to adapt and change commonly accepted practices as we discover new information that reveals health or safety hazards.

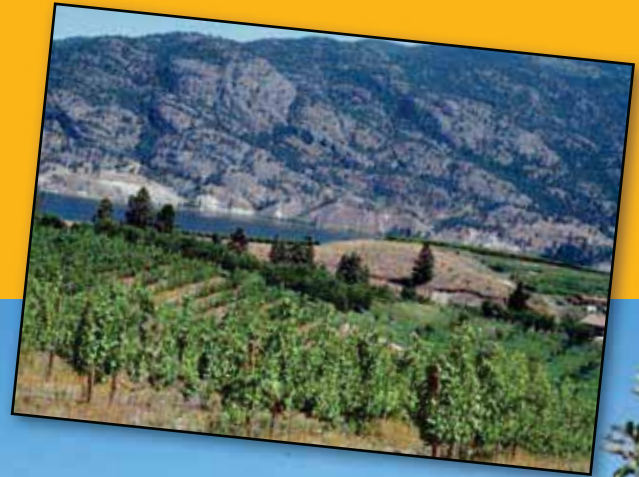
Recent studies have shown us the harmful effects of toxins in our air, land and water caused by unhealthy practices, such as burning waste materials in inappropriate ways.

Researchers are also learning that healthy soil is not only important for producing healthy crops, but for contributing to the Earth's carbon cycle and, ultimately, climate change.

The goal of creating a healthier environment can easily be achieved if everybody is doing their part. By taking responsibility to care for your own back yard, you are setting an example for others to follow.

It is the purpose of this guide to provide information for members of the agriculture industry about the options available for waste disposal, so they may make informed decisions on how best to proceed with:

- Orchard/vineyard removal
- Prunings/yard waste
- Nursery waste
- Recycling agricultural plastics



It is important to follow recommended best practices for the health and welfare of you and your neighbours.

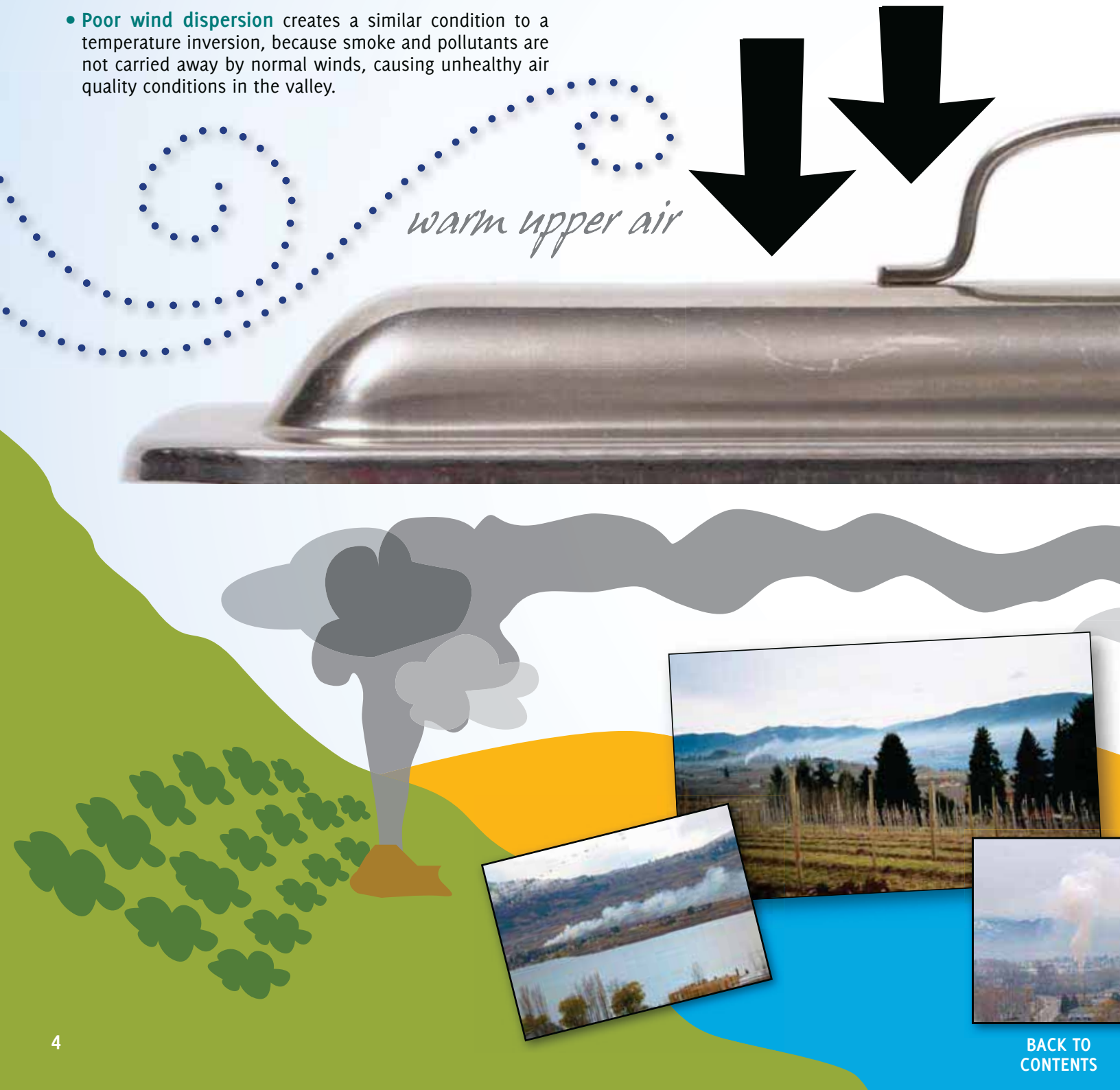
About valley communities

The air quality in valley communities is affected by many unique factors.

- **Temperature inversions** result in smoke and other air pollutants being trapped in the valley bottoms, as warm upper air acts like a lid, keeping toxins from escaping. Inversions generally occur in the mornings year-round, but can last all day during the winter months (mid-November thru mid-March) when there are no up-drafts to carry pollutants out of the valley bottom.
- **Poor wind dispersion** creates a similar condition to a temperature inversion, because smoke and pollutants are not carried away by normal winds, causing unhealthy air quality conditions in the valley.

- **Close proximity** of farms and communities to each other in a valley means what we put into the air immediately affects our neighbours. Small particulate matter from smoke can enter homes and create unhealthy living conditions.

It is important that we do what we can during the winter to minimize air pollution (carpooling, burning only clean dry wood, etc.), in order to ensure good air quality throughout the year.





Example of (1) a poorly planned open burn (wet wood) polluting the valley, (2) The same burn affected by a temperature inversion. (3) Pollutants from the burn trapped and dispersing into the homes and community miles away.

DID YOU KNOW?

Temperature inversions and poor wind dispersion trap smoke and other pollutants in valleys, particularly in the winter.



pollutants trapped in valley bottom



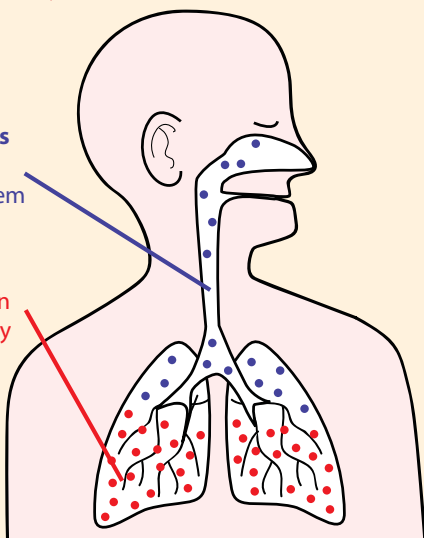
Concern over wood smoke

- Science has changed dramatically over the last decade. It now shows us that smoke has significant public health effects, even at very low concentrations.
- Exposure to levels previously thought to be “good” are now known to have public health effects.
- There are MORE THAN A HUNDRED known toxic substances found in wood smoke.
- Wood smoke contains **FINE PARTICULATE MATTER (PM_{2.5})**. These tiny particles stay in the air longer and travel farther than larger particles (such as dust) and can penetrate indoors. They are also able to travel deeper into the lungs, causing irritation and disease.
- The BC Air Action Plan identifies fine particulate matter and ground-level ozone as the two most harmful contributors to air pollution in BC.
- Young children, the elderly, and people with pre-existing lung or heart disease are most likely to be affected by the harmful pollutants released into the air by wood smoke, however, healthy individuals can also suffer negative health effects.

Current evidence shows that smaller particles (smoke) are more harmful than larger particles (dust).

course particles
settle in upper
respiratory system

fine particles
(PM_{2.5}) settle in
lower respiratory
system



Human Hair
Magnified 1000x



PM 2.5 Particle

There are **ALTERNATIVES TO BURNING YOUR WOOD WASTE** that can improve air quality, as well as feed the soil, control weeds and conserve water.

DID YOU KNOW?

ON AVERAGE, A HEALTHY ADULT AT REST TAKES 18,000 TO 25,000 BREATHS IN A DAY. CHILDREN, DEPENDING ON THEIR AGE, CAN TAKE TWICE AS MANY BREATHS.

LET'S TAKE CARE OF THE AIR.



All burning creates PM_{2.5} so, if you must burn, **BURN HOT AND DRY**, producing minimal air pollutants.

