

Strengthening Farming FACTSHEET



Ministry of
Agriculture and Lands

Order No. 820.200-1
December 2006

GUIDELINES FOR FARM PRACTICES INVOLVING FILL

This Factsheet describes farm practices involving soil and/or woodwaste fill, and the rationale/references for these practices. The Factsheet also includes suggestions to local governments as to the type of notice they may require, in order to balance the needs of a viable agricultural industry with the local governments' ability to take action against property owners who violate a bylaw, Agricultural Land Commission requirements, or other provincial and federal regulations.

Be Advised:

- The Agricultural Land Commission (ALC) Act defines "fill" as any material brought on land in the ALR. Except where exempted by regulation, the placement of fill in the ALR is a non-farm use activity and is illegal without approval or authorization of the ALC. The exemptions provided in the ALC Regulations, however, allow filling where necessary for farm uses, and other permitted uses, provided that the filling activity does not (a) cause danger on or to adjacent land, structures or rights of way, or (b) foul, obstruct or impede the flow of any waterway. For 'specified' farm uses a notification process is additionally set out in the Regulations.
- Fill to raise the soil surface elevation to address on-farm soil drainage issues typically requires an application to the ALC.
- Farmers are advised that a plan should be prepared prior to any fill use. The plan should describe the purpose as well as explain why the placement of fill is necessary for the farm use, or for a permitted use. It should include information on the location and area to receive fill, the volume, quality, and method of placement of the fill material, as well as any potential drainage impacts or requirements.
- Farmers should also check with their local governments in advance for any restrictive covenants, zoning, regulations or permit requirements that would prohibit/limit the use of fill.

Recommended Local Government Notice

Local governments are encouraged to exempt or waive permit requirements and fees for farm uses that are consistent with these farm practice guidelines. However, individual local government approaches vary, and specific requirements may be identified by a local government upon receipt of a notification. A sample local government fill notice is appended to this factsheet.

Definitions of Terms use in this Guideline

The terms “*woodwaste*” and “*soil*” are used repeatedly throughout this Factsheet in reference to “fill” materials that are suitable and appropriate for particular farm uses on agricultural land. The commonly accepted definition of these two “fill” materials is given below.

Woodwaste*:

Code of Agricultural Practice for Waste Management (under EMA) “Woodwaste includes hog fuel, mill ends, wood chips, bark and sawdust, but does not include demolition waste, construction waste, tree stumps, branches, logs or log ends.”

Note:

- While “woodwaste” is the term used in the regulations, it is actually a wood byproduct and not a waste material.
- Most woodwaste used for agricultural purposes may include bark material.

Farm Practices Description, BCMAFF, January 2004 “Woodwaste deposits must not exceed a total depth of 30 cm, which should be achieved by applying layers that do not exceed 15 cm per year. The volume and manner in which woodwastes are applied must follow good agronomic practices for the soil type, climatic area and crop to be grown.”

Note:

- Woodwaste storage would obviously exceed the 30 cm depth.

Soil**:

The definition in the Agricultural Land Commission Act is “includes the entire mantle of unconsolidated material above bedrock other than minerals as defined in the *Mineral Tenure Act*.”

Note:

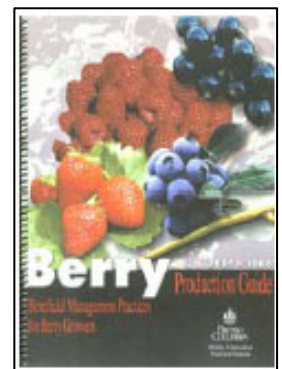
- A local government bylaw definition may wish to only include clay, silt, sand, gravel, cobbles or peat.
- Soil is typically a mixture of mineral material, organic (living and decaying) matter, air and water that is capable of supplying nutrients, moisture, and can serve as a growth medium for plants.

