

# Integrated Pest Management Program for Shepherd's Run

## Plan Summary

Our Integrated Pest Management (“IPM”) at Shepherd’s Run is based out of a commitment to maintaining the lowest environmental impact possible while still fighting the fungal diseases and pests that negatively affect grape vines. We will use the most recent tested technology and industry practices to help achieve this goal. In addition, we are committed to working with the Agriculture Cooperative Extension Programs at both University of Rhode Island and University of Connecticut to further this plan and provide a healthy viticultural ecosystem. Our vineyard is of a boutique scale in comparison to most vineyard operations. As such we will perform all our vineyard management practices following the following criteria with the goal of minimizing any external inputs into the environmental ecosystem:

- 1) Where feasible, we will first manage our viticultural with traditional manual practices by hand. Some of these anticipated practices includes cane pruning, harvesting, leaf pulling, vine tying, cluster thinning, canopy reduction, companion planting, and canopy netting during veraison.
- 2) Our second step is to utilize mechanized processes to further reduce inputs into the ecosystem. This includes hilling, weeding, air circulation, and cultivating.
- 3) Our third step, if required, is to utilize organic sprays and inputs that have been researched and determined to have strong efficacy by the industry. We are seeing great progress in this area with organic sprays such as garlic that have been used for years in traditional gardens which are now being further tested for efficacy on grape vines to treat certain fungal conditions.
- 4) Our fourth and final step, is to use traditional industry tested sprays to target specific pests or diseases on a precise schedule in limited quantity.

## Further Details on our IPM Strategy

We will be managing the weeds under the vines mechanically with a tractor mounted cultivator, and not with herbicides such as glyphosate. The sprayer we will use when required is a hooded recovery sprayer as opposed to an air-blast sprayer. This sprayer has hoods that go over the vine row, sprays the vine canopy with the material at entry and captures any excess material not on the vine. It then recycles it back into the sprayer tank. This virtually eliminates any drift of spray material into the surrounding environment. Further, this sprayer targets only the vine canopy as opposed to spraying the ground and surrounding environment. Additionally, we will stay up to date on all regulations regarding pesticide application, including licensing and storage protocols. We will stay current on industry trends that will keep our IPM efficient and low impact. We plan to work closely with the Cooperative Extension program at University of Rhode Island which has an extensive agricultural assistance program. We will also be working



the cooperative extension programs at University of Connecticut and Cornell University due to their viticultural specific offerings.

Shepherd's Run aims to be a steward of the environment and seeks to enhance and preserve our beautiful surroundings by making as little impact as possible.

Below is a rough list of diseases and pests we may have to treat our vines for and the materials we may use to combat them.

<b>Fungal Diseases:</b>	<b>Treatment:</b>
Powdery mildew	Stylet oil, Mancozeb
Downy mildew	Phosphorous acid, Copper
Botrytis and other bunch rots	Sterol Inhibitors (Vanguard, Botector, etc)
Black Rot	Strobilurins (Revus top, Pristine, etc)
Phomopsis	Captan, Mancozeb

The exact timing of the fungicide spray treatments will be based on pressure between bloom (mid-May) and harvest (late-Sept). We anticipate disease pressure to vary from year to year based on biological and climatic conditions.

**Insects:** The insects that we will worry about are less ubiquitous than fungal disease and will be handled on a case-by-case basis. The ones we will worry about most are leaf hoppers, grape berry moth, Japanese beetles, fruit flies and Spotted Lantern Fly. There are circumstances where these insects can be managed without insecticides, but when populations become too high we may have to use something like Assail, Delegate, or Sevin. We will only use broad spectrum insecticides like Sevin in dire circumstances.

Please note that this is a broad view of what our IPM will look like in coming years. The first two years of growing for each block of grapevines will not produce grapes and require less pest management. It is also important to recognize that new pests can arise, and new treatments are often developed. We will stay on top of the trends, and best practices in order to make adjustments where warranted. We will stay committed to making the lowest impact to our environment in order to grow premium wine that respects and highlights our unique terroir and region.

