Volume XV, Number 7, August 5, 2001

HEAT AND VINE YELLOWING

Extreme heat is stressful to cranberry vines. Since cranberries have a rudimentary root system, replacing water lost to the air is critical. Cranberries don't have good control of the openings in the leaves that allow water to evaporate, so when the plant is having a hard time keeping up with the demand for water they can't simply "close the holes". The optimal temperature for photosynthesis in cranberries is about 75°F and the rate of photosynthesis declines as temperatures are warmer or cooler than this.

One common symptom seen during hot weather is vine yellowing. The leaves may turn yellowish between the leaf veins. This usually appears in patches. These symptoms are rarely seen during cool years. I don't know of a remedy for vine yellowing except more moderate weather. Experience suggests that yellow leaves are less productive than green ones, thus fruit number or size may be reduced.

It is possible to cool cranberry vines during the afternoon by turning on the sprinklers. Running the sprinklers for 15 to 20 minute cycles during the day will ensure that the soils are moist and it will cool the vines. Sprinkling with water for cooling is often used in tree fruit production, particularly in hot arid regions.

The rate of cooling is a function of the water content of air in relation to its ability to hold water. Warm air can hold more water than cold air. During a given day the water content of the air is relatively stable (unless a storm front moves through the area), but the relative humidity will fall as the air warms. Table 1 shows the change in relative humidity at a constant air water content of 50 grains per pound of air as the temperature increases.

Table 1. Change in relative humidity with constant moisture of 50 grains.

Air temperature (°F)	Relative humidity (%)
55	78
60	66
65	55
70	47
75	38
80	32
85	28
90	25

The difference in water content between the air and the vines actually drives the cooling process. As the air temperature increases during the day the cooling capacity also increases.

In addition, the temperature of the water will be lower than the air temperature and this will also serve to cool the vines. However, be sure that the lines are not full of water that has been exposed to the sun as this initial burst of hot water might damage the vines.

Some growers worry about leaf scorching with mid-day watering while other growers practice mid-day watering with no adverse effects. A myth that persists is that water droplets act as magnifying glasses leading to leaf scorch. Water droplets are not shaped like magnifying glasses. Don't be afraid to use evaporative cooling for fear of "burning" your vines.

Teryl Roper, UW-Madison Extension Horticulturist

HAND PORTABLE FIRE EXTINGUISHERS

Selection, Use and Maintenance

Selecting the Proper Extinguisher Each year, fire kills or severely injures thousands of people and destroys millions of dollars worth of property. Many fires begin small and may be extinguished, or controlled until help arrives, by a fire extinguisher. You can minimize personal and property damage by having a fire extinguisher on hand and knowing how and when to use it.

Fires are classified by the types of materials involved in the fire and the location of the fire. Most fires fit into one or a combination of three classifications: Class A, Class B or Class C. The chart in Figure 1 will help you classify the fires that you might encounter in your home or on your farm. It gives general recommendations for the types of extinguishers most likely to be used to extinguish these fires.

Know What the Extinguisher Label Says

Fire extinguishers are identified by the class and size of a fire that they are designed to extinguish and by the extinguishing agent they contain. The universal fire class symbols are present on extinguisher labels. They tell you which classes of fires the unit will extinguish safely.

Size

The size of the extinguisher is shown on the label in either pounds of dry chemical or gallons of liquid contained in the unit. (The size is sometimes identified in the manufacturer's model number.) More dry chemical, for example, will not necessarily mean that a unit will extinguish more fire than one with less chemical. This is due to variations in chemicals used in extinguishers. Look for the classification or rating to be certain of the unit's extinguishing capacity.

Classification or Rating

The classification, or rating, shows the size of a Class A or B fire the unit can be expected to put out. Controlled laboratory testing (by Underwriters' Laboratories or Fire Marshall, UL or FM) determines classification before a manufacturer puts a model on the market. The higher the rating or classification, the greater the extinguishing capacity. For example, a unit classified 4A can be expected to extinguish twice as much class A fire as one classified 2A. When comparing units of similar physical size, compare classifications to be sure which unit will provide the greatest fire fighting potential.

Operation

Read the operating instructions on the label and examine the unit when it is purchased. Be certain to instruct all family members and employees on the premises in the use and location of a fire extinguisher. Prepare ahead of time! Do

not wait until a fire occurs to read and interpret operating instructions. Although extinguishers may vary slightly in operating procedures, most will use the following steps:

1. Grasp the unit by the carrying handle and the base; remove it from the mounting bracket and carry it to the fire .
2. Pull the locking pin to break the tamper seal. If the unit has a hose, remove the hose from its retaining clip.
3. Move the extinguisher as close to the fire as possible without endangering yourself. Grasp the hose in one hand and press or squeeze the handle or trigger release with the other. (If the unit is a CO2 extinguisher, do not grasp the plastic discharge horn, since it may freeze your hand.) If the unit has no hose, direct the stream of extinguishing agent by maneuvering the extinguisher.
4. Discharge the contents of the unit at the base of the flames with a back and forth, sweeping motion. Sweep from the near edge to the rear of the fire and then up the vertical surface. Always leave an escape route for yourself when you are fighting a fire.