NEVER burn garbage or farm waste

It is illegal to burn garbage, treated or painted wood, irrigation tubing, PVC pipe, tree support wire, chemical pails, fertilizer bags or similar materials. These release poisonous chemicals into the air, harmful to health.

You must recycle, reuse or dispose of them at your local landfill.

Burning garbage at home or in the back yard has been a longstanding practice, but we now understand that there are health consequences... so it's **TIME TO STOP BURNING.**

Garbage fires smolder and burn at temperatures that create dioxins, furans and many other pollutants that fall back to Earth as particles or in rain drops and contaminate water and plants. They eventually make their way up the food chain and into the food we eat.

ILLEGAL TO BURN



"DON'T
USE OUR AIR AS A
LANDFILL."
- DR. D. BATES

BURNING GARBAGE can
affect your health more
than you think.

ILLEGAL TO BURN GARBAGE.

RULE OF THUMB: The only thing you should
be burning is **CLEAN, DRY** wood.

Orchard/Vineyard removal

Research before you start

STEP 1: MAKE A DISPOSAL PLAN

- A. HOW WILL YOU DISPOSE OF SURFACE MATERIAL?
- B. HOW WILL YOU DISPOSE OF WOOD WASTE?

STEP 2: REMOVE AND SAFELY DISPOSE OF SURFACE MATERIALS

- A. SUPPORT WIRE (including clips or ties)
- B. IRRIGATION TUBING, SPRINKLERS, PVC PIPE
- C. TREATED WOOD SUPPORT POSTS

STEP 3: REMOVE AND DISPOSE OF TREES OR VINES

- A. EXCAVATION
- B. WOOD SALVAGING
- C. WOOD CHIPPING
- D. WOOD BURNING



DID YOU KNOW?

Many landfills now chip wood waste, and some landfills do not charge a tipping fee on correctly prepared agricultural wood waste.

STEP 1:

Make a disposal plan

It is important to consider your disposal options **BEFORE** you begin the orchard or vineyard removal process.

A. HOW WILL YOU DISPOSE OF SURFACE MATERIALS?

☐ REUSE ☐ RECYCLE ☐ SELL/TRADE

ILLEGAL TO BURN SURFACE MATERIALS

- ☐ Can some materials be reused? If you do not need them, ask your neighbors or place an ad in your local paper or on the internet.
- ☐ Contact your local government or landfill for details on recycling programs and obtaining bags to put your agricultural recycling into.
- ☐ If not reusing/recycling, contact landfill for preparation requirements for bringing to the landfill.

B. HOW WILL YOU DISPOSE OF WOOD WASTE?

☐ SALVAGE ☐ CHIP ☐ BURN

- ☐ Find out if your local government offers a subsidised chipping program. If there is no program, they may still be able to provide you with a list of chipping contractors or rentals in the area.
- ☐ Research the use of wood chips as a mulch, soil amendment, or in composting.
- ☐ Most landfills chip wood waste. Find out options for hauling to the landfill. Check with your local landfill for tipping fees on wood waste for chipping (if any).
- ☐ Ask around to see if anyone could use the wood (for firewood, chipping, etc.).
- ☐ Put an ad on the internet or in the papers advertising the type and size of wood you have available, or search the ads for wood salvaging businesses.
- ☐ Consult the Environment Farm Plan Guide, call your local Ag-Research Centre, or ask your Field Staff Advisor for more information.
- ☐ Contact all contractors involved to discuss disposal plan and removal methods.
- ☐ Research disposal options and grant funding availability.
- ☐ Ensure excavators follow Best Removal Practices.

STEP 2:

Remove and safely dispose of surface materials

It is illegal and **DANGEROUS TO BURN** surface materials.

When burned, they release toxic chemicals into the air that are harmful to our health and can contaminate water, soil and plant surfaces.

Once removed, prepare and separate these materials for disposal or reuse:

A. SUPPORT WIRE (including clips or ties)

B. IRRIGATION TUBING, SPRINKLERS, PVC PIPE, TREE BANDS

C. TREATED WOOD SUPPORT POSTS



Many landfills, such as RDOS landfills, do not charge a tipping fee on correctly prepared and sorted agricultural wire, plastic, treated wood support posts and agricultural wood waste

Call your local landfill for specific details on their program.



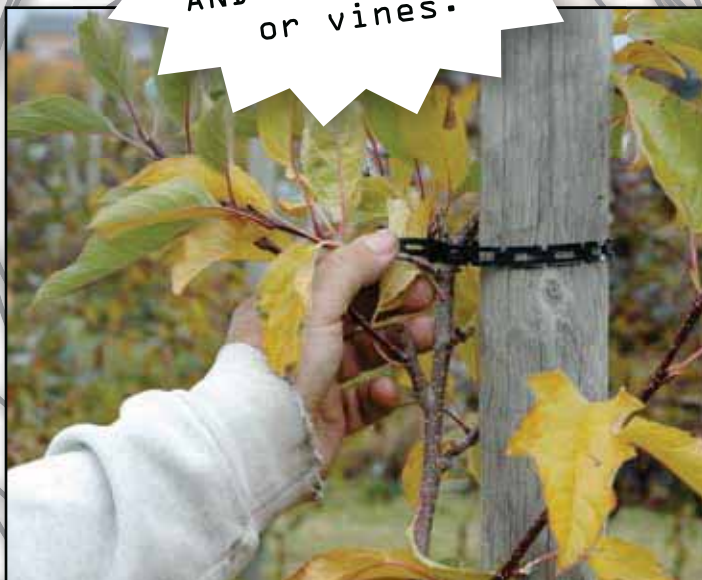
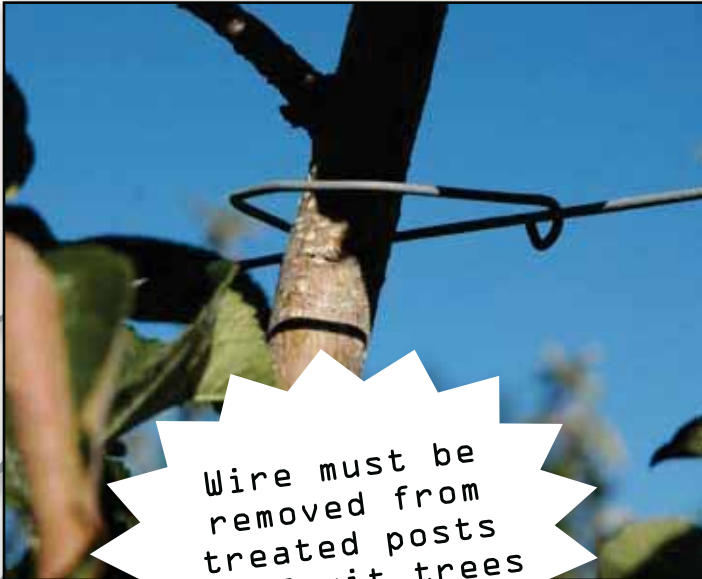
A. Support wire

ILLEGAL TO BURN

- Take the time to remove wire, and the materials holding the wire in place.
- Reuse metal clips or recycle them.
- If plastic ties are not reusable, recycle or dispose of them in the garbage.
- Roll wire lengths for ease of transportation, storage and recycling.
- If wire cannot be reused, roll and dispose of at your local landfill where it is recycled or contact your local metal salvager for drop off locations.
- Wire spooling machines allow wire to be salvaged in a manner which makes re-use easier!
- Tag and set aside any trees/posts that have wire or a metal post embedded in them. Separate from other trees during excavation, as they cannot be burned or chipped.
- Never burn wire or metal posts - it is illegal.



DO NOT BURN WIRE! IT IS
OFTEN COATED WITH A THIN
LAYER OF LEAD.



B. Irrigation tubing, sprinkler heads, PVC pipe and tree bands

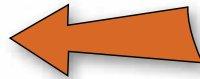
- Remove black poly irrigation tubing and materials holding the irrigation tubing in place.
- If not reusing, prepare irrigation tubing for recycling by removing sprinkler heads and all metal clamps and fittings; then cut the tubing into pieces and bag in heavy plastic bags that won't tear or bag in woven tote bags.
- If not reusing sprinkler heads, ask other growers if interested in reusing and if not, bag and place in the garbage.
- If there is no recycling in your area for irrigation tubing then dispose of in the garbage.
- Check with local government office on whether there is a recycling program for agricultural plastics in your area. If not, encourage one.
- If removing PVC pipe (above ground or subsurface), it must be separated from the tree wood material. PVC is difficult to recycle and therefore must be tossed into the garbage if not reusing. It is illegal to burn PVC. **Note:** If there is a recycling market for PVC, all the glued fittings must be removed and the PVC bundle tied. The glued fittings would go into the garbage.
- Remove plastic tree bands.
- Never burn.

ILLEGAL TO BURN

REMOVE



**DO NOT MIX BLACK
POLY IRRIGATION
TUBING WITH T-TAPE,
PVC PIPE, OR OTHER
MATERIALS WHEN
SORTING FOR RECYCLING.**



C. Treated wood support posts

ILLEGAL TO BURN

- Remove posts before removing trees or vines; if impossible then ask your excavator operator to separate posts from trees or vines while excavating.
- Pull the whole post rather than breaking off.
- Reuse treated wood posts, or dispose of at your local landfill.
- **DO NOT CHIP TREATED POSTS.**
- Some landfills do not charge a tipping fee on Agriculture Treated Support Posts. Call your local landfill for details.
- It is illegal and dangerous to burn treated wood as it contains arsenic.
- Disposal of treated posts remains a challenge and growers are encouraged to research other post options for future plantings.
- Removed posts can be resold or offered to other growers for reuse (large diameter posts are ideal for deer fencing).
- If using metal/plastic posts, separate from trees.
- Never burn.



