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Australian Wine Research Institute issues new ethephon guidance for growers resting vineyards

The update tells grape growers when to spray under a national permit, warns against copper mixes, and says yield carryover appears minimal

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Australian grape growers considering whether to take some vineyard blocks out of production this season received new guidance Monday on how to use ethephon to remove fruit while staying within permit rules and limiting crop and equipment risks.

The advice came from the Australian Wine Research Institute, which said ethephon can be used as part of a vineyard “resting” strategy in which growers remove yield and cut back on water, nutrition and spray inputs. The update adds to earlier industry guidance on vineyard resting and comes as parts of the Australian wine sector continue to deal with oversupply and cost pressure.

Ethephon is a plant growth regulator. In vineyards, it is sprayed on grapevines in spring to reduce yield by causing undeveloped berries to detach from the rachis, the stem structure that holds the berries in the bunch. The institute said its use for bunch removal must follow Australian Pesticides and Veterinary Medicines Authority Permit PER94008, which applies across all Australian states and territories.

Under that permit, ethephon should be applied between growth stages E-L 25 and E-L 27. Those stages run from about 80% capfall to early fruit set, when young berries are enlarging beyond 2 mm and bunches sit at a right angle to the stem. The institute cited research trials by the South Australian Research and Development Institute on one Shiraz block in the Riverland during the 2023 and 2025 vintages that found the strongest fruit removal when the product was applied at E-L 27.

Growers can make one or two applications during that window, but any repeat treatment must be at least seven days after the first. The institute said one application will usually be enough. It also advised that the product should be sprayed across the full canopy unless the vineyard has a clearly defined bunch zone where the application can be directed to saturate the clusters.

Much of the update focused on spray preparation and compatibility, areas that can affect both performance and vine safety. The institute said water quality is a critical issue because ethephon is naturally acidic and breaks down faster as the pH of the final spray solution rises. That means alkaline water can weaken its effect. Growers were told to follow label directions on water quality and to seek supplier advice before adding acidifiers.

The institute also warned growers to be careful about tank mixes. It said a simple jar test may show whether products physically mix, but it does not prove the combination is safe for vines or that the treatment will still work as intended. It highlighted copper fungicides as a particular concern, noting that acidic spray mixes below pH 6.5 can increase the risk of vine damage from copper. Because ethephon lowers solution pH, mixing it with copper products was described as risky.

The application rate depends on the strength of the formulation. For products containing 900 g/L of ethephon, the recommended label rate is 32 mL to 104 mL per 100 L. For 720 g/L products, the range is 40 mL to 130 mL per 100 L. For 480 g/L products, the range is 63 mL to 190 mL per 100 L. The institute said the spray should be applied at a dilute rate to the point of run-off and should include a non-ionic wetting agent at the label rate.

Weather and drift controls are another part of the permit conditions. The institute said growers should not spray unless wind speeds are between 3 and 20 kilometers an hour during the application. It also said growers should avoid treatment if heavy rain or storms are forecast within three days, because poor weather can affect performance and increase the risk of unintended movement or wash-off.

For application equipment, the institute specified the use of an air-blast sprayer. It also stressed the need for careful cleanup after spraying. Ethephon can corrode acrylic plastics and damage some paints and metals, so spray units should be flushed and rinsed with detergent and water after use to remove residue.

The guidance included a grazing warning. Treated vines must not be grazed, and plant material from those vines must not be cut for stock feed.

One question for growers considering a rest year is whether the treatment can reduce production in the following season. The institute pointed again to SARDI trials in a Riverland Shiraz block, saying results showed only minimal carryover effects on yield in the year after one or two ethephon applications.

The update also drew attention to financial support now available in South Australia. The state government is offering a Vineyard Resting Rebate to commercial wine grape growers to help cover ethephon costs. Eligible businesses can claim $40 per hectare, excluding GST, for ethephon bought between July 1, 2026, and January 31, 2027. The program covers up to 1,000 hectares of vineyard per Australian Business Number.

The rebate is limited to South Australian businesses, but the permit allowing ethephon use for bunch removal is national and remains in force from July 21, 2025, through July 31, 2030. The research institute directed growers to the rebate guidelines, eligibility rules, and the permit itself, along with a SARDI fact sheet and a webinar on vineyard resting delivered by SARDI researcher Paul Petrie.