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Pruning

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Pruning

Growers can improve the canopy environment with either sanding or pruning. Although both practices will give physical improvements such as increased potential for photosynthesis, better aeration, and improved vine health, each practice offers unique benefits and consequences when compared to the other.

Mechanical pruning can be used to improve the architecture of the canopy and remove runners. Severe pruning and mowing of the vines may be used to generate cuttings for the planting of additional acres. Although mechanical pruning can be difficult due to the trailing nature of the cranberry growth habit and the potential to remove upright tips bearing flower buds, it is becoming more popular due to the high cost of obtaining and transporting sand.



Pruning vines in the spring.

Recommended Practices

Use pruning to improve the structure of the canopy.

When runners are present and upright stands become dense, light penetration to the individual plants is limited. This light limitation leads to declines in yield either due to decreased flower bud initiation or limitations on pollinators reaching the flowers to set fruit or both. A dense canopy also provides a moist micro-climate for the growth and spread of fruit rot disease fungi.

Prune in the spring, while the vines are dormant.

If your vines are commonly water harvested, it is best to prune the vines in the spring, prior to bud break. Growers who dry harvest can combine pruning with their fall harvesting operations.

Do not cut when vines are wet, especially if the canopy is thick. The blade will not cut as well as in drier conditions and the vines may drop more leaves if cut when wet.

Vigorous hybrid varieties may require yearly pruning.

Hybrids typically have a higher growth rate than native varieties. To keep the canopy architecture optimal, vigorous vines may need more frequent pruning.

Prune to remove runners mostly, while minimizing removal of uprights.

The main objective with pruning is to improve and maximize the structure of the vine canopy (e.g., reduced humidity, improved light penetration, improved pollination, etc.). Severe pruning that results in the removal of an excess of uprights will negatively impact yield.

Prune in the direction that the vines are growing.

Other pruning patterns may be useful to maintain the canopy and this should be evaluated on a site-by-site basis.

Removal of more than 1 ton/acre of clippings may reduce crop in the following year.

More severe pruning is associated with crop reduction of at least 10%. However, crop reduction may be compensated for by increased production in the second year.

Consider incorporating pruning as a supplement to sanding.

Results from a replicated study (Suhayda et al., 2009) indicated that light pruning or sanding (a single pass with a knife-rake pruner or 1.5 cm of sand) can be a useful tool for cranberry canopy management as both practices can open up the canopy resulting in decreased wetness duration and improved light interception. Sanding is more risky (and expensive) than pruning due to its greater negative impact on yield when treatments are heavy and because nonuniform application of sand may not provide the intended benefits. Heavily pruned treatments were able to recover after the first year, whereas heavily sanded treatments still had lower yields in the second year. This is an important consideration since the pest management benefits of sanding are only effective with the equivalent of the moderate or heavy treatments used in this study. Due to the potential benefits of light pruning and the reduced risk of over-treatment compared to sanding, it may be a viable option for cranberry growers as a replacement for or as a supplement to sanding for canopy management.



Grower-manufactured pruner with knives attached to a rotating head in front combined with a hydraulic rake attachment in the rear.



Dry harvesting with a Furford picking machine that prunes vines as well as picks fruit. Photo courtesy CCCGA.

If picking fresh fruit, prune at the same time as fruit removal.

Some modern dry harvesters, notably the Furford Harvester (or the Western picker, but this model is less common), combine pruning action with harvesting. This approach can save time when labor is limiting.

Maintain the pruner by keeping pruning knives sharp and perform other maintenance on the machine as needed.

Sharpen knives at least yearly and replace as needed.

Prunings may be used on-farm to plant new areas or fill in thin spots or may be sold for planting elsewhere.

If you will be using cuttings for planting, be sure to keep the cuttings well-watered and out of the sun as much as possible until they are planted. Try to minimize the amount of time between pruning and planting if possible.



Farm worker using a hand-held knife rake that can prune lightly or heavily.

Use caution when applying herbicides (preemergence) to recently pruned vines.

Recent research indicated that minor vine injury may occur the year after the vines are pruned if treated with herbicides (vines were treated with preemergence herbicides in both years). Data were variable but there was evidence that vines that received the high herbicide rates had lower yields in the year after pruning than vines that received low-end rates.

Injury sustained can vary by the type of pruner used (rotating head vs. stationary head).

If vines are treated with Evital in the fall, vines will grow poorly if pruned in the spring and then planted. Consult the Cranberry Chart Book for current information on pruning and herbicide use.

For more information:

Sandler, H.A. and C.J. DeMoranville. 2008. **Cranberry production: a guide for Massachusetts**, CP-08. UMass Extension Publ.

Suhayda, B., DeMoranville, C.J., Sandler, H.A., Autio, W.R., and Vanden Heuvel, J.E. 2009. **Sanding and pruning differentially impact canopy characteristics, yield and economic returns in cranberry**. HortTechnology 19:796-802.

Prepared by Hilary Sandler and reviewed by CCCGA Environmental Committee, 2010.

Pruning Checklist

- ✓ Regularly prune vigorously growing hybrids.
- ✓ Maintain equipment and keep knives sharp.
- ✓ Consider using cuttings on-farm or selling to increase revenues.