DO NOT MIX TREATED POSTS WITH IRRIGATION PIPES. REMOVE PIPES AND BRACKETS FROM POSTS.



THESE POSTS ARE READY FOR REUSE OR DISPOSAL



STEP 3:

Remove and dispose of trees or vines

Once surface materials have been removed and properly prepared for disposal, proceed with removal of trees and vines.

- Salvaging, chipping or hauling wood waste to the landfill where it is chipped are good options for disposal of agricultural wood waste.
- The burning of agricultural wood waste is a major contributing factor to air pollution.
- Wood waste is a valuable natural resource, which can help build healthy soil and conserve water. Research and determine the needs of your soil to see if you could benefit from using wood chips as a mulch or soil amendment.
- Adoption of new practices is encouraged due to health effects from wood smoke and due to evolving regulations and new restrictions on burning.

Research the following processes and their benefits:

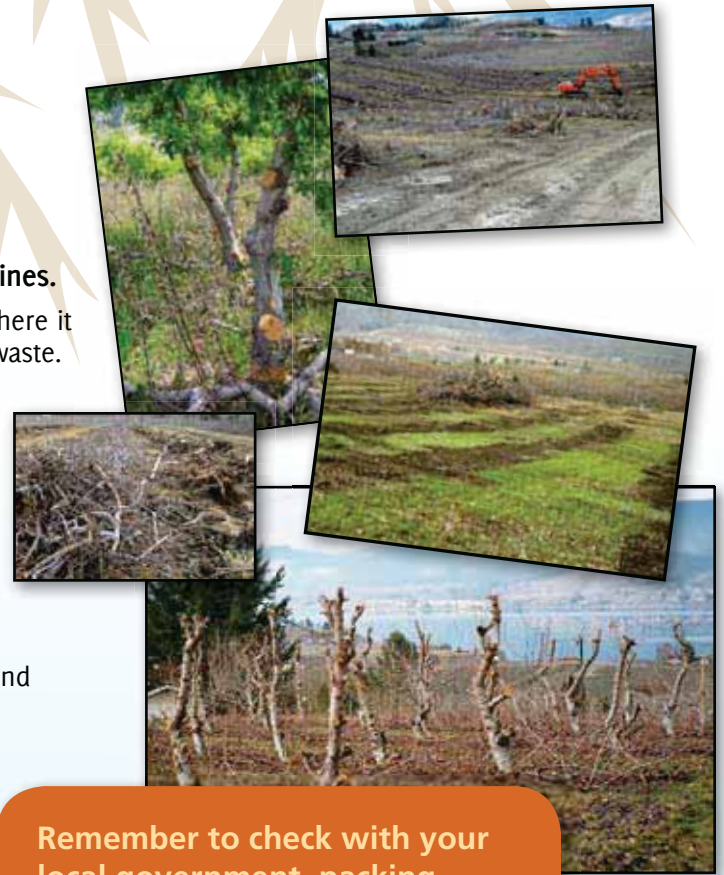
- A. EXCAVATION
- B. WOOD SALVAGING
- C. WOOD CHIPPING
- D. WOOD BURNING

A. Excavation

- Discuss your disposal plan with all contractors before work begins.
- Before excavating, all surface materials must be removed. Remind excavator to separate any trees identified with embedded wire or metal post.
- If salvaging wood, or chipping, check with those contractors as to how they want the wood prepared before excavating. (Some salvage companies prefer to salvage the wood before the tree is excavated.)
- If chipping with portable chipper or with a tub grinder, the correct placement and preparation of the removed trees/vines saves time and money.
- Inform the excavator operator to remove most dirt and rock from the roots to avoid topsoil loss. Also, too much dirt and rocks will dull or damage the chipping blades or grinder teeth.
- Reducing the amount of dirt on the wood also helps reduce the amount of smoke produced, should you choose to burn.
- If hauling to the landfill, trees need to be cut to 6 foot lengths or shorter. Call your local landfill for specific requirements.
- It is good practice to have the excavator fill the holes as they go, and set aside any subsurface PVC irrigation lines that have been unearthed in the tree removal.

Do NOT LEAVE DIRT AND ROCKS ATTACHED TO STUMPS.

Remember to check with your local government, packing house or growers association for information on wood waste disposal programs and funding.



B. Wood Salvaging

- There are various salvaging methods. Be sure to plan for each part of the tree: branches, trunk, and stump.
- Remove small branches and pile in middle of each row, ready for disposal by a portable chipper or mulcher (check to see if there is a chipping program in your area). If not, renting a portable chipper is a good option.
- Discuss with the contractor whether to haul the stumps to a landfill or bring in a tub grinder to grind both stumps and branches.
- Check to ensure the tub grinding equipment can access your property.
- Contact your local landfill for information and requirements for hauling stumps to landfill.
- Check with your excavator contractor BEFORE salvaging on how much tree trunk is needed (if any) to pull the roots out efficiently during the removal process.
- If using the salvaged wood for firewood, it is important to age/dry the wood before using for burning. Firewood should be stacked to allow good air flow, and then seasoned for at least 6 months.



WHAT CAN THE WOOD BE USED FOR?

- fueling wood burning ovens, stoves and fireplaces
- smoking or barbequing food
- craftsmen use fruit wood to create furniture and household items
- larger trees can be milled for flooring



C. Wood Chipping

- Check with local governments or Farm programs to see if they provide a chipping service as an alternative to burning or offer funding to purchase or rent chippers.
- Some growers hire a local chipping contractor or rent a portable chipper.
- Transport wood waste to landfill where it is chipped, and the chips used for composting/dust suppressant. Check with your local landfill on correct preparation and fees (if any).
- Different types of chippers are available to create the ideal size of chips, depending on what the chips will be used for:
 - **as a mulch** (1-2 inches long): weed control, pest control, water retention, prevents soil erosion
 - **added to compost** (smaller chips, easier to break down): provides soil nutrition.
- **as a soil conditioner** (very small chips, or partially decomposed) break down and reintroduce organic matter (carbon) into the soil
- **for landscaping** (can be larger): use on pathways and roads to reduce dust and/or mud
- **for animal bedding or pellets**
- Unlike burning, wood waste is best chipped when still green. Dry wood creates too much dust and wear the chipping blades down faster.
- Before removing your trees/vines, check with your chipping contractor for correct preparation of wood waste for chipping.
- Inform the excavator operator to remove most dirt and rock from the roots to avoid topsoil loss. Also, too much dirt and rocks will dull or damage the chipping blades or grinder teeth.



A FLAIL MOWER can be used by growers as a tractor attachment to create mulch from vineyard, orchard and berry crop prunings or from ground crops.



A PORTABLE CHIPPER can be rented or you can employ a local contractor. chippers vary in size. Some chippers can chip wood waste up to 15" in diameter. Chip size produced depends on the screen, but should be between 1"-2".



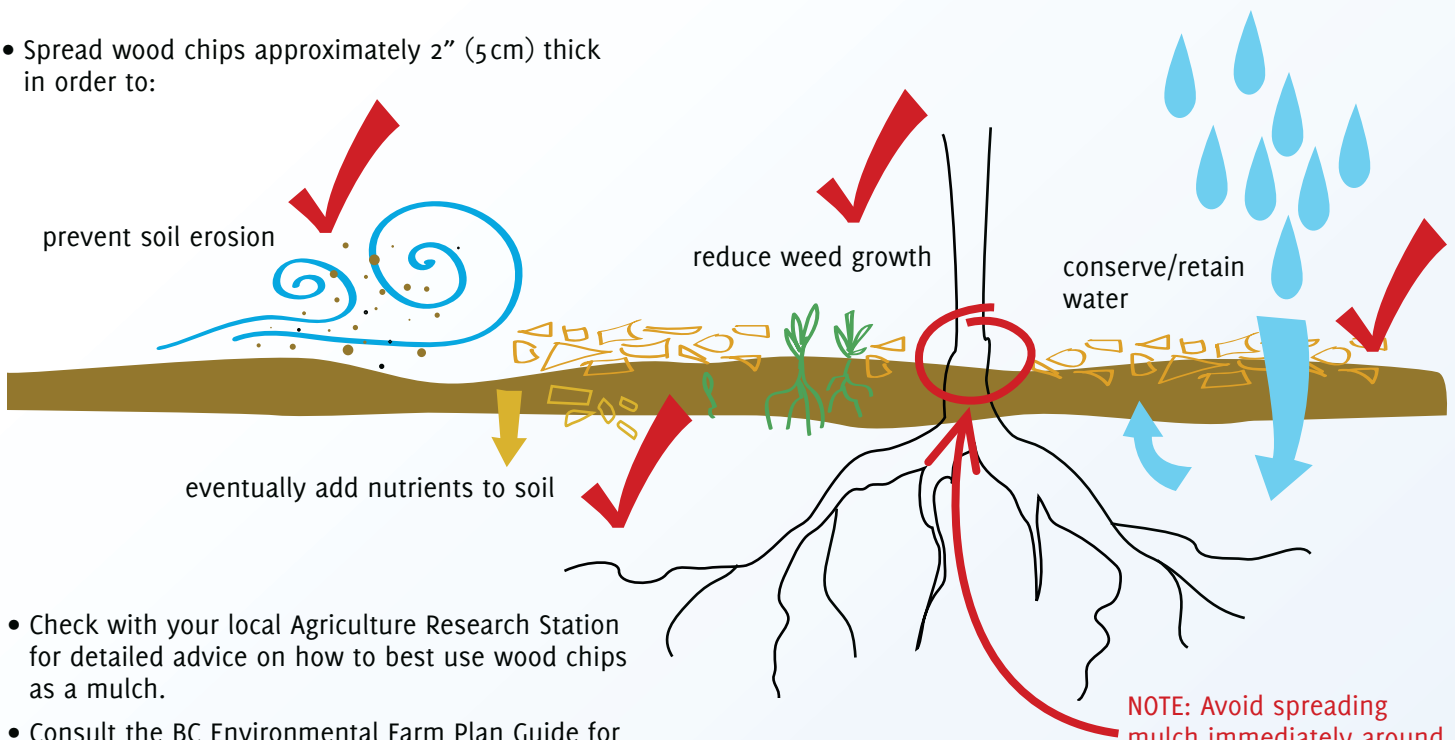
A TUB GRINDER is the largest of the equipment used to grind, chop and shred wood waste. There may be one at your local landfill. If required, contact local government to see if it is available to come your site.