Guidelines

a) Applying woodwaste* as a soil conditioner at planting (e.g. for new plantings of blueberries or cranberries)

i) *Berry Production Guide, BCMAFF, 2005-2006*

- In blueberries, plants grown on mineral soil will benefit from the application of sawdust before planting.
- Woodwaste (shavings or sawdust) is used as a soil amendment to improve the tilth of raised planting beds on mineral soils. Build raised beds after the sawdust is incorporated.
- Good drainage can be promoted by incorporating a small amount of sawdust in the beds before planting.
- Before transplanting on mineral soils, apply a 5 to 10 cm layer of sawdust over the planting bed and incorporate into the top 15 to 20 cm.
- The optimum soil pH for blueberries is 4.5 to 5.2. Sawdust, incorporated into the soil when beds are formed, lowers the soil pH slightly and also increases the organic matter content.





ii) Crop Profile for Cranberries in British Columbia BCMAL, 2006

- Some growers, especially those who do not have ideal peat, may layer sand or sawdust over mineral soils in order to plant vines. This practice has been used very successfully to encourage vine establishment.
- In BC cranberries are grown primarily on peat soils. They are also grown on mineral soils with higher organic matter and in fields top dressed with sand or sawdust. They prefer an acidic pH of about 4.0 to 5.0 in the root zone.

iii) EFP Reference Guide, 2005

- Apply woodwaste as a soil conditioner only to mineral soils having a carbon-nitrogen ratio (C:N) of 30:1 or lower. Note: This C:N ratio does not apply to organic soils.



iv) Code of Agricultural Practice for Waste Management (under EMA)

- Part 7, Section 20: Wood waste may only be used for (a) plant mulch, soil conditioner, ground cover, on-farm access ways, livestock bedding and areas where livestock, poultry or farmed game are confined or exercised, b) berms for cranberry production, or c) fuel for wood fired boilers.

v) ALR Use, Subdivision and Procedure Regulation (under ALC Act)

- The storage and application of fertilizers, mulches and soil conditioners are designated farm uses and are specifically referred to as 'permitted farm uses' under the Regulations. The placement of these types of 'fill' materials is exempted from the requirements for a non-farm use application to the Commission. The necessity for land applying these 'fill' materials requires that their placement is for an agronomic purpose and at an agronomically determined rate. These activities are permitted subject to not causing danger on or to adjacent lands or fouling, obstructing or impeding the flow of any waterway. These activities, which include land application of woodwaste as a mulch or soil conditioner, may be regulated but must not be prohibited by any local government bylaw except a bylaw under section 917 of the Local Government Act.



vi) BC Cranberry Growers' Association

- Up to one foot per acre of woodwaste may be used to develop a new field on mineral soils.
Note: The use of soil amendments/composted organics is not part of a fill bylaw.

Typical Amounts Used

- For blueberries: 25 to 50 units per hectare, @ 5.7 cubic metres/unit.
- For cranberries: Up to 30 cm in depth, or 740 cubic metres/ha.



b) Applying an organic mulch (e.g. woodwaste*, coco fibre, etc.) to crops of blueberries, cranberries or strawberries

i) Berry Production Guide, 2005-2006

- Strawberries and blueberries are the two berry crops that most likely benefit from the use of mulches. In blueberries, woodwaste (shavings or sawdust) is used as mulch around established plants for improved weed, soil moisture, and temperature control.





- In strawberries, straw or wood chips can be used between crop rows to control weeds, reduce moisture loss by evaporation and protect from winter injury (BC Interior locations).
- In U-pick strawberry operations, wood chips or sawdust mulch can help in soil management and in keeping picker’s feet clean.
- Other ways to promote good drainage include covering raised beds with sawdust mulch.
- Blueberries often grow more vigorously and produce better yields if they are mulched. Apply 5 to 10 cm of sawdust to the surface of the bed the first year and every 2 to 3 years to maintain the mulch. The roots tend to grow into the mulch so as it decomposes the plant roots may become exposed if the sawdust layer is not maintained.

ii) Code of Agricultural Practice for Waste Management (under EMA)

- Part 7, Section 20: as noted above in section (a) of this factsheet, indicates that woodwaste may be used as plant mulch.



iii) Waste Discharge Regulation

- Section 3(5) (a): The use of industrial wood residue as plant mulch is exempt from section 6(2) and 6(3) of the *Environmental Management Act* (i.e. the prohibition against introducing waste into the environment).

iv) ALR Use, Subdivision and Procedure Regulation (under ALC Act)

- The storage and application of fertilizers, mulches and soil conditioners are designated farm uses for the purposes of the Act. For an agronomic purpose, the use of these types of materials, including organic mulches, may be regulated but must not be prohibited by any local government bylaw except a bylaw under section 917 of the *Local Government Act*.

v) EFP Reference Guide, 2005

- Limit the total outdoor depth of woodwaste for all crop areas to 30 cm (suggested).

vi) BC Cranberry Growers’ Association

- Woodwaste may be use to fill low areas in existing fields.

