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Cranberry Station Best Management Practices
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Preventing and Responding to a Fuel or Oil Spill

Carolyn DeMoranville
Cranberry Station, carolynd@umext.umass.edu

Hilary A. Sandler
Cranberry Station, hsandler@umass.edu

Tom Bicki

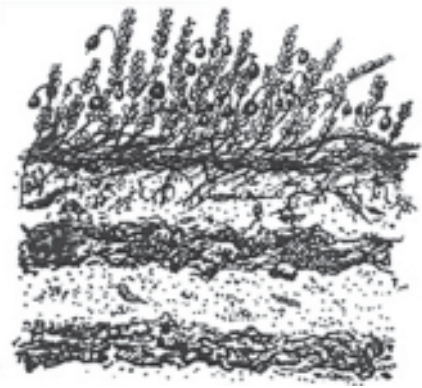
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BEST MANAGEMENT PRACTICES GUIDE FOR MASSACHUSETTS CRANBERRY PRODUCTION

Preventing and Responding to a Fuel or Oil Spill

The best way to reduce the possibility of a fuel or oil spill is to take preventative steps to minimize the chance that a spill will occur. Preventative steps include: (1) use of food grade oil; (2) proper storage and handling of fuel and oils and; (3) regular maintenance and inspection of equipment. In spite of taking these steps to minimize spills, accidents do occur.

Even though most spills tend to happen during harvest, you should be prepared to handle a fuel or oil spill at any time during the year. Should an accidental spill occur, be prepared to respond quickly. Clean-up preparedness requires: (1) prior training in clean-up procedures; (2) immediate availability of clean-up (spill kit) materials and; (3) prompt notification to the handler. Following the recommended practices will insure food safety and reduced environmental risk.

Despite the fact that the FDA tolerance, the legal allowable amount of food grade lubricant residue that can occur on cranberries, is 10 ppm, the goal of every grower should be to deliver fruit with no food-grade oil residue.

Remember that there is no tolerance for non-food grade oil or fuel on cranberries.

Recommended Practices

Equipment Maintenance and Preventative Measures

◆ **Employ preventative measures and maintain equipment.**

Always use food-grade lubricants (except crankcase oil) approved by the U. S. Food and Drug Administration and designated as H-1 in all equipment. Food grade oil has an FDA tolerance of 10 ppm. *Non-food grade oil has zero tolerance.*

Machinery subjected to high use should have annual replacement of hoses, fittings, seals, and hydraulic lines. Machinery subjected to low annual use should have components changed every 3 years. Pay particular attention to proper installation of seals, fittings, etc. Consult an equipment/parts supplier to determine the appropriate maintenance schedule for your equipment use.

Routinely inspect all fuel, oil, or fluid-containing fittings, hoses and seals during machinery operation to detect leaks. Inspect harvesting equipment as well as other machinery such as dike mowers and hydraulically or PTO-activated machinery operated on or near open water.

Inspect all fruit delivery trucks for fuel, oil, and fluid leaks before they enter the bog or harvest area.

Chock or block the wheels of harvest elevators, harvest pump trucks, and other equipment operated near the bog to prevent them from rolling into water.

Consider using a portable containment pad or constructing a temporary earthen dike around portable equipment that hold large volumes of diesel fuel, gasoline, or oil near open water. If an engine or pump tips over or leaks, the fuel or oil is retained inside the containment area and clean up is easier.

Place reusable containment booms in the water between harvesting equipment and the corralled fruit. Each boom should extend from the entrance of the elevator conveyor to the dike. In the event of a fluid leak, the contaminated water will be isolated from the corralled fruit.

Install ballcock-type shutoffs on hoses connecting the hydraulic fluid tank and pump. In the event of a hose rupture, deployment of the shutoffs will stop flow of fluid to the pump, significantly reducing the amount of fluid leakage.

Use of double-walled hydraulic fluid tanks will lessen the likelihood of leaks due to tank rupture.

Locate fuel and oil containing equipment such as auxiliary pumps and conveyor engines as far from open water as possible. Do not operate auxiliary pumps or engines on the edge of dikes. Keep them a safe distance away from open water to avoid an oil or fuel spill or leak into the water.

Small engines and pumps should be retro-fitted with a catch pan or basin to collect fuel or oil in the event of a leak or spill. The basin should be sized to contain at least 110% of the fluid storage capacity.

Consider converting gasoline powered engines on bog buggies, reeling machines and other equipment to propane fuel.

Spill Clean up Materials and Supplies

◆ **All growers should have a supply of fuel/oil clean-up materials readily available at all times.**

A well-stocked kit contains: 1) BOOMS to contain or corral the spill; 2) ABSORBENT MATERIALS to clean up the fuel or oil; 3) a CONTAINER to store soiled materials prior to disposal; 4) ADDITIONAL SUPPLIES to aid in the clean-up process and; 5) an ACTION PLAN. Please refer to list of suppliers.