USE WOOD CHIPS FOR:
MULCH
COMPOST
SOIL CONDITIONER
LANDSCAPING
ANIMAL BEDDING
PELLETS

NEVER CHIP TREATED POSTS
They contain arsenic
which contaminates soil

UTILIZING WOOD CHIPS as a mulch

- Spread wood chips approximately 2" (5cm) thick in order to:



NOTE: Avoid spreading mulch immediately around the tree, as the graft union must not be buried.

- Check with your local Agriculture Research Station for detailed advice on how to best use wood chips as a mulch.
- Consult the BC Environmental Farm Plan Guide for more information.



THE IDEAL SIZE OF WOOD CHIPS FOR USE AS A MULCH IS 1"-2" (2.5 - 5cm).



IT IS IDEAL TO SPREAD WOOD CHIPS WHERE THE ROOTS ARE MOST LIKELY TO BE, IN A 3-6 ft (1-2 metre) STRIP WITHIN THE ROWS.

UTILIZING WOOD CHIPS in compost as soil conditioner and amendment

Learn more online or at a local workshop about composting for healthy soil.

- Adding wood chips to your compost and, once decomposed, spreading it back onto your crops helps to add nutrients to the soil.



- Wood chips can be added directly to the soil to build carbon-rich soil. Very small chips or partially decomposed chips are recommended.
- Some growers add nitrogen to the chips before working the chips into the soil.
- Adding wood chips to soil can also help to reduce erosion and improve soil structure.
- Check with your local Agriculture Research Station for detailed advice on how to best use wood chips to enhance your soil.
- Compost or mulch prunings, nursery crop foliage, culled plants and/or culled fruit.
- Consult the BC Environmental Farm Plan Program Guide for more information on building healthy soils.
- Find out if there are composting or soil nutrition courses available in your area or online.

For additional composting info, see page 24 of this guide.



As wood chips decompose, carbon dioxide is released.



Wood chips add carbon to the soil.

UTILIZING WOOD CHIPS for landscaping and dust suppressant

- Spreading wood chips on pathways, roads and hillsides helps reduce dust and mud.
- A ground covering of wood chips prevents soil erosion.



UTILIZING WOOD CHIPS for bedding

- Wood chips are a popular choice for livestock bedding, due to their absorbent nature.
- It is recommended that wood chips are stored and used a minimum distance from a water source, to avoid contamination of the water through leaching.

IMPORTANT

Do not use woodwaste that may contain antisapstain chemicals, wood preservatives or fire retardation chemicals. Woodwaste containing these chemicals can affect livestock, wildlife and fish that come into contact with the treated wood waste or leachate.*

**The Canada-British Columbia Environmental Farm Plan Program Reference Guide*

UTILIZING WOOD CHIPS for pellets

- Fruit wood pellets are often used in barbeques and ovens.
- They burn hotter and longer than other wood varieties, and tend to give a unique flavour to the food.
- Distributed to manufacturers in the food industry or directly to restaurants.
- Also used as heat source in wood stoves.
- Ask salvaging companies who to contact in order to have your wood chips made into pellets.



D. Burning Wood Waste

- **BEFORE BURNING** check local municipal, regional, and provincial bylaws and regulations to see if burning is permitted in your area, and if so, check restrictions/requirements (see pg.21).
- Valley communities have poor wind dispersion and temperature inversions, which cause pollutants such as smoke to collect in the valley bottoms.
- If you choose to burn, make sure the pile only contains clean, dry, untreated wood. **NEVER BURN** painted or treated wood, PVC pipe or garbage.
- Growers must tell the excavator operator to remove most soil and rock from the roots (soil left in the roots will create more smoke pollution).
- Pile tree wood waste piles for sufficient airflow in order to achieve a hot burn with little smoke. Ensure fire is out by sunset.
- Dry wood waste before burning (wet wood creates more smoke pollution). Stumps take longer to dry.
- Burning wood waste is a major contributor to air pollution, a waste of a valuable natural resource, and kills soil under the burn site... consider alternatives.
- Alternatives include chipping, seasoning the material, milling (ie: for flooring) or taking to the landfill where it is chipped (some landfills do not charge a tipping fee on agricultural tree waste). See bcairquality.ca/topics/rcbc-alternatives.html
- Organic growers must meet the disposal criteria for organic standards in order to keep their certification.
- Avoid burning if grapes or other neighbouring crops have not been picked. Your burn could cause smoke and ash damage to the fruit and pose a health hazard to orchard/vineyard workers.
- If using curtain or trench burning, check with Provincial Open Burning Smoke Control Regulations first. Contact contractors who specialize in this process to see if it is workable on your site. If curtain burners are not operated correctly, they will create a lot of smoke.



DO NOT BURN FRESHLY REMOVED STUMPS/ROOTS - IT CAUSES TOO MUCH SMOKE POLLUTION.



THIS PILE OF WOOD WASTE IS STACKED WELL FOR DRYING

Check your local bylaws to see if burning is allowed, and for required wood drying time in your area.

REMEMBER: hotter burn = less smoke = less pollution
Burn only dry, clean, untreated, unpainted wood.



ILLEGAL TO BURN

NEVER add forbidden material to the burn pile. Treated wood, PVC pipes, garbage, etc. are illegal to burn.

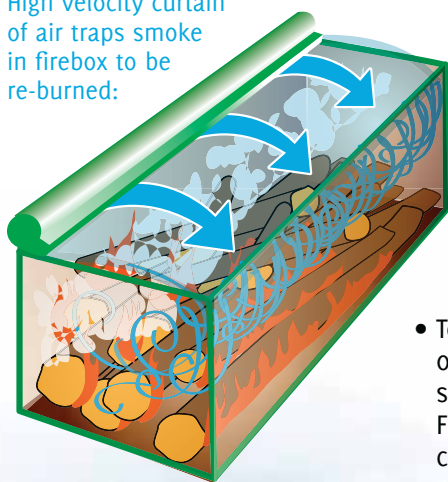
Air Curtain Burners

Before using an Air Curtain Burner or conducting any type of open air burn, consult the Provincial Open Burning Smoke Control Regulation and local burning bylaws

- The operating principle of the air curtain burner is the introduction of controlled high velocity air across the upper portion of a combustion chamber in which clean wood (ie. wood waste from land clearing) is loaded. The powerful curtain of air created in this process traps unburned particles (smoke) under the curtain where it is re-burned.
- The burner is a large ceramic-lined metal firebox that sits on the ground. Some require set up, while others are completely self-contained.
- A diesel operated fan mounted outside the box blows air along a tube running along the top of the burner. (see diagram) The air is directed at high velocity across and then down into the firebox, creating higher temperatures for a much faster and cleaner burn. The curtain of air acts like a lid trapping and forcing smoke and particulate back into the firebox.
- A puff of smoke is produced as wood waste is loaded inside the box due to the air curtain being broken, then quickly, the smoke stops as the air curtain closes trapping most of the particulate and smoke below.