Typical Amounts Used

- For blueberries: 15 to 30 cm deep, 0.9 to 1.2 m wide, per row, (Note: typical row spacing is 3 metres).
- For cranberries: Up to 15 cm deep.

Additional Recommended Local Government Notice

- No notice required if re-applying mulch to existing plantings.



c) Applying woodwaste* as a ground cover

i) Code of Agricultural Practice for Waste Management (under EMA)

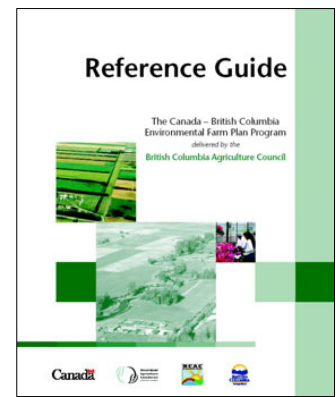
- Part 7, Section 20: as noted above in section (a) of this factsheet, indicates that woodwaste may be used as a ground cover.

ii) EFP Reference Guide, 2005

- Limit the total outdoor depth of woodwaste for all crop areas to 30 cm (suggested).

iii) ALR Use, Subdivision and Procedure Regulation (under ALC Act)

- Fertilizer, mulch and soil conditioner uses, that include storage and land application, and the placement of woodwaste as a ground cover on soil, are permitted farm uses for the purposes of the Act. For an agronomic purpose, the use of these materials may be regulated but must not be prohibited by any local government bylaw except a bylaw under section 917 of the *Local Government Act*.



Typical Amounts Used

- For landscaped areas around buildings, or weed suppression on berms, up to 15 cm per year.

Additional Recommended Local Government Notice

- No notice required if re-applying over existing ground cover.

d) Using woodwaste*/soil** for berms and on-farm access roads (e.g. on cranberry farms)

i) Berry Production Guide, BCMAFF, 2005-2006

- The use of woodwaste as described by the “*Code of Agricultural Practice for Waste Management*” is allowed on on-farm access ways and for berms in cranberry production.

ii) Code of Agricultural Practice for Waste Management (under EMA)

- Part 7, Section 20: as noted above in section (a) of this factsheet, indicates that woodwaste maybe used for on-farm access ways and berms for cranberry production.

iii) Code of Agricultural Practice for Waste Management (under EMA)

- Part 4, Section 8 (2): Solid agricultural waste may be stored on a field for more than 2 weeks if the agricultural waste is located at least 30 m from any watercourse or any source of water used for domestic purposes. Note: To ensure that field storage of manure is meeting setback requirements from watercourses, farmers may need to construct temporary access roads to manage manure storage sites.

iv) Crop Profile for Cranberries in British Columbia, BCMAL, 2006

- Fields are usually surrounded by roadways, which also act as dikes. The top of the dike should be wide enough to accommodate all equipment, including heavy trucks, and firm enough to support them at least 0.5 m higher than the maximum water level expected in the bed for harvest. Flood harvesting relies on the natural buoyancy of the fruit. The bed is flooded with 20 to 30 cm of water, depending on the evenness of the bed, vine growth, and method of harvest. Booms are used to trap the floating berries and direct them to a corner of the bed, where they are lifted into trucks by elevators.