◆ **Booms**

The booms you purchase should be long enough to completely surround a leaking piece of equipment and contain the fuel or oil leak. Dispose of **contaminated absorbent booms** after use and purchase a new clean absorbent boom for your spill kit. **Reusable containment booms** must be thoroughly washed with soap and hot water before reuse.

Harvest booms can be used to contain a spill until proper spill supplies can be obtained. If the spill is food grade oil, the harvest booms should be removed away from the bog and cleaned with soap and water. If the spill is non-food grade oil, discard the booms.

◆ **Absorbent materials**

Have a sufficient quantity of absorbent materials on hand to absorb the entire fuel or oil volume contained in the fuel tank or oil lines. The absorbent material must come in direct contact with the oil or fuel, so placement of the absorbent material is critical. Hydrophobic absorbent materials are best for fuel or oil spills because they absorb only fuel or oil, not water.

A well-stocked spill kit should have several forms of absorbent material: pillows, pads, loose pulp, and granular material. Loose granular or particulate absorbents work faster than pillows or pads. Select absorbents that float indefinitely. Purchase materials that will absorb food-grade oil. Promptly remove soiled clean-up materials regardless of buoyancy characteristics.

◆ **Containers**

Spill kit containers can be rigid plastic barrels or buckets or soft duffel bags. The container serves both for storage of clean materials and for disposal of soiled materials. If you use the duffel bag, include a supply of plastic bags for disposal of soiled materials. Regardless of the type of container you choose, make sure the spill kit container is properly marked. Complete kits can be purchased from local cranberry equipment suppliers or you can assemble your own kit. Refer to CCCGA Suppliers list.

◆ **Additional supplies**

If you use loose pulp or granular absorbent materials, a skimmer to remove the soiled materials from the water should be a component of your spill kit. Disposable rubber gloves will prevent additional contamination. Wear safety eye glasses during containment and spill clean-up. Consider also: a supply of wood dowels with varying sized tapers (to be used as plugs in ruptured hoses), a small mallet, duct tape to wrap hoses, and a 150 ft. coil of rope for securing and moving booms.

◆ **Action plan**

Develop a written action plan of what you will do in the event of a spill. Review your plan with your family and employees and add copies of the plan to each of your spill kits. Train all employees in proper emergency response to contain and clean up an oil or fuel spill.

Spill Clean-up Preparedness

- ◆ **For large land- or water-based spills, especially fuel spills, you may want to contract with a private company that specializes in quick response environmental remediation.**

Keep their telephone number handy in the event that a spill occurs. See list of emergency response teams located in CCCGA handout.

◆ **Spills on land**

Keep an supply of dry absorbent materials such as Speedi-Dry or cat litter available at all times. Do not use for spills on water. Absorbent fabric pads or pillows can also be used to clean up land-based spills.

For extensive land-based spills, immediate excavation and disposal of the contaminated soil is the most prudent approach. Delays in clean up may result in more extensive and costly excavation and ground or surface water remediation at a later date.

◆ **Spills in water**

Notify the appropriate state and federal authorities in the event of a spill (see phone numbers at end).

Keep a fuel/oil spill kit for water-based spills easily accessible at all time, especially at harvest.

Post the location(s) of your spill kit(s) on your WPS Bulletin Board. Examine the kit at least annually, but especially prior to harvest to make sure it contains the full complement of materials and that the materials are in good usable condition.

When a spill occurs during harvest, stop operations immediately to minimize the contamination and begin the containment and clean up procedures. Notify your handler immediately.

Segregate and isolate contaminated fruit from unaffected fruit. Do not mix these fruit to minimize the overall oil residue. A small amount of oil may render the entire load unusable.

Do not add liquid or powdered soaps or detergents to an oil or fuel spill. These cause the oil or fuel to disperse and/or sink, making containment and clean up more difficult.

Store a supply of absorbent materials on each beating or reeling machine and on harvest elevators and large pumps. This will reduce response time in the event of a leak.

Thoroughly clean equipment, machinery or vehicles that contact the oil or fuel with hot water and soap. Move all equipment away from the bog and open water and thoroughly wash with soap and hot water.

If a spill occurs, do not use or transfer the contaminated water to another bog. Once clean up is complete, the water may be released to a stream, river, or reservoir. Place an absorbent boom and clean blankets or pillows near the outlet to the flume. Slowly release water by lifting flume boards from the bottom of the flume.

Dispose of soiled materials as soon as possible in compliance with local, state and federal laws.

For further information:

List of suppliers and emergency response teams from CCCGA.

Proper storage, handling, and spill clean-up of fuels and oils. Ocean Spray Cranberries, Inc., Environmental Bulletin Series.

Federal National Response Center 1-800-424-8802.

State of Massachusetts Department of Environmental Protection 1-508-946-2850 or 617-292-5500 (after 4:30 PM).