High velocity curtain of air traps smoke in firebox to be re-burned:

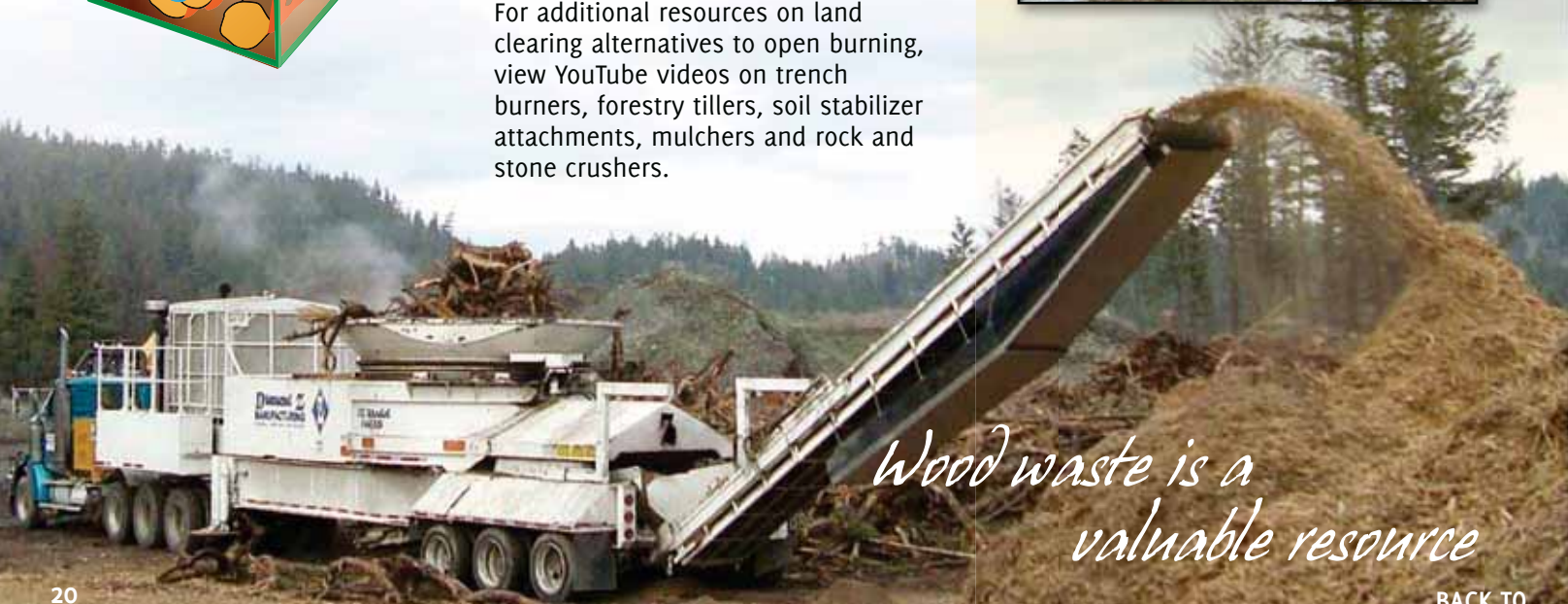


- To keep the fire burning smoke-free, fuel loaded into the firebox needs to be controlled carefully.
- Curtain burners should be operated by an experienced operator to ensure a smoke-free burn. When a curtain burner is operated correctly, all that is visible is hot gas escaping through the air curtain.
- To view air curtain burners in operation, visit YouTube online and search for "air curtain burners". For additional resources on land clearing alternatives to open burning, view YouTube videos on trench burners, forestry tillers, soil stabilizer attachments, mulchers and rock and stone crushers.



Land Clearing

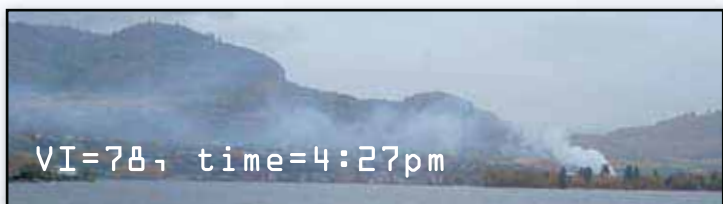
- Before removing trees, research bylaws and provincial/federal regulations on removal, then **CREATE A DISPOSAL PLAN**.
- Research various disposal options; salvaging, chipping (see pg.14,15), full tree mulching, local saw mills and/or log home builders.
- Check with your local composting facility, many accept wood waste whole or chipped for composting.
- If burning is the only option and is permitted in your area, consider using a curtain burner, but first check local bylaws and Provincial Open Burning Smoke Control Regulations.



Wood waste is a valuable resource

VENTILATION INDEX (VI)

- **BEFORE BURNING**, check local bylaws for burning restrictions and Ventilation Index requirements.
- A Ventilation Index is an estimate of how well smoke **SHOULD** be carried away from the surface (the valley bottom).
- Because it is an estimate, the reported VI is a general forecast. Specific venting forecasts are available for a fee if detailed data on your location is required.
- Use the VI as a tool, but do not rely solely on its forecast, as many other factors are involved in determining whether conditions are good for burning.
- The Provincial Open Burning Smoke Control Regulation states that the Ventilation Index must be “good” to conduct an open burn. Some local bylaws burning requirements are more stringent.
- **It is recommended that open burns are conducted on days when the Ventilation Index forecast is 65 or greater.**
- In some areas, the VI and Air Quality forecast must both be good in order to burn. Check your local bylaws before burning.
- The higher the Ventilation Index, the better the smoke will disperse.
- The VI is generally higher in the afternoons than in the mornings. Venting is better in the afternoons.
- The key to minimize smoke is to burn small, hot fires, build piles to ensure good air flow, and be sure the fire is out by sunset.
- Clear, cold, calm winter days are poor venting days, as there are no up-drafts to carry smoke away from the surface.
- For burning season, mid March and April and mid October have the highest number of good venting days.
- Poor burning practices produce smoke.



OPEN BURN CHECKLIST

1. CONSIDER THE ALTERNATIVES

2. FOLLOW LOCAL AND PROVINCIAL BYLAWS

Call your local government for information on local burning, smoke or fire safety bylaws and to **obtain burning permits**.

The Provincial Open Burning Smoke Control Regulations (OBSCR) apply to all areas.

In BC, offenders of the OBSCR can be reported to the toll free hotline (24hr) at 1-877-952-7277 or online at www.env.gov.bc.ca/cos/rapp/rapp.html

3. CHECK THE VENTILATION INDEX (VI)

For BC, the VI Smoke Control Forecast is available toll free at 1-888-281-2992

4. REPORT BURNING PERMIT NUMBER

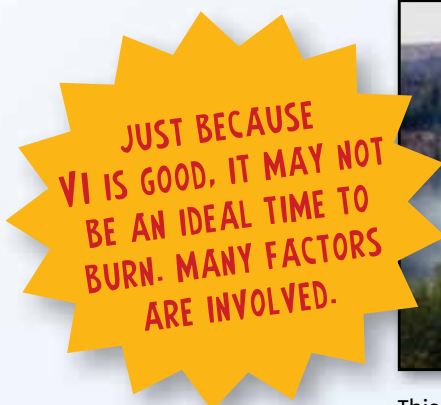
Before starting your burn, you must call in your burning permit number to activate it. The number to call will be on your permit.

Areas without a local government burning bylaw may require a burn registration number from the Ministry of Forests, Lands and Natural Resource Operations. Call Toll Free: 1-888-797-1717

5. CONDUCT A SMALL TEST BURN

Even though the VI is good on the day you are conducting a burn, it is important to test local conditions to ensure the smoke is not travelling along the ground through residential or school areas.

6. BURN ACCORDING TO BEST MANAGEMENT PRACTICES



This photo demonstrates poor wind dispersion and poor burning practices, creating a smoke load on the valley bottom and releasing a large amount of pollutants into the air. (See About Valley Communities, pg 4)

Prunings: ground crops or yard waste



DO NOT BURN YARD WASTE.
IT CREATES UNNECESSARY POLLUTION.

The burning barrel is no longer an acceptable method of disposal for yard or farm waste (Prohibited in some areas).

- **PRUNINGS** can be left on the ground and flail mowed or chipped. You can also haul prunings to the landfill or composting facility (Some landfills do not charge tipping fees on properly prepared agricultural wood waste, such as the RDOS).
- **LEAVES AND GRASS CLIPPINGS** Never burn as they will smoke and smolder creating significant smoke pollution. Mulch, compost or deliver to your landfill where they will be utilized for compost. Search "Grass recycling" on the web for tips on utilizing grass clippings in lawn care.
- **GROUND CROPS** can be mulched and worked back into the soil to add nutrients for new crops. They are also a valuable contribution to a compost pile.
- **VARIOUS MULCHERS** (flail mowers) are available to attach to the tractor to mulch prunings. **PORTABLE CHIPPERS** are also available at equipment rental outlets.
- If mulching, move branches to the center of the rows and distribute material evenly to avoid clogging of the flail mower (clogging could damage mower equipment and the tractor).
- Drive slowly over pruned branches (driving too fast will leave large wood pieces).
- Heavy duty mulchers will mulch prunings up to 3" in size.
- If chipping prunings, they can be laid so the butt ends are facing one direction for faster chipping.
- Or they can be gathered and placed in a long pile for chipping with a larger chipper.
- Piling prunings takes more time to chip as each branch would have to be pulled out of the tangled pile.
- Grants may be available to purchase mulchers or chippers. Check with your grower association and with the Environment Farm Plan Program.
- Some growers may rent out their mulching mowers or do custom mowing. Tree fruit cooperative newsletters is an example of where growers may advertise.




