

Organic Vineyard/Orchard Weed and Grass Management Using Miniature Sheep

Deborah Walton (Farmer/Rancher Grant Program)

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Title: Organic Vineyard/Orchard Weed and Grass Management Using Miniature Sheep

Principal Investigator :

Deborah Walton
Canvas Ranch
755 Tomales Road
Petaluma, CA 94952
(707) 766-7171
info@canvasranch.com



A month-old Olde English Miniature Babydoll Southdown lamb.

Technical Advisor:

Laura Mendes
Director, Sustainable Ag Program
Santa Rosa Junior College
1501 Mendocino Avenue
Santa Rosa, CA 95401
(707) 527-4649

Cooperators:

Ann Thrupp, Manager of Organic Development, David Koball, Vineyard Manager, Chad Boardman, Vineyard Manager, Fetzer Vineyards, Hopland
Michael Brunson, Assistant Winemaker, Michel-Schlumberger Winery, Healdsburg
Glenn McCourty, Viticulture & Plant Science Advisor, UCCE-Mendocino County, Ukiah

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Parsley mugs for the camera.

Situation:

Suppressing weeds and tilling cover crops in organic vineyards is challenging and costly. Using an heirloom breed of miniature sheep, Olde English Babydoll Miniature Southdowns, to maintain vineyard and orchard floors is a sustainable approach to this problem and has been shown to be more cost effective than other more labor-intensive weed/grass management methods.

These miniature Southdown sheep are 24 inches or less at the shoulder without wool, so they can't easily reach the canopy of most grapes. They have also been used to sucker and hedge vines, and the manure they add is another bonus.

Objectives:

1. Analyze the cost benefits of using miniature sheep versus mechanical methods for weed control in organic vineyards and orchards
2. Demonstrate a unique, sustainable farming practice that may encourage more growers to use organic methods



Fetzer's Bonterra Vineyard in Hopland at the start of the study, Feb. 22, 2005.



ElectroNet fencing on the vineyard perimeter.

Actions:

- Tested 24 sheep in both low-density (3-4 sheep per acre) and high-density (7-8 sheep per acre) situations on the Fetzer Vineyards. Study block divided into 6 sections using electric fencing, with these measures: monthly clippings of weeds and other plants; plant composition; compaction; N, P, K; and economics, including costs of leasing and owning sheep
- Tested 12 sheep in the Michel Schlumberger Vineyards, a hillside vineyard of approximately 4 acres, where the steepness makes mechanical weed management difficult.



Ann Thrupp, manager of organic development for Fetzer, takes grass-clipping samples.

Results:

On the Fetzer Vineyards, the sheep did their job beautifully, keeping the vineyard floor grasses and weeds well maintained. During bud break, the sheep tasted the buds and were removed.

The owners of the Michel Schlumberger Vineyards were very satisfied with the sheep performance, though they noted the importance of getting them in early and then out before bud break.

Potential Benefits:

1. The sheep maintain the vineyard floor, keeping the weeds and grasses clipped to within 1 or 2 inches. They also ate the unwanted vine suckers, eliminating another costly and labor-intensive job.
2. The manure they deposit offers an additional benefit by improving soil nitrogen.
3. Smaller hooves and the weight of the miniature sheep kept the vineyard floor from being compacted as it would have been by mechanical weed management.
4. The little sheep in the fields created a tremendous draw for workers and visitors and resulted in goodwill for the winery.
5. Economically, it makes sense if the sheep are purchased rather than leased, although leasing affords the vineyard a chance to assess success without sheep upkeep costs.

Outreach

- Walton spoke to 100 winegrowers at the UCCE Organic Winegrowing Short Course in November 2003
- Canvas Ranch was featured in a program aired nationally on HGTV titled *50 Ways to Save the Planet* hosted by Nell Newman of Newman's Organic
- The sheep were featured in July 2004 articles in *Gourmet* and *Fortune* magazines
- A March 2005 article featured Walton and her sheep in the *Santa Rosa Press Democrat*
- In August 2005, Canvas Ranch was featured in an eight-page article in a national magazine, *\$1,000,000 Blueprint*

Walton's work with the miniature sheep and the publicity surrounding it have prompted queries from nearly 100 vineyards. Because of Walton's work and the publicity it has generated, Babydoll Southdown sheep are being used in at least 25 vineyards to date, including a 1,000-hectare vineyard in New Zealand.



Before grazing, at left, and the finely 'moved' grass after grazing, at right.



Sheep enter the vineyard.



Deborah Walton feeds her Southdowns at Canvas Ranch west of Petaluma.