v) BC Cranberry Growers' Association

- Cranberry fields are long term (greater than 50 year) investments. It takes 7 years after planting for a field to reach the financial break-even point. Cranberry field berms act as dykes and as roads, and are required for two types of farm traffic. Main roads must bear the weight of a fully loaded semi-trailer truck (e.g. 25,000 kg of cranberries for a total weight of 43,000 kg). Secondary roads/berms must be able to bear the weight of a pick-up truck. A typical berm will have a bottom width of 9 to 10.5 m narrowing to 3.5 to 5 m at the top. Some larger berms may be as wide as 7.5 m at the top. The berm profile typically consists of a layer of soil/woodwaste/structural fill at the bottom, topped with an optional geotextile fabric, followed by an 45 cm layer of coarse material (e.g. rock or broken concrete), and then topped with a 15 cm layer of fine material (e.g. crushed rock (e.g. "3/4 inch minus") or ground asphalt). Note: Sand is too pervious, and woodwaste breaks down over time. The minimum total height is 1 m, and there is no maximum height.
- The overall footprint of berms is decreasing as the quality of the roads is improved and older roads are removed.
- Similar material and construction is used for irrigation reservoirs.



vi) ALR Use, Subdivision and Procedure Regulation (under ALC Act)

- Berming, as a land development work, is designated a farm use that includes the construction, maintenance and operation of a driveway necessary for that farm use. This is interpreted to include building on-farm access roads on the top of berms. The placement of fill necessary for this type of land development work is also considered to be a designated farm use. To be necessary requires that the amount of fill brought on to the land for building the berms and roads shall be commensurate with the scale, scope and needs of the farm operation, as well as the parcel area and soils on the property.

Typical Amounts Used

- There is no typical amount of material per hectare for cranberry berms/roads, as their construction is site-dependent.
- Fill placed 6 metres wide and up to 60 cm deep would be typically suitable for other types of farm roads. The length and location of the road would vary, depending on the site.

Additional Recommended Local Government Notice

- No notice is required if maintaining an existing road or berm and volume to be used is less than 200 m³.

e) Using woodwaste*/soil** for livestock bedding/livestock pens/exercise yards/riding arenas/turnout yards/containment pens/feedlots

i) Code of Agricultural Practice for Waste Management (under EMA)

- Part 7, Section 20: as noted above in section (a) of this factsheet, indicates that woodwaste may be used for livestock bedding.



ii) Waste Discharge Regulation (under EMA)

- Section 3(5) (b) and (c): The use of industrial wood residue as foundation material for animal bedding, and in sports areas is exempt from section 6(2) and 6(3) of the Environmental Management Act.

iii) EFP Reference Guide, 2005

- Limit the total outdoor depth of woodwaste for all livestock areas to 30 cm (suggested).



iv) Horses in the Community....a Yea or a Neigh? BCMAL Factsheet, 2005

- A common problem to horse holdings in the wetter areas of BC is excess water and mud. This often results in damp stalls, hoof disease, wet feed, wet bedding and poor drainage in pastures, turn out paddocks, and exercise areas.
- Planning and hard work are required to maintain an outdoor riding arena or track that has clean, safe footing, is fairly easily maintained, that holds up in all kinds of weather and does not cause pollution. Riding arenas located on high dry land have proven to be the most trouble free and maintainable. Earth moving equipment may be required to level the site and create diversion ditches.
- Leveling the site beforehand eliminates the practice of leveling with woodwaste as a landfill and creating a potential source of contaminated runoff. Woodwaste use must not exceed a total depth of 45 cm and the maximum application rate at any one time should not exceed 15 cm. The best time to top-up woodwaste is in April or May. Look at alternate footing materials to replace woodwaste where wet land is a problem. Sand, combinations of sand and woodwaste, ground up rubber from tires and a host of products are intended to improve the riding arena footing.

v) Building an Environmentally Sound Outdoor Riding Ring BCMAL Factsheet, 2005

- The average size ring is approximately 21 m x 42 m. The minimum recommended size is 20 m x 36 m.
- The factsheet describes in detail the types of materials that may be used, including geotextile membrane, aggregate, sand, woodwaste, or organic materials.
- Select a convenient well-drained site. Remove all vegetation and topsoil. Crown the ring with a 2% slope from centre and form a swale around the outside. Compact the sub-base. Add a base of uniform dense graded aggregate; dampen and compact to 10 to 15 cm. Add a 5 to 7.5 mm cushion of sand, sawdust or a combination of sand and organic material.
- Note: Sawdust and shavings are also used in livestock barns (e.g. poultry, dairy) for bedding, and for trucks/trailers transporting livestock.



