The Tender Fruit Grape Vine

A Newsletter for Commercial Fruit Growers

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Recommendations for Fresh Market Peach Cultivars

Ken Slingerland, Tender Fruit & Grape Specialist, OMAFRA

There have been a few updates to the OMAFRA Factsheet "Peach and Nectarine Cultivars" as a result of an industry meeting in mid January.

Cultivars listed are recommended for general, limited or trial planting. The "General Planting" list includes well-known cultivars with predictable performance and established market value. The "Limited Planting" list includes new promising cultivars that are not yet established or older cultivars of declining importance. It also includes cultivars that serve a restricted purpose such as an early season, roadside market, climatic or soil condition, culinary use, etc. Promising new cultivars that have not been extensively tested are recommended under "Trial Planting."
There needs to be considerations to account for cultivar response to the different climatic and soil conditions between the Niagara Peninsula, South West Ontario and other areas with unique micro-climates. Winter injury is in issue, especially outside the Niagara Peninsula below the escarpment and restricts tender fruit production to the most protected sites and with the hardiest cultivars only.

Within a column, cultivars are listed in their order of ripening from earliest to latest.

Fresh Market Peaches

General Planting	Limited	Trial
Harrow Diamond	Springcrest	Flamin Fury® PF-1
Garnet Beauty	Redstar™	Flamin Fury® PF-5B
Early Redhaven	Starfire™	Risingstar™
Harrow Dawn™	Bellaire	Blazingstar™
Brighton	Harbrite	Flamin Fury® PF-15A
Harson	Loring	Jim Wilson
Redhaven	Vollie™	Bounty
Harken	Glowingstar™	Flamin Fury® PF-17
Vivid	Flamin Fury® PF-23	Flamin Fury® 27A
Harrow Fair™	Cresthaven	
Coralstar™	Flamin Fury® PF-24 007	
Allstar™	Harcrest	
Harrow Beauty	Flamin Fury® PF-25	

Nectarines

General Planting	Limited	Trial
Harflame	Easternglo	
Harblaze	Flavortop	
Fantasia	Redgold	

ONTARIO FRUIT & VEGETABLE CONVENTION

Ministry of Agriculture, Food and Rural Affairs

Ontario

Winter Injury Studies 2007/08
Grape Bud Survival—January 14, 2008

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Grape bud sampling to establish winter survival is part of the 3 year - CanAdvance and CRESTech funded Winter Injury and Wind Machine project. The tables in this article, report the sampling results based on the bud collection during the week of January 14th, 2008. However, the percent alive may vary up or down from the last sample due to the variation in the samples taken. The tables below are based on multiple samples and multiple sites within an area for each cultivar.

The Grape Growers of Ontario (GGO) and the Wine Council of Ontario (WCO) are the major sponsors of the project. Other partners include; Stephane Bosc – Orchard Rite; Roger Vail – Chinook; KCMS Applied Research and Consulting; Agricorp; Ontario Tender Fruit Producers' Marketing Board; the Niagara Peninsula Fruit & Vegetable Growers' Association, OMAFRA; Brock University and the University of Guelph.

The Parkway zone runs approximately 1 km along the west side of the Niagara River from Niagara-on-the-Lake to Queenston; the Lakeshore zone is approximately 1 km south of the lake from the Niagara River to Grimsby; the Central zone continues south of the Lakeshore zone to the base of the escarpment; the Bench zone starts at the south side of the Central zone to the brink of the escarpment and the Vinemount zone runs south of the Bench Zone.