**ORGANIC
MATERIAL
BEING WORKED
BACK INTO
THE SOIL**

CORN FIELD

COMPOSTING

**BAGGED for
curbside pickup**

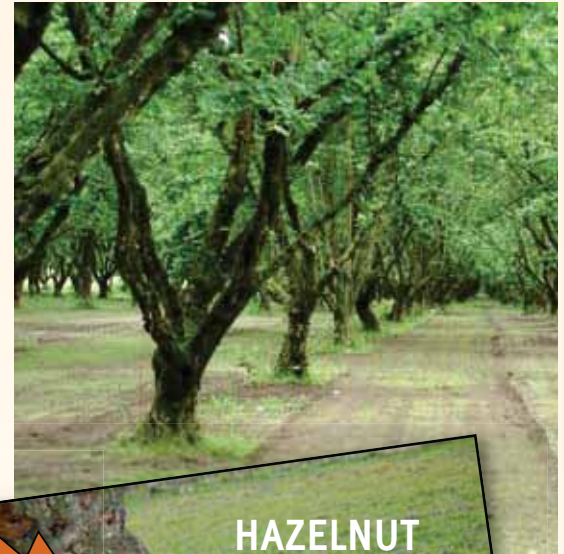
Prunings: berry growers, Hazelnut orchards

- The amount pruned and size of prunings varies with each type of crop however the disposal options for all are the same.
- Prunings are a valuable resource when mulched, chipped, composted and fed back to the soil. (See page 16-18 of this guide.)
- **BERRY CROPS** such as Blueberry and Raspberry cane prunings average in size of 1/4" to 3" and are flail mowed or chipped. 
- The smaller pruning canes lying in the field are mulched with the tractor lawn mower or a flail mower.
- The larger pruning canes are chipped and chips placed along the pruned bushes.
- **HAZELNUT TREES** grow suckers at the base of the tree. These are clipped off and can be mulched or chipped. Weavers may also want to use them for basket making.
- Larger branches can be chipped. (See page 15 of this guide.)
- Larger prunings, when dried, are sometimes used for fire wood in home heating, campfires or sold to food industries.
- For information on mulching prunings with a Flail mower, see page 22 of this guide.
- **CHIPPING PRUNINGS:** There are now chippers on the market that are self-propelled that will fit in between crop rows. (See page 15 of this guide.)



- **HAULING:** Growers can haul prunings to a local composting facility.
- Check the internet or phone book for local composting facilities.

- Check with local landfills on specifics for hauling to the landfill.
- Many landfills now chip wood waste and compost.
- **BURNING IS NOT RECOMMENDED** for prunings as they are easily managed with a flail mower and or chipper. However, If choosing to burn; ensure prunings are dry and stacked for sufficient air flow to produce a hot, smoke free fire which will reduce the level of smoke pollutants. (See pages 4-6 and pages 19-21 of this guide.)
- **DISEASED MATERIALS:** It is best to find out what the guidelines are for each individual disease and speak with a plant pathologist before choosing a disposal method for diseased materials. When in doubt, landfill burial at your local landfill is best.



Prunings and larger wood waste are best chipped when green and not overly dry. Chipping dry prunings and larger wood waste is harder on the equipment and creates dust.



Nursery Waste/Composting

**PLANT WASTE
IS A VALUABLE
RESOURCE WHEN
COMPOSTED.**



- Compost is food for the soil and reduces reliance on petroleum-based fertilizers, pesticides and herbicides.



- Professional landscapers, arborists dropping off materials to this nursery and placing in a windrow, which is later chipped with a grinder.

- First stage, once material has been chipped.



- “Hog Fuel” (wood waste from mills) is used at this nursery to build potting mixes, when mixed with plant residue compost.



- Raw hog fuel (left) and completed compost (right).

- Compost piles at two stages (one on the left is newer).



- During the composting process, monitoring the temperature is important, as is turning/mixing the compost pile.



- Special thermometers come in different lengths. At this facility, a four foot thermometer is used to measure temperatures in the centre of the windrows.



- Keep records and monitor the pile(s) carefully at various stages.
- For additional composting info, see page 17 of this guide.



Nursery Waste/Composting

Before choosing a disposal method for diseased materials: It is best to find out what the guidelines are for each individual disease and speak with a plant pathologist. When in doubt, landfill burial at your local landfill is best.



NOT COMPOSTING ON SITE? Deliver nursery plant waste to other composting sites – check the internet for composting companies near you.

NO TIME TO COMPOST? Look into contracting your composting operations to Composting Specialists.

DON'T KNOW HOW TO START? Consult composting experts, start by checking with Ministry of Agriculture office. Search the web.

- Compost piles in dryer climates can get too hot or too dry and require irrigation to manage the composting process and to avoid combustion.
- In wetter climates, adequate moisture still must be maintained at 50%. Irrigation may not be required in wetter months.
- Constant monitoring is the key to successful composting!



TOO DRY



CHECKING LAYERS



NURSERY PLASTICS – there is value in recycling plastics, as it reduces landfill waste, preserving the life of landfills.

It is important to do our part and recycle plastic.

Some nurseries utilize bailers, while others bundle tie or bale. (See page 26-33 for more information on Agricultural plastics recycling.)



UNWANTED OR OLDER WOOD PALLETS – contact local composting facilities to see if they will take them. Many composting facilities will take clean wood waste, including unpainted pallets. Discard painted pallets at your local landfill (it is illegal to burn any painted or treated products).



TURNING THE PILE

Agricultural Plastics Recycling

Check whether your area has an Ag-Plastics recycling program. If not, encourage one! If there is, contact them for specific details on preparing your plastic for recycling.

To ensure a successful recycling program for Agricultural plastics, please follow these guidelines:

CHEMICAL AND FERTILIZER CONTAINERS

- Return to dealer (see page 33)

ALL OTHER AG-PLASTICS

- Plastics must be emptied of all contents.
- Plastics must be as clean as possible, dry and sorted.
- Place materials of the same plastic product in its own Ag-Plastic collection bag (See following pages for more details) For those living in the RDOS region, call or visit your local landfill for your Ag-Plastic collection bags.
- Whether provided or purchased, clear bags must be at least 3mm in thickness, so they do not tear easily. If you have woven totes on your farm, they can also be used for collection.
- Do not overfill the collection bags as they must be tied shut (Use zap ties or twine - no wire).
- Deliver to your collection site, to the Ag-recycling collection area and place in correct category (look for signage).
- Keep Ag-Plastic Recycling Area sorted and free of garbage.
- To better manage space in designated collection area, place filled bags up against other bags.



Ag-Plastic Collection bags must be clear and at least 3mm in thickness.

NOTE: NOT ALL AREAS HAVE AN AG-PLASTICS RECYCLING PROGRAM. CHECK WITH YOUR LOCAL GOVERNMENT.

DO NOT HIDE GARBAGE!

Tractor belts, metal, household siding, insulation, paint, partly filled fertilizer bags, chemicals, empty chemical containers or household garbage create a health risk for those handling the materials and damage the plastic processing equipment.





LIVESTOCK FEED PLASTICS

BALE TWINE

- This easy removal method keeps twine clean and won't break apart your bale:
 - hold knot and cut twine close to knot
 - holding the knot, pull twine through bale
- Clean off hay or debris (recycler will REFUSE if it is not totally hay-free).
- Store twine in the Ag-Plastic collection bag or a clean Super Sac.
- Tie the filled bag closed, so that none of the contents spill out.
- Deliver your clean, sorted and tied full bags to your local landfill and place in the correct collection area.

SILAGE WRAP/BUNKER SILO COVER

- Remove most contaminants.
- If wet, hang to dry.
- Large pieces can be folded then rolled up tight and bagged. The folded & rolled material can also be bundle-tied, but must be tied well so as not to come apart.
- Smaller pieces of silage wrap can be bagged. Don't overfill. Tie the bag closed.
- DO NOT mix other materials with silage wrap or with bunker silo cover.
- Deliver your clean, sorted and tied bags or bundles to your collection site and place in the correct collection area.



BALE NETTING

- Must be bagged separately from strapping, twine, wrap or any other material.
- Netting must be clean. If the straw cannot be removed, it must go to the landfill garbage area.

FEED BAGS

- Bag separately for recycling.



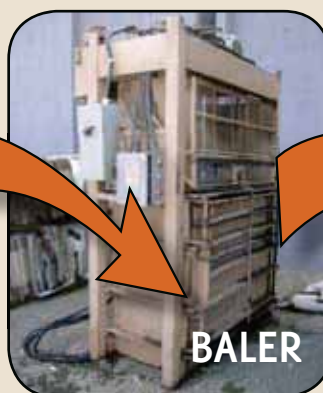
TOTE BAGS

- May use as collection bag, or recycle other totes into a tote.



NURSERIES and GREENHOUSES

- All film plastics must be sorted, fairly clean, and dry.
- All plastic bags must have contents emptied and be fairly clean before bagging or baling.
- Separate clear greenhouse film from colored film plastics.
- Greenhouse film can be baled or bundle-tied well, and kept from UV exposure to keep it from degrading and getting contaminated/dirty.
- Trimmings and smaller pieces of film can go into Ag-Plastic collection bags and be taken to collection site.
- Thin film, such as shrink wrap, should be bagged/baled separately.
- Use cardboard at ends of bale to secure.
- Commercial operations may want to deal with plastic processors directly, as there may be financial compensation for recycling.





PLANT POTS and TRAYS

- **MUST BE CLEANED, SEPARATED AND BAGGED.**
- Soil must be removed before recycling, as it damages the recycling equipment.
- Do not overfill Ag-Plastic collection bags as they must be tied closed so the contents do not spill out.
- It is **IMPORTANT** to sort different types of pots and trays into rigid or flimsy plastics, as well as into colors. This allows the recycler to create colored pellets.



NOTE: IF YOU ONLY HAVE A FEW POTS, SEE IF THEY CAN GO WITH YOUR HOUSEHOLD/CURBSIDE RECYCLING.