vi) ALR Use, Subdivision and Procedure Regulation (under ALC Act)

- Livestock operations and horse riding facilities (if the stables do not have more than 40 permanent stalls) are farm uses that include the construction, maintenance and operation of structures necessary for these uses. This is interpreted to include livestock pens/exercise yards/riding arenas and outdoor riding rings/turnout yards/containment pens/feedlots, etc.
- The placement of fill necessary for these farm uses is also considered to be a designated farm use. To be necessary it is required that the amount and type of fill used for the above structures shall be commensurate with the scale, scope and

needs of the livestock/equestrian facility, as well as the parcel area and soils on the property.

Typical Amounts Used

- 400 m² for three horses is a typical paddock area required, and a typical maximum depth is 30 cm.
- A typical riding ring size is described above.
- Amounts and fill materials used will be site dependent.

Additional Recommended Local Government Notice

- No notice required for bedding materials to be used in existing livestock barns, pens, yards or riding arenas.

f) Bringing in soil** (and possibly woodwaste*) for the building of berms for horizontal light abatement for greenhouses, for aesthetics, or as an urban/rural buffer

i) BCGGA and UFG Good Neighbour Guidelines for Lighting Greenhouses

- Greenhouses should have sidewall light abatement measures (for example curtains/screens, berms, trees etc.) for all walls that expose houses and streets to light emissions.
- Note: Greenhouses may be able to use soil previously excavated for buildings on the property.
- Note: Hedges may also be planted on top of berms, and mulched with woodwaste or spent growing media. Light abatement structures (i.e., berms plus plantings and/or fencing) would typically be at least 3 m high.

ii) BC Cranberry Growers' Association

- Berms may be built along the edge of property lines to contain sprinkler drift, spray drift, liquid fertilizer drift, to reduce visibility and protect equipment from theft. The profile would be similar to profile described in d) above. Hog fuel or gravel would be added on the top if the berm was also intended to be used as a road. Otherwise, cedar hedges may be planted on top.

iii) ALR Use, Subdivision and Procedure Regulation (under ALC Act)

- Berms, as a land development work, are a designated farm use that includes the construction, maintenance and operation of a structure necessary for that farm use. This is interpreted to include berms for building light abatement structures including the planting of hedges on top of the berms and fencing as a means of screening light from greenhouses. The placement of fill necessary for the farm use is also considered to be a designated farm use. To be necessary it is required that the amount and type of fill used for the berms shall be commensurate with the scale, scope and light abatement needs of the farm operation, as well as the parcel area and soils on the property.

Typical Amounts Used

- The amount of material varies as the footprint and size of the berms vary.

Additional Recommended Local Government Notice

- No notice is required if constructing a new berm or maintaining an existing berm and the volume to be used is less than 200 m³.

g) Using woodwaste* as fuel for wood fired boilers

Note: This is not a fill practice; however it is included in this factsheet as the storage of woodwaste for use as fuel may be misconstrued as being used for fill.

i) Code of Agricultural Practice for Waste Management (under EMA)

- Part 7, Section 20: as noted above in section (a) of this factsheet, indicates that woodwaste may be used for fuel in wood fired boilers.



Typical Amounts Used

- Amounts vary, depending on the size of the storage facility and boiler requirements.

Additional Recommended Local Government Notice

- No notice required if a boiler is installed.

h) Using woodwaste*/gravel/sand for container nursery bed production or ball and burlap production

i) Nursery and Landscape Pest Management & Production Guide, BCMAFF, 2002

- Land suitable for nursery stock production should be devoid of low frost pockets.
- Conifers and broadleaf evergreens are dug, and balled and burlapped, which means that a quantity of soil is left around the roots and secured with burlap and twine. In order to conserve topsoil on the site, efforts should be made to replace soil removed in the root ball by the addition of amendments such as compost. On the Coast it is possible to overwinter some (bareroot) material in a (60 to 90 cm) deep bed of sawdust. Heeling in sawdust will prevent desiccation.
- Managing soil organic matter is integral to sound soil management and is a key to long-term productive field operations, particularly where significant quantities of topsoil are removed over time. As an example, straw and woodwaste can be beneficial to soil, however, when added directly to the soil, nitrogen can be 'tied-up'. In order to avoid this, urea or an ammonium salt should be added at the same time. Woodwaste should only be applied in the top 10 cm of soil.
- When used for a container bed, woodwaste should be less than 30 cm deep and should be placed back from any waterway including a drainage ditch.