8 Sampling Zones Used

% Live Buds - Labrusca – January 14, 2008 (NS means no sample taken)

Cultivar	Location	East of Canal	West of Canal
Concord	Vinemount	NS	100
Niagara	Vinemount	NS	96-100

% Live Buds - Hybrids – January 14, 2008 (NS means no sample taken)

Cultivar	Location	East of Canal	West of Canal
Baco Noir	Central	100	99
	Parkway	100	NS
	Vinemount	NS	99
Foch	Central	NS	95-97
	Vinemount	NS	98
Vidal	Central	96-98	98
	Lakeshore	97	NS
	Parkway	97-99	NS
	Vinemount	NS	100

% Live Buds - Vinifera – January 14, 2008 (NS means no sample taken)

Cultivar	Location	East of Canal	West of Canal
Cabernet Franc	Bench	93-97	94-99
	Central	92-97	85-99
	Lakeshore	94	99
	Parkway	96-98	NS
	Vinemount	NS	96-97
Cabernet Sauvignon	Central	NS	100
	Lakeshore	NS	97
	Parkway	99	NS
Chardonnay	Bench	94-99	93-96
	Central	97-99	97-99
	Lakeshore	90-97	NS
	Parkway	93-97	NS
	Vinemount	NS	96
Gamay	Parkway	99	NS
Merlot	Bench	91-96	97-100
	Central	99	99-100
	Lakeshore	94	99
	Parkway	99	NS
	Vinemount	NS	100
Pinot Noir	Bench	74-95	93-98
	Central	94	84-97
	Lakeshore	92	97-98
	Parkway	99	NS
	Vinemount	NS	95-99
Riesling	Bench	95-100	92-98
	Central	95	96-100
	Lakeshore	73-97	97
	Parkway	90-98	NS
	Vinemount	NS	93-97
Sauvignon Blanc	Central	94	96
	Lakeshore	91	NS
Syrah	Lakeshore	NS	94
	Parkway	89	NS

Grower's Worst Nightmare

Hugh Fraser, Agricultural Engineer, OMAFRA

On the afternoon of Friday July 6, 2007 tender fruit grower Torrie Warner experienced a farmer's worst nightmare…fire. Torrie called me late the same day to get advice on his damaged three-year old cold storage and I visited the following week. This past fall I asked Torrie if he would share what he learned during this experience.

Refrigeration contractors were doing soldering repair work to piping attached about 30 cm (1 ft) off the floor on the outside wall of his cold storage. The stud wall had steel on the inside, with 75 mm (3 in) sprayed-on polyurethane foam insulation (PUFI) from the outside, then outside steel similar to Figure 1. No doubt the contractors had done this kind of work countless times, but although no sparks hit the PUFI directly because there was steel covering it from the outside, heat from the work appears to have ignited the PUFI inside the wall. There never appeared to be flames, but the PUFI smouldered quickly up the wall to the eaves then outward in a chimney effect, melting the PUFI and charring the studs. The horizontal spread of the damaged area under the eaves was about 30 m (100 ft). The contractor acted professionally and quickly, called 911, and the Lincoln fire department arrived in just 5 to 7 minutes. The firemen were able to put the fire out quickly, so that from start to finish the fire lasted only about 30 minutes. However, the fire department actually took *'temporary control of the building(s) or property by closing and preventing entry to the land or premises for the length of time necessary to extinguish the fire and complete the examination of the scene in order to determine the cause and origin of the fire'*. This was done under the authority of the *Fire Protection and Prevention Act (1997)*. The temporary control lasted from the time of the alarm at 14:39:36 to 19:50, a period of just over 7 hours.

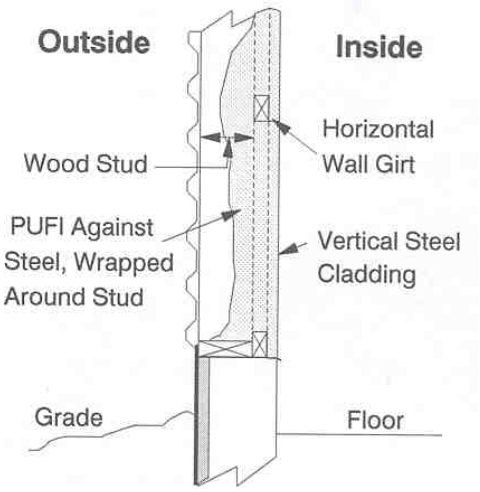

Figure 1: Soldering work was being done 30 cm off the ground on the outside of the cold storage against the stud wall similar to the cross section above.