ORCHARDS/VINEYARDS

BLACK POLY IRRIGATION TUBING

- Remove sprinkler heads. Also remove metal clasps and any metal fittings (metal will damage plastic processing equipment).
- Cut tubing into lengths in order to fit into Ag-Plastic collection bags for recycling.
- Tie bags shut so contents do not spill out.
- Rubber watering hoses, such as the green watering hoses, are not accepted – place those in garbage.



**NOTE: TUBING
MUST NOW BE
BAGGED, NOT
BUNDLE-TIED.**



**DO NOT MIX
PVC, BLACK TUBING
AND T-TAPE**



**DO NOT INCLUDE
GARDEN HOSES**

T-TAPE (drip irrigation tape)

- Separate t-tape and bag for recycling.
- Deliver your sorted and tied full bags to collection site and place in the correct collection area.

WHITE PVC PIPE

- Recycling PVC is a difficult process. Check with your local collection site FIRST to see if they are able to accept PVC pipes before proceeding with preparations for recycling.
- Check with other growers to see if they are interested in reusing.
- Separate pipes from tree or posts.
- For recycling, all metal and glue fittings must be removed and placed in landfill garbage area.
- If you cannot remove glue and metal fittings, the entire PVC pipe must go to the landfill garbage area.
- All other PVC materials, including household vinyl siding, are **NOT** acceptable through Ag-Plastic Recycling programs.

PLASTIC TIES and TREE BANDS

- Remove and bag separately.



**BAG NOT TIED
SHUT - CONTENTS
SPILL OUT**



**REMOVE
SPRINKLER
HEADS**



SEPARATE

**CLEAN
NETTING**



**NETTING
CONTAMINATED
WITH FOLIAGE**

**TOO MANY VINES
IN NETTING**

**CLEAN NETTING
READY FOR BAGS**



VINEYARDS

NETTING

- Netting must be free of vines, foliage. If it is not, it must be disposed of in the garbage.
- Separate and bag netting by color in heavy duty bags (not garbage bags) or provided Ag-Plastic collection bags.
- Tie the bag closed.

FILM PLASTICS FROM GROW TUBES

- Remove plastics from grow tubes.
- Separate rigid and flimsy into separate Ag-Plastic collection bags.

BLADDER BAGS

- Not part of the RDOS Ag-Plastic recycling program.
- Commercial operations – deal with plastic processors directly, as there may be financial compensation for recycling.
- Rinse, dry, cut and fold large sheets into manageable sizes.
- Do not leave loose, as they collect dirt and other contaminants.
- Discuss preparation details and shipping with plastic processor.

FILM PLASTICS SURROUNDING BLADDER BAGS

- Sort clear, black and colored film and bag or bale separately.

SEPARATE

**BLADDER BAGS
LOOSE AND
UNCLEAN**

CUT and FOLDED



GROUND CROPS/BERRIES

BLACK GROUND COVER

- Only remove ground cover when land is dry, not wet.
- To remove dirt from ground cover row ends:
 - a) Poke hole with hand through the plastic. Move hand underneath the plastic to lift and shake off excess dirt, or
 - b) Cut off ground cover row ends and areas that are caked with dirt and dispose of any dirty or contaminated plastic separately in the garbage, to be landfilled.
- Shake dirt off as you collect ground cover from the rows for recycling.
- If ground cover cannot be cleaned of crop residue, it must be landfilled, not recycled.
- Separate T-tape or other irrigation product from ground cover plastic and bag ground cover in its own Ag-Plastic collection bag.
- Do not overfill the Ag-Plastic collection bag, as the bag must be tied closed to avoid spillage.



T-TAPE

- Bag T-Tape separately in its own Ag-Plastic collection bag.

BERRY CRATES

- Sort by color and type.
- Bag or bundle-tie well, so they do not fall apart.



GRAIN BAGS

- Empty and clean for recycling
- Large pieces can be bundle-tied, but must be tied well, so as not to fall apart.
- DO NOT mix other materials with grain bags.
- Deliver clean, sorted and tied bags to your collection site.





**ALL EMPTY CHEMICAL
CONTAINERS
MUST BE RETURNED
CLEANED
TO YOUR GROWER SUPPLY
STORE OR POINT OF SALE.**

AGRICULTURAL CHEMICAL CONTAINERS

RECYCLED SEPARATELY FROM ALL OTHER AG-PLASTICS

- All empty chemical containers must be returned **CLEANED** to your grower supply store or point of sale.
- **CLEANED** means rinsed until all residue is removed (More than three rinses is needed).
- Rinse containers with caps on to avoid accidentally splashing and this also removes the residue from the cap.
- Cap and booklet are then placed into the garbage and landfilled.
- Important to **RINSE** immediately when the containers are emptied so that the residues are dumped into your sprayer. Never allow the chemical to dry to the walls and bottom of containers.
- It is very important to remove all the residue from the containers to ensure safe handling for recyclers.
- It is illegal and dangerous to burn any type of plastic, including chemical containers and bags.
- It is also now **ILLEGAL TO BURY** chemical containers. They are not accepted at landfills as they are a recyclable product and must be returned to your grower supply store.
- Until you are ready to return the cleaned chemical container back to point of sale, **STORE IN A LOCKED SITE** or away from sites where the container may accidentally be reused for other purposes. This is a worker/ farm safety practice. Not following this practice can result in a failed food safety audit.
- Chemical bags should be rinsed directly into the sprayer and then tossed into the garbage and landfilled. Never burn.
- It is illegal to landfill chemicals whether in a bag or in a container. Unused chemical and/or fertilizer containers and bags **MUST** be stored in a locked storage shed until a collection occurs in your area.



Please do your part and recycle empty chemical/pesticide containers by rinsing until all residue is removed, remove cap and booklet and return clean container to your farm supply store. Caps from the containers must go into the garbage and not burned.

ILLEGAL TO BURN

ILLEGAL TO BURY

Orchard/Vineyard removal

BEST MANAGEMENT PRACTICES CHECKLIST

1. REMOVE SURFACE MATERIALS AND DISPOSE OF SAFELY (ILLEGAL TO BURN)

It is illegal and dangerous to burn surface materials because when burned they release toxic chemicals that are harmful to our health and can contaminate water, soil and plant surfaces.

a. Safe Disposal of Wire:

- ❑ Take the time to remove wire, and the materials holding the wire in place.
- ❑ Reuse metal clips or recycle them.
- ❑ If the plastic ties are not reusable, recycle or dispose of them in the garbage.
- ❑ If wire cannot be reused, roll and dispose of at your local landfill where it is recycled or contact your local metal salvager for drop off locations.
- ❑ Wire spooling machines allow wire to be salvaged in a manner which makes re-use easier.
- ❑ Tag and set aside any trees/posts that have wire or a metal post embedded in them. Separate from other trees during excavation, as they cannot be burned or chipped.
- ❑ Wire is coated with a thin layer of another metal such as lead
- ❑ Never burn wire or metal posts - it is illegal.

b. Safe Disposal of Irrigation Tubing & Sprinkler Heads & PVC Pipe:

- ❑ Remove black poly irrigation tubing and materials holding the irrigation tubing in place.
- ❑ If not reusing, prepare irrigation tubing for recycling by removing sprinkler heads and all metal clamps and fittings; then cut the tubing into pieces and bag in heavy plastic bags that won't tear or bag in woven tote bags.
- ❑ If not reusing sprinkler heads, ask other growers if interested in reusing and if not, bag and place in the garbage.
- ❑ If there is no recycling in your area for irrigation tubing then dispose of in the garbage.
- ❑ Check with local government office on whether there is a recycling program for agricultural plastics in your area. If not, encourage one. (See page 26-34 for details)
- ❑ If removing PVC pipe (above ground or subsurface), it must be separated from the tree wood material. PVC is difficult to recycle and therefore must be tossed into the garbage if not reusing. It is illegal to burn PVC. Note: If there is a recycling market for PVC, all the glued fittings must be removed and the PVC bundle tied. The glued fittings would go into the garbage.
- ❑ Remove plastic tree bands.
- ❑ Never burn.

c. Safe Disposal of Treated Wood Posts:

- ❑ Remove posts before removing trees or vines; if impossible then ask your excavator operator to separate posts from trees or vines while excavating.
- ❑ Pull the whole post rather than breaking off.
- ❑ Reuse treated wood posts, or dispose of at your local landfill (do not chip treated posts).
- ❑ Some landfills do not charge a tipping fee on Agriculture Treated Support Posts. Call your local landfill for details.

- ❑ It is illegal and dangerous to burn treated wood as it contains arsenic.
- ❑ Disposal of treated posts remains a challenge and growers are encouraged to research other post options for future plantings.
- ❑ Removed posts can be resold or offered to other growers for reuse (large diameter posts are ideal for deer fencing).
- ❑ If using metal/plastic posts, separate from trees.
- ❑ Never burn.

2. REMOVAL OF TREE, GRAPE VINE or BERRY CROP WOOD WASTE

Wood waste is of value while the burning of agricultural wood waste is a major contributing factor to air pollution and a waste of a natural resource. Adoption of new practices is encouraged due to health effects from wood smoke and due to evolving regulations and new restrictions on burning.

