Mechanically Harvested Grapes Meeting Kit

WHAT’S AT STAKE

NITTY – GRITTY OF MECHANICALLY HARVESTED GRAPES

Mechanical harvesters are large tractors that straddle grapevine trellises and remove berries or fruit clusters from the vine by gently vibrating the vines so that the grapes are separated from their stems. Once the berries or clusters have been shaken free, they are collected by individually sprung “fishplates” that open and close around the vine trunk or trellis supports. The plates are angled to divert fruit to the conveyors. The grapes are then moved along a conveyor (in the case where the harvester is not equipped with an on-board bin) where powerful hydraulic fans suck off and chew up leaves and debris. Magnets are typically used by the harvester to remove nails, staples, or other metallic parts shaken loose from the trellis. The conveyor deposits the fruit into a gondola. From there, when full it is either transferred into 5 to 8 ton (4.5 to 7.2 mt) tubs which are loaded onto a flatbed truck or the fruit is directly emptied into a truck from the gondola for immediate transport to the winery. For most vineyards, there will be a single harvest.

WORKER TRAINING FOR GRAPE HARVESTING

Obtaining training in harvester operations and reading the operator’s manual for precautions and special instructions before operating this vehicle are critical. Make sure that you understand all of the components of the harvesting system, including the harvester, the dump cart, and final discharge to valley bins for transport and processing. Due to the seasonal nature of harvest work, train at least annually on harvester operations.

WHAT’S THE DANGER

GRAPE HARVESTING HAZARDS

Before harvest work begins, survey the vineyard area for hazardous conditions such as electrical lines, utilities, water sources, and uneven or unstable ground. Choose a harvester suitable for the trellis/canopy system in the vineyard. Mechanical harvesters can be top heavy and prone to tipping, so only use them on stable ground at a suitable slope. Always watch for ditches and embankments and dump grapes only on level ground as the rising bucket can make the cart unstable. Keep in mind that harvesters cannot back up, so choose the vine row carefully before you operate the harvester.

HOW TO PROTECT YOURSELF

BEST GENERAL GRAPE HARVESTING PROTOCOL

Be aware of other harvest workers on the ground and operating equipment in the area. Good communication with coworkers about your movements is important, so sound the horn before you start and/or move the harvester. Use backup alarms if the harvester is equipped. While operating at dusk, night, or dawn, keep all of the harvester lights on. You should never allow the harvester or conveyors to travel over workers and do not give rides or permit workers to climb on the machine.

ADVANTAGES/DISADVANTAGES OF MECHANICALLY HARVESTED GRAPES

Arguments against machines have generally been related to quality. Forceful shaking can damage vines, while grapes were semi-crushed during their deposit into steel bins and used to sit in a dirty soup while the machine kept working. Older harvesters were also known to collect too much “material other than grapes” (or MOG), which can include stems, leaves, and small animals. Haphazard fruit selection was also a concern.

State-of-the-art equipment comes at a price. Lack of vineyard acreage, up-front capital and fixed costs may hinder smaller

wineries' adoption of mechanical harvesting. Older, used models can cost tens of thousands of dollars, while top-of-the-line harvesters hit six figures. Custom harvest services—akin to renting a mobile bottling line—are growing in popularity.

A mechanical harvester is much faster than manual pickers. Some say one machine does the same work as 20 harvest workers. A mechanical harvest is typically done in a much shorter time span than a manual harvest. If, for example, bad weather is looming then the machine harvester can quickly harvest the grapes, before the storm, something that might take pickers days to do.

The harvester can also be sent out in the middle of the night to harvest. This can be a great advantage in hotter climates. Harvesting at night when it is cooler can give more freshness in the wines. Convincing a whole team of harvest workers to start work at 2 AM can be difficult but it is easy with a single (relatively well-paid) tractor driver, not to mention that pickers will have difficulties to see the grapes at night.

That mechanical harvest leads to a lot of "mog" (material other than grapes, i.e., leaves, twigs, snails, bird's nests, snakes etc.) is largely a myth. Perhaps it was true with the very early harvesting machines.

BEST SAFE GRAPE HARVEST MACHINERY OPERATION PRACTICES

- Fasten your seat belt if you are operating a tractor that has a rollover protection structure. It can prevent injury by avoiding being jostled about within the device or thrown from it.
- Avoid operating tractors near ditches, embankments, and holes. And stay off slopes that are too steep.
- Keep guards and shield on harvesters at all times. Always shut off the engine and wait for all movement to stop before removing guards and shields.
- Keep hands, feet, and clothing away from power-driven parts, including the picking mechanism, blowers, and conveyors while the engine is running.
- Do not clean, lubricate, or adjust the harvester when it is

running.

- Before leaving the harvester unattended, engage the parking brake, shut off the engine and remove the keys. Never leave a harvester in an area accessible by children.
- Sound the horn twice to warn others before starting a harvester’s engine.
- Survey the area to be harvested for low hanging limbs, wires or other obstacles that will obstruct the path of the harvester or gondola.
- To avoid electrocution and machine damage, do not operate harvesters or gondolas within 15 feet of electrical wires.
- With continuous paper tray machines, it’s better to load or unload the paper in a cradle outside of the machine.
- If you see an electrical wire on the ground, call 911 or the utility company such as Pacific Gas & Electric Co.
- If a vehicle hits a power wire, jump from it and do not touch it once outside of the vehicle. If you dig up a piece of cable, call for help and either remain on the tractor or jump clear of it.
- When operating over-sized, slow-moving equipment on roadways, try to pull over to let drivers pass, but be aware of clearances from ditches or canals.

FINAL WORD

All moving equipment parts should be guarded where possible and always keep your hands, feet, and other body parts away from all moving parts. When you are near moving equipment, you should wear form-fitting clothing, remove dangling jewelry, and keep hair tied back.