ii) EFP Reference Guide, 2005

- For preparation of nursery beds, geotextile fabrics either alone or in combination with sand and gravel are recommended as alternatives to woodwaste.

iii) Nursery and Turf – Commodity Description, BCMAFF, January, 2003

- For container production, mulch is required to create a stable working and growing area. Nursery growers use a considerable amount of woodwaste for on-farm and access roads, soilless media and container beds.



iv) BC Landscape and Nursery Association

- For ball and burlap production, growers may create a temporary bed of woodwaste that may be 1.5 m deep. After selling the plants they will spread the material to add organic matter to the field. Nurseries may also store piles of sawdust mixes/soilless media.

Note: Because of disease issues, e.g. Sudden Oak Death Syndrome, the Canadian Food Inspection Agency may require the building of deeper nursery beds to prevent the formation of standing water.

v) ALR Use, Subdivision and Procedure Regulation (under ALC Act)

- As a potential soil amendment, and where applied when collected, stored and handled in compliance with Part 7, Storage and Use of Woodwaste in the *Code of Agricultural Practice for Waste Management*, the use of woodwaste for container bed production is a designated farm use. To be necessary it is required that the amount of woodwaste applied to the land shall be commensurate with the scale, scope and container nursery bed needs of the farm operation, as well as the parcel area and soils on the property.

Note: In the ALR, the placement of soil** fill materials, for container nursery bed production requires an application to the ALC.

Typical Amounts Used

- Amounts and materials used will be site dependent.

Additional Recommended Local Government Notice

- No notice required if maintaining an existing nursery bed.

i) Applying sand or sawdust to cranberries

i) “Cranberries,” April-May 2005

- A process called “sanding” may take place. Sanding applies a fresh layer of sand into the fields where the cranberry vines are located. The sand will then sink to the bottom of the vines – to provide a new rooting zone along the cranberry stems, as well as aid in disease control by burying old plant residues. It covers up the old woody growth of the cranberry vines and forces the plant to produce what is referred to as “upright” – the young stems with the fruit buds. This makes for a much healthier plant.

ii) Crop Profile for Cranberries in Washington, 2000

- Beds have been drained, cleared, leveled and covered with a one to two inch layer of sand before the field is planted to select vines. A thin layer of sand spread over the bed stimulates new root and vine growth, improves aeration and drainage of surface water, and levels out low spots to make dry harvesting easier.

iii) Crop Profile for Cranberries in British Columbia, BCMAL, 2006

- Some growers, especially those who do not have ideal peat, may layer sand or sawdust over mineral soils in order to plant vines. This practice has been used very successfully to encourage vine establishment.
- Sanding cranberry vines is a method of stimulating the production of new uprights and roots, and is a cultural method of pest control.
- In BC cranberries are grown primarily on peat soils. They are also grown on upland mineral soils with higher organic matter and in fields of sand or sawdust. They prefer an acidic pH of about 4.0 to 5.0 in the root zone.

Typical Amounts Used

- The initial application is 15 to 20 cm deep (when planting). Topdressing every few years would be 2.5 to 5 cm deep. Filling of holes in established fields would be 15 to 20 cm deep.

Additional Recommended Local Government Notice

- No notice required for existing fields.

j) Soil** or woodwaste* amendments for turfgrass production



i) Nursery and Turf – Commodity Description, BCMAFF January 2003

- Mineral and/or organic material, such as sand, sawdust, compost or manure, is sometimes placed on the field to replace the soil that was removed in previous harvests.
- Note: The use of soil amendments/composted organics is not part of a fill bylaw.

ii) ALR Use, Subdivision and Procedure Regulation (under ALC Act)

- Turf farms are a specified farm use for which a notification to the commission is required for the placement of fill.

