Weed Control for Small Vineyards

2018 Gulf Coast Meeting
Cat Springs, TX

Kirk Williams, Instructor
Viticulture Certificate Program
Weed Competition

Full Season Unmanaged Weed Competition
(Byrne and Howell, 1978-Baco Noir-MI)
(Sanguankee, et al, 2009-Zinfandel-CA)

- 37% to 46% Yield Reduction
- 68% to 317% Reduction in Cane Weights
- 21% to 28% Reduction in Cluster Number
Weed Control Options

Mechanical
- Mechanized Undervine Cultivators
- Hand Hoeing
- String Trimmers

Chemical
- Post-Emergent Herbicides
- Pre-Emergent Herbicides

Chemical Weed Control

Herbicides
- Wide Variety of Equipment Options
- Wide Time Window to treat
- Very Effective
- Chance of Herbicide Injury
Chemical Weed Control
Herbicide Injury Symptoms

Glyphosate Injury

Chemical Weed Control
Control Weeds Early In the Season
Young Vines
Protect from Herbicide Drift

Strip Spray-Percent of the Total Acreage
Rates Expressed Per Acre
Herbicide Rates Expressed on Broadcast Acre Basis
Strip Spray-Percent of the Broadcast Acreage

3’ / 10’ = 0.3 or 30%
Broadcast Surflan Rate of 4 quarts/Acre
4 quarts X .3 = 1.2 quarts Surflan on treated strips

Spot Spray
Rates Expressed Per Gallon of Spray Solution
Spot Spray
Rates Expressed Per Gallon of Spray

Glufosinate Spot Spray Rate - 1.7 ounces per gallon
1.7 ounces X 25 gallons = 42.5 ounces per 25 gallon load

Chemical Weed Control
Pre-Emergent Herbicides
Timing is Everything!

- Weed seeds controlled prior to germination or as they germinate.
- Apply before weeds emerge or tank mix with a post-emergence herbicide.
- Require rain to activate.
- Established perennial weeds not controlled
Chemical Weed Control
Pre-Emergent Herbicide Options

Bearing and Non-Bearing Options

Oryzalin (Surflan, Others)
Pendimethalin (Prowl H₂O, Prowl, Others)
Flumioxazin (Chateau, Others)
-Use only after vines planted for two years

Non-Bearing Only

Isoxaben (Gallery, Trellis, Others)

Chemical Weed Control
Post Emergent Herbicides

Control weeds after they emerge.
• Can be selective or non-selective.
• Stage of weed development can be critical.
• May require surfactants or other additives to be most effective.

Can cause injury to the crop.
• Avoid contact with the foliage, canes, and fruit.
Chemical Weed Control
Post Emergent Herbicide Options

Non-Selective Post-Emergent Herbicides

Glyphosate (Roundup, Others)
Glufosinate (Rely, Others)
Paraquat (Gramoxone, Others)
Pelargonic Acid (Scythe)

Glufosinate Spot Spray
7 Days After Treatment

Glyphosate 2% Spot Spray
7 Days After Treatment
Contact Herbicides
Coverage is Critical

Chemical Weed Control
Post Emergent Herbicide Options

Selective Post-Emergent Herbicides
Grass Only Herbicides

Sethoxidim (Poast, Others)

Fluazifop (Fusilade)
Poast (Sethoxydim) Herbicide
Spot Spray-Killed Grasses but did not damage grapevines

Chemical Weed Control
Post Emergent Herbicide Options

Selective Post-Emergent Herbicides

Broadleaf Only Herbicides

  Carfentrazone (Aim)
  Pyraflufen (Venue)
Questions?