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Winegrowers Worldwide Reintroduce Animals to Vineyards in Shift Away From Chemicals and Machinery

Farmers turn to horses, sheep, pigs, and birds to boost sustainability, cut costs, and improve soil health amid oil concerns

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Winegrowers across the world are turning to animals such as horses, sheep, pigs, and even birds to help manage their vineyards in a more sustainable way. This shift comes as concerns grow over the environmental impact of chemical herbicides and mechanical weeding, both of which have been standard practices for controlling grass and weeds between vine rows. Chemical herbicides are widely criticized for harming

soil, water, and air quality. Mechanical weeding, while avoiding chemicals, can damage vine roots and trunks and often increases a vineyard’s carbon footprint due to heavy machinery use.

The use of oil in both methods is another concern. Tractors require diesel fuel, and many herbicides contain petroleum-based compounds. With oil supplies under pressure since the start of the Iran war, winegrowers are seeking alternatives that do not depend on fossil fuels. Reintroducing animals into vineyards is emerging as a viable solution that also brings ecological benefits.

Historically, animals played a key role in vineyard management. Horses were used for plowing before tractors became common during the industrialization of agriculture in the late 20th century. Chickens and geese were also present on small farms, helping with pest control and protection. However, as monoculture farming took hold, animals largely disappeared from vineyards.

In recent years, some winegrowers have begun to bring back horses, especially in biodynamic vineyards where holistic and regenerative farming practices are valued. Scientific studies support this approach. A 2021 study found that using horses for tilling increased growers’ awareness of their environment by engaging all senses during work. A 2016 thesis comparing tractors and horses concluded that horse-plowed vineyards had better soil structure, more active soil life, improved gas exchange, and less compaction than those worked by tractors. While horse labor is more intensive—requiring more than twice the effort compared to tractors—horses are now seen in vineyards from France’s Champagne region to New Zealand, Chile, and the United States.

Sheep are another animal making a comeback in vineyards, particularly in New Zealand where they graze between vine rows during winter. Sheep keep grass short, clear weeds under vines, and some breeds even clean vine trunks. For sheep farmers, vineyards offer a low-parasite grazing environment. Paddy Borthwick, a New Zealand winegrower who has used sheep for 15 years, brings them into his vineyard for a 10-week winter grazing period at a density of 15 sheep per hectare. He reports that sheep reduce mowing needs and labor costs while helping with leaf plucking in spring.

A 2018 study confirmed that integrating sheep into vineyards reduces the need for herbicides and mowing while cutting labor costs. A 2022 UC Davis study found that long-term sheep grazing stimulates soil biological processes that improve soil health and increase carbon sequestration. Sheep manure acts as a natural compost source. French soil specialists Claude and Lydia Bourguignon have also integrated sheep into their Cahors vineyard with positive results.

Even large producers like Moët & Chandon have adopted sheep grazing in their Champagne vineyards over the past five years. However, growers must be cautious about copper residues from fungicide treatments, which are toxic to sheep.

Pigs are also being used in some vineyards, especially the kunekune breed from New Zealand. Pigs are typically introduced at the end of fall through winter to clear brush and unpicked grapes while rooting out weeds and pests from the soil. Their activity increases soil organic matter quickly but requires careful management to avoid overgrazing. In Champagne, Cedric Moussé has found that pigs significantly improve soil fertility and even boost yields in diseased vineyards.

Chickens contribute by aerating soil and improving water retention—an advantage noted by growers with clay-heavy soils. Since 2011, Kendall Jackson has kept chickens in its California vineyards for these benefits. In South Africa’s Vergenoegd Löw estate, around 2,000 ducks have been deployed since 2020 to control pests like slugs and snails; they have also become a tourist attraction.

Cattle are less common but have been used at Reynecke estate in South Africa as part of biodynamic practices. A recent study published this January showed that grazing oxen between fall and spring over five years improved soil carbon content and structure in alpine vineyards without negative effects when managed at five to seven oxen per hectare.

The return of animals to vineyards is driven by both ecological concerns and economic incentives. Animals help reduce reliance on oil-based products and machinery while improving soil health through natural fertilization and pest control. Academic research indicates that these practices can enhance grape quality as well as lower maintenance costs for growers. As more wine producers adopt animal integration strategies, they are

not only restoring traditional farming methods but also attracting interest from tourists eager to see these “furry friends” at work among the vines.