REPORTING ORBIT USE

All cranberry growers in Wisconsin will soon receive a form for reporting use of the fungicide Orbit in 2000. If you used Orbit in 2000, you must complete the form and send it to me by September 18. The EPA will not grant future Section 18 or regular labels for Orbit unless this information is reported. If you do not receive the form by the end of August, please contact the WSCGA office at (715) 423-2070 or me (phone 608-265-2047; fax 608-263-2626; or e-mail psm@plantpath.wisc.edu). If you did not use Orbit in 2000, then you do not need to return the form.

Patty McManus, UW-Plant Pathology

FRUIT DISPOSAL

With the USDA imposed grower hold back, Wisconsin cranberry growers will be required to dispose of about 400,000 barrels of cranberries for the 2000 harvest. Representatives from the WSCGA, University of Wisconsin-Extension, Wisconsin Department of Natural Resources, Northland Cranberries, Inc., Cliffstar Corporation, Clement Pappas Company and Ocean Spray Cranberries have worked together to create these fruit disposal guidelines. These guidelines are meant to assist Wisconsin cranberry growers to find acceptable and economical means to dispose of the unmarketable fruit. Through land spreading, cranberries would be considered an organic soil conditioner, containing essential plant nutrients and organic matter that would improve soil tilth and increase organic matter content of soil over time. The residual product would also contain vines and leaves remaining from harvesting. It is estimated that less than 450 acres or about 2 acres per grower will be needed to comply with the USDA volume regulation and comply with environmental standards.

DNR Regulations and Enforcement

NR 518.04, Wisconsin Administrative Code, exempts the landspreading of residual cranberries provided the fruit is applied as a soil conditioner or fertilizer in accordance with accepted agricultural practices and is operated and maintained in a safe, nuisance free manner. These guidelines have been developed through a joint effort by the authors stated above. Landspreading of cranberries from the year 2000 harvest consistent with these guidelines will be in compliance with DNR regulations and may be done without DNR approval. Any other disposal methods may be a violation of Wisconsin's solid waste regulations and may be subject to enforcement action unless DNR approval is first secured.

General Considerations

The authors have established separation distances and other operational considerations for land spreading of residual fruit. If these guidelines are followed, the residual fruit would be presumed to be land applied as a soil conditioner or fertilizer in accordance with accepted agricultural practices and in a safe nuisance free manner. The considerations are:

- 500 feet from residence (250 ft with written permission and soil incorporation)
- 250 feet from private water supply wells
- 1000 feet from municipal well
- 200 feet from surface water and drainage ditches
- 3 feet from bedrock and groundwater
- 6% slope or less for fields used
- 1200 bbls / acre (about 1" of fruit) is the maximum recommended land spreading rate
- local ordinances may affect these guidelines

pH Issues

The effect of land spreading cranberries on soil pH and subsequent soil pH management is a consideration. The soil response to spreading 1200 bbls of fruit per acre is minimal and the impact would be comparable to N applied for a potato or corn crop in subsequent years. Additional liming is not necessary.

Nutrient Content of Cranberries

One reason land spreading is a good means of disposal is that cranberries contain essential plant nutrients that can be recovered by other crops. Cranberries contain the following plant nutrients and fertilizer value per 1000 to 1200 bbls / acre:

TABLE 1

Nutrient	Pounds per Application	Unit Value§	Per Acre Value
N	75 – 90	$0.50/lb	$38 - 45
P	7 – 9	$1.30/lb	$9 - 12
K	100 – 120	$0.27/lb	$27 -32
		Total/a	**$74 - 89**

§ *Based on July 2000 Fertilizer Prices*

Based on recommended application rates, the value of these nutrients is roughly $74.00 to $89.00 per acre. Landowners should consider the nutrients applied and take credit for them when determining fertilizer needs for the crops to be planted the following spring, especially for corn and potatoes.

Guidelines and considerations for landspreading on agricultural cropland.

Stockpiling Before Spreading

Growers may stockpile fruit for no more than 30 days prior to land spreading or other disposal means depending on crop needs (harvest dates) and weather. Stockpile to avoid compression of the fruit and in a manner to prevent off site movement of fruit or juice. Fruit must be spread before ground freezes on cropland (non-hay). Try to use level fields if not incorporating in fall to prevent runoff (less than<6% slope). **General Considerations** would apply. Baiting laws apply.