Installation

Place the mounting bracket for the extinguisher on a firm surface 31/2 to 5 feet above the floor. Extinguishers should be installed away from any potential fire hazards and near exits or escape routes in the areas you plan to protect.

Inspection and Maintenance

Inspect extinguishers at least once a month. This includes checking to be sure that each is in its recommended location, the pressure is up, the tamper seal is not broken, no damage has been done to the unit, and the hose or nozzle is unobstructed. Most units sold today are pressurized and have a gauge that shows whether the unit has sufficient stored pressure to discharge the contents. If, after a routine inspection, the pressure gauge shows insufficient pressure, the extinguisher should be recharged or replaced immediately. Extinguishers also should be recharged after each use, despite the amount of chemical discharged. If in doubt about where you can get an extinguisher serviced or repaired, check the Yellow Pages under fire extinguishers.

Buying Tips

Remember to look for the UL or FM seal of approval. Be aware of the recommended size and type you want before you shop for a fire extinguisher. Be certain you are purchasing a unit that will give you maximum protection. The hardware on an extinguisher can be either plastic or metal. Both types, if approved by a recognized testing laboratory, should serve for their intended purpose.

Some extinguishers of lesser price may not be rechargeable. Read the label and check with the dealer before purchase to see if the unit you are considering can be recharged after use. Although some non-rechargeable units may be greatly reduced in price, it is usually economical to purchase a unit that can be recharged, rather than buying an entirely new unit every time you use your extinguisher.

Have a Plan of Action for a Fire

The most important aspect of fire safety is to have a plan of action when a fire is discovered. This plan should cover the steps required to save lives and property.

Step 1: Immediate Rescue - Check to see if anyone is in danger or in need of rescue.

Step 2: Confine the Fire if Possible - If the fire is in the early stage and poses no immediate threat to personal safety, make an effort to prevent its spread by putting lids on burning containers and disconnecting electricity or removing combustibles from the area. For small cooking or electrical fires, throwing baking soda at the base of the flames will smother the fire.

Step 3: Call for Help - Call the fire department or notify a telephone operator. In many areas, telephoning 911 will connect you with an emergency operator. Check to see if this service is available in your area.

Step 4: Contain or Extinguish - If you have the proper extinguisher, you may be able to contain or control the fire. This depends on the size, type and location of the fire. Be certain that you leave a path of retreat from the scene to guarantee your personal safety.

Helpful Hints

- Powder in dry chemical units may have a tendency to settle. Periodic shaking will aid in performance.
- Powder in dry chemical units will not damage equipment. Avoid direct contact with skin and eyes.
- Some carbon tetrachloride pump-type units are still in existence. This unit is extremely dangerous. Check with reliable sources, such as your local fire department, for disposal recommendations.
- Place the telephone number of the local fire department in all extinguisher locations.

Remember

A portable fire extinguisher is only a first-aid or emergency unit. It can be used on small fires only in the initial stages. Do not expect miracles from a fire extinguisher. The discharge time on most units is only seconds! Do not risk your life or the lives of others in fighting a fire that has grown too big for the extinguisher. Saving lives comes first! Practice fire prevention measures in the home and on the farm to be safe. Hopefully you will never need an extinguisher.

Table 1. Recommended sizes and locations of fire extinguishers. (The multipurpose, ABC dry chemical extinguisher is cited in all examples because it can serve as protection for all expected fires in all locations listed.)

Size Range (lbs.)	Location
HOME	
First Unit, 2 1/2-5	Kitchen near exit door
Second Unit, 2 1/2-5	Basement near exit door
Third Unit, 2 1/2-5	Near wood stove
FARM SHOP	
One Unit, 5-10	Near exit door
CAR OR TRUCK	
One Unit, 2 1/2-5	Accessible to driver
OUTBUILDINGS	
One Unit, 5-10	In accessible location

By Drs. Mike Lichtensteiger and Robert Gustafson, Dept. Of Agricultural Engineering, and Dr. Judy Wessel, Dept. of Family Resource Management.
Acknowledgments to Michelle L. Wallingford for her contributions to this publication.