Now, the cleanup and repairs, which were costly at a whopping $100,000 even though only parts of three walls were damaged (Figure 2). This was triple what Torrie originally thought. The breakdown was about 50% structural work, 10% for damaged fruit and contents, and 40% for cleanup which included using special materials to wash the storage and get rid of the lingering smoke odour. The work was finally done by mid-August, about 6 weeks later.

What did Torrie learn? He has purchased more fire extinguishers and installed them more strategically in areas where they can be found easily and quickly in an emergency. Even though the contractor's insurance paid for all the work, Torrie cautions growers to make sure to hire reputable contractors with proper insurance. If no contractors had been involved, Torrie cautions growers to make sure they have replacement insurance and not depreciated-value insurance. Call 911 first, then try to put the fire out, not the other way around. Torrie had a lot of praise for the fire department whose quick action and experience prevented the rest of the farmstead from going up in flames. They know what they're doing and will ask for your help when needed. Torrie also said the cleaning company was invaluable and it is important to hire a company who knows how to clean after a fire. Thankfully, no one was injured.

Figure 2: Parts of three walls were damaged in the fire. Note the blackened PUFI near the top of the wall because of a 'chimney-effect' inside the wall and horizontal spread of about 30 m (100') under eaves. The ignition point was in the centre of the picture near ground level.

Managing Problem Deer Populations

Kathryn Carter, Pome Fruit IPM Specialist and John Gardner, Apple Specialist, OMAFRA

As the snow starts to fall, deer start congregating in wintering grounds and actively seek high energy sources of food for survival. Dormant apple trees with both healthy fruit buds and new shoot growth provide an excellent food source during the winter months. Anyone who drives or lives in southern Ontario is aware that deer sightings have increased. In the US, the national deer population is estimated to be 25 million to 30 million. Deer have become well adapted to living in environments near suburbia, they have benefited from warmer winters, and by a decline in hunting in some areas. Deer prefer fragmented habitat that consists of both woodland for cover and open crop land. The USDA estimates that total deer damage from auto collisions and crop and timber losses reaches at least $1 billion a year (Mullen, 2002).

Deer damage to young non-bearing and mature apple trees can be troublesome. Smaller more compact apple trees in higher density plantings make a greater proportion of the tree canopy available for browsing by deer. Feeding on soft tender shoot tips and terminal growth as well as fruit buds in winter and early spring often results in an acute reduction in bearing surface, and changes in tree shape. Smaller trees can be damaged or destroyed by rubbing of antlers to remove velvet, in a process called 'horning'. This type of injury is usually seen in orchards from September to mid-November. Controlling deer damage in orchards can work where an integrated approach is used, which includes regulated hunting (with authorization), scare devices, repellents and fencing (conventional and electric). For a given deer density, the potential for damage is often greater on large plantings than on small ones, as a result, large areas often require more substantial fencing designs to achieve a level of protection similar to small areas. Nursery trees in large blocks can require exclusion fencing to ensure recovery of quality nursery stock if there are large herds in proximity to these young trees.

Fencing

There are several different types of fences available including woven wire fence which is an excellent option for areas where deer densities are high and the likelihood of damage is great. The permanent woven wire fence provides a barrier that requires little maintenance but can be expensive to install. The costs of these fences often limit their use around orchards, with the exception of nurseries. The 2.4 m (8 foot) high, vertical fence is constructed from two (1.2 m) (4 foot) sections of 15-30 cm (6 x 12 inch) wire mesh, joined with hog rings. Two or more strands of barbed wire spaced 25 cm (10 inches) apart are added to the top of the structure extending the overall height to 3 m (10 ft) or more. Based on research in New York, blocks larger than 20 ha (50 acres) usually require this fencing to reliably prevent deer from entering the area if feeding pressure is high.