Wildlife Baiting Laws

When fruit is stockpiled on the surface of any land, deer baiting laws apply. Hunting over hay fields, pastures, fields with other vegetative cover, corn or

soybean fields that have been landspread with residual cranberries, in general, would not be considered hunting over bait. Fall incorporation would eliminate any concern over hunting over bait. If residual cranberries are spread on bare agricultural land such as a potato field without an established cover crop, baiting laws would apply until incorporated. It is important that this information be given to any person hunting on such property. **If there are any questions on your specific situation, you should contact your local DNR warden for clarification.**

Soil Types

Most soil types that readily accept manure applications could be considered for fruit applications. Sandy loams and loamy sands as well as other loam type soils will handle the waste better than others. These sandy to loamy soils will also benefit from the addition of nutrients and organic matter. Suitable soils exist in the multi-county area surrounding cranberry producing areas so finding appropriate soil types should not be a major limitation. Fields that are currently in agricultural production offer the best sites. Most row crop, vegetable crop, established hay or pasturelands in rotation to row crops, and other crop fields should be suitable. Limiting factors for soils would be steep fields prone to runoff (greater than a 6% slope), soils with high water tables, sites planted to perennial crops that would limit incorporation, and wet poorly drained sites that might result in standing water. Fruit could be applied to heavy (clay) soils that are currently cropped if it is incorporated.

Incorporation

Cranberries will decompose fast if they are incorporated into the soil shortly after spreading. However, some cropping systems involve minimal or no tillage (no-till corn). Where corn or soybean stubble remains this residue should be sufficient to keep the berries from moving offsite. Light disking or chisel plowing would be preferred to maintain some cover on the soil during the winter months to prevent soil erosion. Moldboard plowing would not be preferred except when the cropping system to be utilized the following season would warrant moldboard plowing.

Hayfields, Pasture or Other Fields with Permanent Cover

Use lighter rates on hayfields, pastures or other fields with permanent cover—light enough to not smother the crop. This might be as light as 400 bbls/a. Obviously the fruit would not be incorporated on this land. Mechanically spread fruit over a field. Spreading could be accomplished with a manure spreader or a dump truck with a sander attachment, or other device. **General Considerations** would apply.

Corn & Soybean Fields

1200 bbls/a is a reasonable spreading rate. Nutrient values of cranberries appear in Table #1. Growers are encouraged to include these values when developing nutrient management plans for subsequent crop years. Incorporation could be by chisel plowing or light discing. **General Considerations** would apply.

The way to be nothing is to do nothing.

Nathaniel Howe

Potato Fields

Spreading cranberries on fields where potatoes have been harvested in the year of spreading is recommended. UW Extension vegetable specialists believe that cranberries would have minimal effect on the incidence of pathogens in the soil. As discussed earlier, the soil pH impact would also be minimal.

Fruit can be spread over a cover crop at rates (up to 1200 bbls/a) without an adverse impact on the cover crop. Obviously fruit is not fall incorporated in these fields, however, it needs to be incorporated according to crop needs in the spring. If an established cover crop does not exist on the field at the time of spreading, **baiting laws** would apply unless incorporated. The crop residue should keep the cranberries from moving offsite. **General Considerations** would apply.

Bare Agricultural Land

Provided that the fruit is incorporated and the **General Considerations** are followed, these lands can be used for fruit disposal. Bare agricultural land includes, for example, land that has been plowed, disced or otherwise had the vegetative cover removed.

Animal Rations

Timing for making silage compared to cranberry harvest may be compatible. Cranberries can be an acceptable component of livestock rations. Research in the 1970's showed favorable results of feeding a cranberry high moisture corn silage mixture to dairy cows. The cows fed well on the cranberry-corn mixture of about 30% cranberries. Fruit could be mixed when silos are filled or bunker silos could be capped with a layer of cranberries. The acidity of the fruit should aid in the fermentation process of the silage.

Wildlife Feeding

Small piles of cranberries can be established for feeding wildlife such as deer. If the area is to be hunted over, **baiting laws** apply.

UNACCEPTABLE OR PROHIBITED PRACTICES

Manure Storage Pits

This is not a recommended practice.

Spreading on Non-Agricultural Land

This practice is not covered under the exemption for land spreading allowed by the DNR. This prohibits fruit disposal on forested or other non-agricultural lands without DNR approval.

Burying

This is not an acceptable means of disposal unless a case specific written approval is obtained from the DNR.