Typical Amounts Used

- 2.5 to 4 cm per crop; 1 crop harvested every 15 months.

Additional Recommended Local Government Notice

- No notice for existing turf fields using up to 4 cm of material per crop.

k) Farm buildings that take up less than 2% of the parcel



i) ALR Regulation Use, Subdivision and Procedure Regulation (under ALC Act)

- The construction, maintenance and operation of farm buildings, including, but not limited to any of the following: (i) a greenhouse; (ii) a farm building or structure for use in an intensive livestock operation or for mushroom production; (iii) an aquaculture facility, are designated farm uses for the purposes of the Act. They may be regulated but must not be prohibited by any local government bylaw except a bylaw under section 917 of the Local Government Act.
- For ‘specified’ farm uses, that includes the construction of greenhouses and farm buildings for an intensive livestock operation or for mushroom production, and where the fill ‘footprint’ exceeds 2 % of the property area, a notification process is additionally set out in the Regulations.

ii) ALC Policy: Placement of Fill or Removal of Soil: Construction of Farm Buildings

- The ALC, by policy, further sets limits for the placement of fill for particular farm uses (e.g. for construction of a single family residence the area is limited to 0.2 ha; for the construction of farm buildings the area is limited to 2 % of the parcel area).
- Where it has been determined through the building approval process that placement of fill or removal of soil is necessary for the construction of a farm building, of which the building area is less than 2% of the parcel, the acceptable volume of fill or soil removal is that needed to undertake the construction of the building.

- The over-riding principle is that the volume is reasonable and the quality of material is not deleterious to the agricultural quality of the land or the environment and all activity must be done in accordance with good agricultural practice.

iii) ALC Policy: Placement of Fill or Removal of Soils: Construction of a Single Family Residence

- The ALC allows fill for a single family residence building of up to 0.2 ha, subject to the local government approval process, typically through a building permit.

Typical Amounts Used

- The amount of materials used will vary.

Recommended Local Government Notice

- Building construction is typically regulated by municipal bylaws, and formal applications must be made to the local government. Requirements vary by municipality. Geotechnical reports and/or fill plans may be required as part of this process. In many cases, a building permit must be issued before any filling can proceed.

l) Farm buildings that take up more than 2% of the parcel

i) ALR Regulation Use, Subdivision and Procedure Regulation (under ALC Act)

- Buildings for ‘specified farm-uses’ (e.g. greenhouses, farm buildings or structures for an intensive livestock operation or mushroom production) greater than 2% of the parcel area, the owner must submit a Notice of Intent to the ALC and applicable local government of their intention to remove soil or place fill at least 60 days beforehand. The ALC’s CEO may request additional information within 30 days or receipt of the notice, and may order restrictions or set the terms and conditions for the conduct of that use.



Typical Amounts Used

- The amounts of materials used will vary.

Recommended Local Government Notice

- Some local governments may require the approval of a building permit application before any filling can take place
- Building construction is typically regulated by municipal bylaws, and formal applications must be made to the local government. Requirements vary by municipality. Geotechnical reports and/or fill plans may be required as part of this process. In many cases, a building permit must be issued before any filling can proceed.
- Applicants should include copies of the completed ALC “notice of intent” with their building permit application.

m) Fill for parking, loading and turnaround areas

i) ALR Use, Subdivision and Procedure Regulation (under ALC Act)

- Any activity designated as farm use for the purposes of the Act, including the construction, maintenance and operation of a building, structure, driveway, ancillary service or utility necessary for that farm use, may be regulated but must not be prohibited by any local government bylaw except a bylaw under section 917 of the *Local Government Act*. To be necessary, the amount and type of fill used for the above, which includes loading and turnaround areas and parking, shall be commensurate with the scale, scope and needs of the farm operation, as well as the parcel area and soils on the property.