Invisible fencing

Another type of fence is mesh fencing. This fence is considered to be strong, long lasting, virtually invisible and easy to install. The fence is made of a series of 10 cm (4") square UV resistant polyethylene mesh. Each strand has a breaking strength of 80 kg (175 pounds). The mesh is stretched 6 m (20 ft) between existing trees, or poles that can be used to support it. The entire area that needs to be protected must be enclosed in order for the fencing to be effective. This fencing is considered to be very effective because deer have poor vision and depth perception. The barrier and accessories are black so the deer can't judge where the fence starts or stops. They are scared of the fence and will run around its perimeter but will not generally challenge it vertically. This fence provides a humane and discreet barrier that keeps deer out of sensitive areas without relying on chemicals or electricity.

High-tensile electric fence

This fencing has emerged as the preferred method to exclude deer from orchards in New England. These fences are easy to erect, repair and maintain. In addition, the high voltage low impedance chargers can electrify long fence lines up to 1.5 km (5000 feet) or more). Temporary electrified fences are simple, inexpensive and useful. Baiting the fence with peanut butter, apples etc. may enhance the effectiveness of electrified fences. Deer are attracted to these fences by appearance or smell and are lured into contacting the fence with their noses. The shock trains the deer to avoid the fenced area. Permanent high tensile electric fences provide year round protection from deer and are best suited to orchard crops. In New York they consider these designs to be best used under light deer pressure, or for relatively small areas. Low profile fences seldom provide satisfactory protection of commercial orchards in the winter especially if snow restricts deer from using alternative food sources. Landowners must check local ordinances to determine if electric fences can be used on their property.

Scare devices

Frightening deer using scare devices may be effective and economical in some situations, particularly when they first become a problem in the orchard. However once deer establish a pattern of movement it is difficult to get them to change. Propane cannons, cap exploders, strobe light, sirens, fire works and gunfire can be used as a temporary method of scaring off deer. However deer often become accustomed to them within a week or two even when the devices are moved occasionally. Scare devices are usually a short term solution. Some growers even use dogs to help scare deer. Dogs are kept behind an 'invisible fence' using a radio transmitter, an underground copper wire and a special dog collar with receiv-

ers. Dogs are placed inside the fence, and the dogs chase the deer out of their territory. If they attempt to pass the invisible fence they receive a mild harmless shock. Be aware that a family pet may not provide adequate protection because it is not patrolling all the time. Often large aggressive dogs work best.

Repellents

There are two types of repellents that can be used for deer contact and area repellents. Contact repellents are applied to the plants and repel by taste. Area repellents are those used most commonly in orchards and are applied near the plants to be protected and repel deer by smell alone. Some area repellents include suspending bars of hand soap to the trees, or hanging bags of human hair from the tree. Some growers have reported that the use of Surround Crop Protectant containing kaolin clay acts as a deterrent to deer feeding while getting trees established. Unfortunately these repellents may only be a temporary solution to the problem.

Hunting

During the hunting season, problem deer in orchards can be hunted by licensed hunters. Agricultural deer removal authorization is another way of managing deer populations. Applications can be obtained from the Ministry of Natural Resources (MNR) to hunt outside of the normal sport hunting season. These permits can be used to harass and/or remove deer that are causing significant agricultural damage, when other reasonable methods to prevent damage are ineffective. Only those animals that are damaging crops can be removed. Orchardists may apply for an agricultural deer removal permit through their local MNR district office. Applicants are normally required to document and describe all other non-destructive attempts to control a damaging population of deer. Applicants must meet certain criteria and a site visit is usually completed. Authorizations are closely controlled and complement local deer management objectives. Deer removal authorizations can not be used to provide recreational out of season hunting opportunities or personal gain.

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