Composting of Fruit

This is not a permitted or viable practice.

This document was produced by:
Tom Lochner, Wisconsin State Cranberry Growers Association
Teryl Roper and Tod Planer, University of Wisconsin-Extension
Peter Huettl, Applied Environmental Sciences , Inc.
Michael Miller, Wisconsin Department of Natural Resources
Jim Peterson, Ocean Spray Cranberries, Inc.
Jerry Bach, Northland Cranberries, Inc.
Henry Knoepker, Cliffstar Corporation
Tom Asselin, Gardner Trucking for Clement Pappas Company
Ron Kuehn, DeWitt, Ross & Stevens S.C.

PESTICIDE SPILLS

For any pesticide spill, regardless of how large or small, you must control the spill, contain the spill and clean up the spill. Have a plan for dealing with pesticide spills on your marsh and make sure all employees who deal with pesticides know the plan. Keep supplies and equipment readily at hand that are required to deal with a spill. These would include absorbent pillows and dikes. You should also have containers to hold contaminated supplies once used.

Control the spill. Keep the spill from becoming larger by preventing continued release of the material. Shut off the valve or pump, put a leaking container in a larger container. However, stopping leaks from large containers or trucks is difficult.

Contain the spill. It is most important to keep a spill from contaminating a larger area or volume of soil or water than is possible. The smaller the area affected, the easier it will be to clean up later. Don't hose down the area; this will only increase the spread. Cover spills of dusts, powders or granular formulations with a tarp or other cover if rain is threatening.

Clean up the spill. Before performing a clean-up operation it is best to obtain instructions from the manufacturer. If the spill is significant directions may be given by the Wisconsin DNR and WDATCP.

All pesticide spills must be reported to the Wisconsin Spill Hotline 800-943-0003 (*24-hour service*). When you call you need to know:

- The chemical name of the compound released
- An estimate of the quantity released
- The time and duration of the release
- The medium into which the release occurred (water, soil, etc.)
- Anticipated health risks
- Precautions regarding the release (evacuations?)
- Contact names and phone numbers

Planning to prevent spills is the first priority. Second is to have a plan to deal with a spill should one occur.

STORING SPRAYERS OVER WINTER

Sprayers are used only a few weeks in a year. When not in use, protect them against the harmful effects of snow, rain, sun, and strong winds. Moisture in the air, whether from snow, rain, or soil, rusts metal parts of unprotected equipment. Ultraviolet light softens and weakens rubber materials such as hoses and tires and degrades some tank materials.

The best protection from the environment is to store sprayers in a dry building. Storing sprayers in a building gives you a chance to work on them any time during the off-season regardless of weather.

If storing in a building is not possible, provide some sort of cover. Remove the hoses, wipe them clean of oil, and store them in a building. Do not hang them over a nail or sharp object. This causes a permanent crease that reduces flow through the hose. Coil hoses around a basket or other large round object to prevent sharp bends.

When storing trailer type sprayers, put blocks under the frame or axle and reduce tire pressure during storage.

A few other things have to be taken care of when it is time to store the sprayer:

1. Add a small amount of light weight oil, depending on the size of the tank, to the rinsing water before the final flushing. As water is pumped from the sprayer, the oil leaves a protective coating inside the tank, pump, hoses and other parts.
2. To prevent corrosion, remove nozzle tips and strainer, dry them and store them in a can of light oil such as diesel fuel or kerosene.
3. Drain all cleaning water from all parts to prevent freezing.
4. Pumps require special care. After draining the water, add a small amount of oil, and rotate the pump four or five rotations by hand to completely coat interior surfaces. (Make sure that this oil is not going to damage rubber rollers in a roller pump or rubber parts in a diaphragm pump.) Check the operators manual. If oil is not recommended, pouring one tablespoon of radiator rust inhibitor in the inlet and outlet part of the pump also keeps the pump from corroding. Another alternative to put automotive antifreeze with rust inhibitor in the pump and other sprayer parts. This also prevents freezing in case all the water is not drained.
5. Cover all openings so that insects, dirt and other foreign material cannot get into the system.
6. Finally, check the sprayer for scratched spots. Touch up these areas with paint to eliminate corrosion.

Wisconsin Cranberry Crop Management Newsletter
Dept. of Horticulture
1575 Linden Drive
Madison, WI 53706-1590

UW Extension

Nonprofit Org.
U.S. Postage
PAID
Madison, WI
Permit No. 658