- An application to the ALC is required where the proposed fill area on an individual parcel, for the above uses, exceeds 2% of the property area.

ii) Guide for Bylaw Development in Farming Areas, BCMAFF, 1998

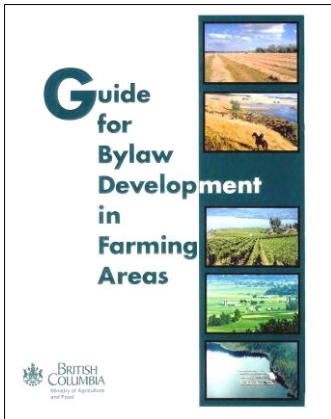
- Off-street parking spaces should be required for all commodities that undertake direct farm marketing. Produce stands/Nurseries: 1 parking space per 20 m² of direct farm marketing area; Greenhouses: 1 parking space per 15 m² of direct farm marketing area.

iii) BC Cranberry Growers' Association

- Areas for periodic staging and loading of large trucks, including semi-trailers, are required. Also required are areas to temporarily store/compost vine cuttings/trimmings. Parking is commonly required for workers during the harvest season.

iv) BC Greenhouse Growers' Association

- In order to accommodate staff/worker parking an area equivalent to about 400 m² per hectare greenhouse area under production may be required. Up to an additional 10% may be required for loading and turn around areas.



Typical Amounts Used

- Areas required will vary, depending on the commodity. For cranberries and greenhouses see the estimates listed above.
- Parking and loading areas should be appropriately sized and located so as to minimize removal of land from production.
- Local governments should be consulted prior to constructing such areas as some local government bylaws contain site coverage restrictions.

n) Using woodwaste* and sand for cranberry field drainage trenches

i) Crop Profile for Cranberries in British Columbia BCMAL, 2006

- Reservoirs and ditches are constructed to contain and move water for frost protection, irrigation and harvest, and to store water recovered from these operations. Some new fields are being constructed with perimeter drains which eliminate the need for a ditch around the fields inside the dike and allows for a greater usable crop area.

ii) BC Cranberry Growers' Association

- Drains are installed by digging a 60 cm deep trench (10 to 15 cm wide), placing a 75 to 100 mm perforated plastic drainage pipe, then filling with approximately 50 cm of woodwaste (usually aged cedar chips, not hog fuel), adding a geotextile cloth, and then topped with up to 15 cm of sand. The trenches would be placed approximately every 3 to 3.5 m throughout the field, in both new and existing fields.

Typical Amounts Used

- As described above.

Additional Recommended Local Government Notice

- No notice for existing fields.

METRIC CONVERSIONS

Metric	Imperial Equivalent	Metric	Imperial Equivalent
2.5 cm	1 inch	10.5 m	35 feet
4 cm	1.5 inches	20 m	65 feet
5 cm	2 inches	21 m	70 feet
7.5 cm (75 mm)	3 inches	36 m	120 feet
10 cm (100 mm)	4 inches	42 m	140 feet
15 cm	6 inches	15 square metres	160 square feet
20 cm	8 inches	20 square metres	215 square feet
30 cm	12 inches (1 foot)	400 square metres	4300 square feet
45 cm	18 inches	0.2 ha	0.5 acre
50 cm	20 inches	1 ha	2.47 acre
60 cm	24 inches (2 feet)	16.2 ha	40 acre
90 cm (0.9 m)	3 feet	40 ha	100 acre
1.2 m	4 feet	5.7 cubic metres	200 cubic feet (1 volumetric sawdust unit)
1.5 m	5 feet		
3.5 m	12 feet	1,230 cubic metres	1 foot depth over 1 acre
4.5 m	15 feet	18,300 cubic metres	23,900 cubic yards
5 m	16 feet	25 volumetric sawdust units per hectare	10 volumetric sawdust units per acre
6 m	20 feet	400 square meters per ha	1800 square feet per acre
7.5 m	25 feet	25,000 kg	55,000 pounds
9 m	30 feet	43,000 kg	95,000 pounds

Conversions in this table are rounded to a convenient number.

LIST OF ACRONYMS

ALC	Agricultural Land Commission
ALR	Agricultural Land Reserve
BCGGA	BC Greenhouse Growers' Association
BCMAFF	BC Ministry of Agriculture, Food and Fisheries
BCMAL	BC Ministry of Agriculture and Lands
EFP	Environmental Farm Plan
EMA	Environmental Management Act
UFG	United Flower Growers Co-Op Association

RESOURCE MANAGEMENT BRANCH

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December 18, 2006

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