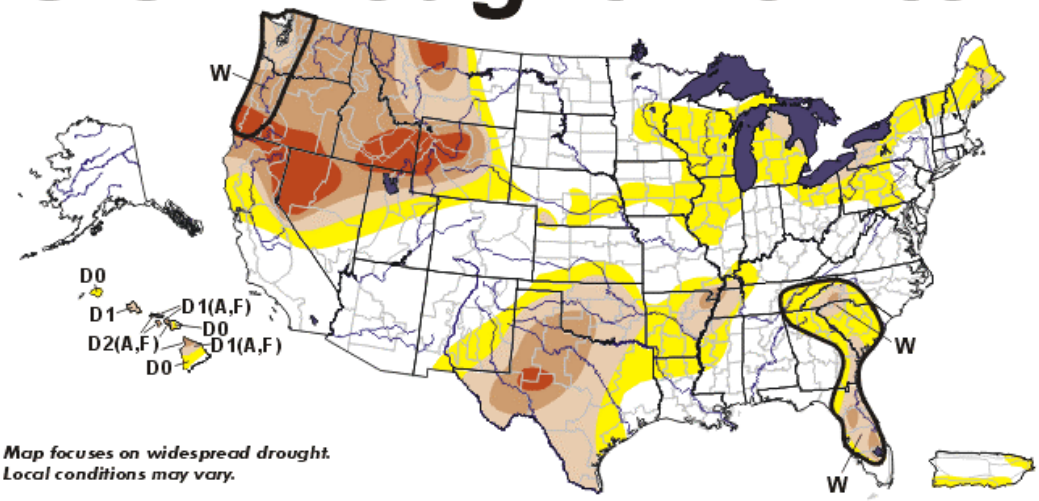
PESTICIDE SAFETY FIRST

- Pesticides are poisons; they are designed to kill. Many pesticides are so toxic that exposure to even a small amount can kill and adult. Children can succumb to less. Minimize any kind of oral, dermal, or inhalation exposure to chemicals.
- Below are just a few safety precautions. Read the sprayer operator's manual and chemical labels to review recommended procedures for safe use of chemicals and the equipment.
- Keep children away. Never allow them to play in pesticide-treated fields or in areas where the chemicals may be spilled. This includes areas where runoff or drift may be present.
- Use pesticides only for jobs which they are intended.
- Wear protective clothing when calibrating, spraying, and cleaning equipment. Goggles, rubber gloves, and respirators or masks are standard equipment when handling pesticides.
- Handle and store chemicals at least 150 feet away from a well.
- Install a check valve on hoses or hydrants used to fill tanks, or provide an air gap between the end of the hose and the liquid in the tank to prevent back siphoning into the water system.
- Do not leave sprayer tanks unattended when filling to avoid overflowing and spilling chemicals on the ground.
- Pick up spilled materials promptly.
- Avoid contaminating any drinking or other water supply with direct dumping, runoff, or drift.
- Never store agricultural chemicals in a well house or well pit.
- Promptly dispose of bags and other containers. If bags are burned, choose and isolated site for the burning. Inhalation of the smoke can poison. Rinse non-burnables three times and then haul to a landfill.
- Never place nozzles in your mouth to blow through the orifice. The nozzle is contaminated with poison.
- Dispose of heavily contaminated clothing. See ISU extension publication Pm-1087 for suggestions on laundering clothes lightly soiled with pesticides.
- Wash hands thoroughly with soap and water before eating, drinking, or smoking.
- Take a shower when pesticide handling or application is over for the day.
- Store pesticides in properly labeled containers. Keep them locked up.
- Never share unused agricultural pesticides with others.
- If some pesticide is left over after an application, either lock it up in a labeled container for later use, or take it to an approved landfill.
- Take care not to pollute ground or water sources with water used to clean spraying equipment.
- For safety reasons it is preferable to calibrate using water. In come cases the viscosity of the material being applied dictates using the chemical mix for accuracy of final calibration. In this case it is better to calibrate in the field away from the farmstead.

Author: Mark Hanna, Extension Agricultural Engineer, Dept. of Agricultural and Biosystems Engineering, Iowa State Univ.

July 31, 2001 Valid 8 a.m. EDT

U.S. Drought Monitor



Map focuses on widespread drought.
Local conditions may vary.

D0 Abnormally Dry
D1 Drought–Moderate
D2 Drought–Severe
D3 Drought–Extreme
D4 Drought–Exceptional
Delineates Overlapping Areas

Drought Impact Types:
A = Agriculture
W = Water (Hydrological)
F = Fire danger (Wildfires)
(No type = All 3 impacts)

See accompanying text summary for forecast statements
http://enso.unl.edu/monitor/monitor.html

● ***Released Thursday, August 2, 2001*** ●

Author: *Michael Hayes, NDMC*