Salvaging, chipping or hauling wood waste to the landfill where it is chipped are good options for disposal of agricultural wood waste.

a. Research The Disposal Options: Salvaging, Wood Chipping, Burning

- ❑ Call your local government, packing house and grower association to ask what disposal options are available, if funding is available for removal and if there are any chipping programs or programs providing funding to purchase chippers.
- ❑ Put an ad on the internet or in the papers advertising the type and size of wood available.
- ❑ Speak with an Environmental Farm Planner, field staff working with the Ag-research centres.

b. Wood Salvaging:

- ❑ Firewood; (important to dry at least 6 to 8 months before using)
- ❑ Furniture makers, local artists.
- ❑ Larger trees can be milled for flooring.
- ❑ Wood salvaging businesses who sell dried fruit wood or dried fruit wood chips to food companies to smoke foods, to restaurants using fruit wood for cooking, to businesses compressing wood chips for barbecuing or heating or to other provinces to be used for home heating.
- ❑ If salvaging, check with your excavating company on how much of the tree is needed for excavation (minimum trunk height).
- ❑ There are various salvaging methods. Be sure to plan for each part of the tree: branches, trunk, and stump.
- ❑ Remove small branches and pile in middle of each row, ready for disposal by a portable chipper or mulcher (check to see if there is a chipping program in your area). If not, renting a portable chipper is a good option.
- ❑ Discuss with the contractor whether to haul the stumps to a landfill or bring in a tub grinder to grind both stumps and branches.
- ❑ Check to ensure the tub grinding equipment can access your property.

c. Wood Chipping:

- ❑ Growers must inform their excavator operator to remove most dirt and rock from the roots.
- ❑ Chip size is best about 1' to 2" in size.

- ❑ Benefits of using wood chips as a mulch: weed control, water retention, prevent soil erosion, breaks down and feeds the soil.
- ❑ Chips can also be used as a soil amendment or added to compost pile (to learn more on building healthy soils, see back cover for additional resources).
- ❑ Some local governments provide a chipping service as an alternative to burning.
- ❑ Some companies buy dried wood chips for various food processing markets.
- ❑ Chips can also be used for landscaping, dust suppressant on roads.
- ❑ For more information see the BC Environmental Farm Plan Guide, call your local Ag-Research Centre, or ask your Field Staff Advisor.
- ❑ There are various sizes of portable chippers and tub grinders available.
- ❑ Many landfills now chip wood waste, and some landfills do not charge a tipping fee on correctly prepared agricultural wood waste. Call your local government or landfill for more details.

d. Wood Burning:

- ❑ Growers must inform the excavator operator to remove most soil and rock from the roots (Soil left in the roots will create more smoke pollution, Burning destroys the health of the soil).
- ❑ Pile tree wood waste piles for sufficient airflow in order to achieve a hot burn with little smoke. Never add other materials such as painted or treated wood, garbage etc. to the wood burning pile.
- ❑ Dry wood waste before burning (wet wood creates more smoke pollution). Stumps take longer to dry.
- ❑ Avoid burning freshly removed stumps and roots as these release a significant amount of smoke. Alternatives include chipping, seasoning the material, or taking to the landfill where it is chipped (some landfills do not charge a tipping fee on agricultural tree waste).
- ❑ Valley communities have poor wind dispersion and temperature inversions where smoke collects in the valley bottoms – Check local municipal, regional, and provincial bylaws and regulations before burning.
- ❑ Organic growers must meet the disposal criteria for organic standards in order to keep their certification.
- ❑ Avoid burning if grapes or other neighbouring crops have not been picked. Your burn could cause smoke and ash damage to the fruit and pose a health hazard to orchard/vineyard workers.

e. Wood Smoke:

- ❑ Is caused by the incomplete combustion of wood and consists of a complex mixture of gases and very small particles called particulate matter (PM_{2.5}).
- ❑ It is a significant contributor to air pollution.
- ❑ Emissions from wood burning can trigger congestion, coughs, headaches, and eye and throat irritation, even in otherwise healthy people. It can also increase the severity of existing conditions such as asthma and emphysema. People most at risk are children, the elderly and those suffering from chronic respiratory and cardiovascular disease.

f. Excavating:

- ❑ Discuss your disposal plan with all contractors before work begins.
- ❑ Growers must inform the excavator operator to remove most dirt and rock from the roots.
- ❑ Before excavating, all surface materials must be removed. Remind excavator to separate any trees identified with embedded wire or metal post.
- ❑ If salvaging wood, or chipping, check with those contractors how they want the wood prepared before excavating. (Some salvage

companies prefer to salvage the wood before the tree is excavated) (If chipping, correct preparation saves time and money)

- ❑ It is good practice to have the excavator fill the holes as they go, and set aside any subsurface PVC irrigation lines that have been unearthed in the tree removal.

3. PRUNINGS

- ❑ Various mulchers (flail mowers) are available to attach to the tractor to mulch prunings. Portable chippers are also available at local equipment rental outlets.
- ❑ If mulching, move branches to the center of the rows and distribute material evenly to avoid clogging of the flail mower (clogging could damage mower equipment and the tractor)
- ❑ Drive slowly over pruned branches (driving too fast will leave large wood pieces).
- ❑ Heavy duty mulchers will mulch prunings up to 3" in size.
- ❑ If chipping prunings, they can be laid so the butt ends are facing one direction for faster chipping, or they can be gathered and placed in a long pile for chipping with a larger chipper.
- ❑ Piling prunings takes more time to chip as each branch would have to be pulled out of the tangled pile.
- ❑ Grants may be available to purchase mulchers or chippers. Check with your grower association and with the BC Environmental Farm Plan Program.
- ❑ Some growers may rent out their mulching mowers or do custom mowing.
- ❑ Tree fruit cooperative newsletters are an example of where growers may advertise.

4. SAFE DISPOSAL AND RECYCLING OF AGRICULTURE CHEMICAL/PESTICIDE CONTAINERS:

- ❑ All empty chemical containers are to be returned cleaned, with caps and booklets removed to your grower supply store or point of sale.
- ❑ They are to be rinsed until all residue is removed (More than three rinses is needed).
- ❑ Rinse containers with caps on to avoid accidentally splashing and this also removes the residue from the cap. Cap is then placed into the garbage and landfilled.
- ❑ Important to rinse immediately when the containers are emptied so that the residues are dumped into your sprayer. Never allow the chemical to dry to the walls and bottom of containers.
- ❑ It is very important to remove all the residue from the containers to ensure safe handling for recyclers.
- ❑ It is illegal and dangerous to burn any type of plastic, including chemical containers and bags.
- ❑ It is also now illegal to bury chemical containers. They are not accepted at landfills as they are a recyclable product and must be returned to your grower supply store.
- ❑ Until you are ready to return the cleaned chemical container back to point of sale, STORE IN A LOCKED SITE or away from sites where the container may accidentally be reused for other purposes. This is a worker/farm safety practice. Not following this practice can result in a failed food safety audit.
- ❑ Chemical bags should be rinsed directly into the sprayer and then tossed into the garbage and landfilled. Never burn.
- ❑ It is illegal to landfill chemicals, whether in a bag or in a container. Unused chemical containers and bags can be stored in a locked storage shed until a collection occurs in your area.
- ❑ Do your part and recycle empty chemical/pesticide containers by rinsing until all residue is removed, remove cap and booklet and return clean container to your farm supply store. Caps from the containers must go into the garbage and not be burned.

BC Programs

BC Agricultural Research and Development Corporation www.ardcorp.ca
(administers the Canada - BC Environmental Farm Plan Program and Beneficial Management Practices Incentive Program)

Certified Organic Association of BC www.certifiedorganic.bc.ca

Canadian Organic Growers www.cog.ca

Globalgap www.globalgap.org

Food Safe www.agf.gov.bc.ca

Provincial Regulations available online at www.bclaws.ca
(Select 'Laws' tab from menu. Acts are listed alphabetically, Regulations fall under the specified Act)

Agri-Food Choice and Quality Act
Organic Agricultural Products Certification Regulation

Environmental Management Act
Agricultural Waste Control Regulation
Open Burning Smoke Control Regulation
Organic Matter Recycling Regulation
Solid Fuel Burning Domestic Appliance Regulation
Waste Discharge Regulation

Farm Practices Protection Act

Fish Protection Act (Riparian Areas Regulation)

Integrated Pest Management Act

Health Act

Public Health Act

Wildfire Act

Federal Regulations

Canadian Environmental Protection Act
Environment Canada can regulate pollutants that they deem to be "toxic".

Agriculture and Agri-Food Canada www.agr.gc.ca
Agriculture and Agri-Food Canada is responsible for a number of Acts and Regulations related to agriculture and food in Canada.

Canadian Food Inspection Agency www.inspection.gc.ca
Canadian Food Inspection Agency is responsible for a number of Acts and Regulations related to agriculture and food in Canada.

Organic Product Regulation 2009

Local Government Bylaws

Although a local government cannot create a bylaw that is less stringent than a provincial regulation, it may set *more* stringent requirements.

Check with your local government office or fire department for any bylaws in your area.

Other Resources

Directory of Alternatives to Open Burning bcairquality.ca/topics/rcbc-alternatives.html

BC Environmental Farm Plan – Reference Guide

Online topics; 'Soil Management', 'Building Healthy Soils', 'Wood Smoke and Its Effects on Health' and 'Composting'

Composting recommended link:
www.agf.gov.bc.ca/resmgmt/publist/Waste_Mgmt.htm#composting

Pacific Agri-Food Research Centre, Summerland, BC and in Agassiz, BC

Grower Associations

BMP Videos on Utilizing Wood Chips, on Agricultural Plastics, and on Minimizing Smoke Pollution at www.youtube.com/AFootstepCloser

