



Full Circle Ag & Environmental Inc.

Specializing in Research & Development of Biobased Products
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TITLE OF TRIAL: QL AGRI 35 on PNW WINE GRAPES during 2006

PROJECT OBJECTIVE: Determine Efficacy of QL Agri 35 for Nematodes Control in Grapes
1) Evaluate Fall and Spring applications of QL Agri 35% (Quillaja saponaria 35% plant extract) on wine grapes during Fall root flush period (October), then again in the Spring Root Flush.

2) Evaluate parasitic nematode counts by collecting soil samples

3) Evaluate basic parameters final yield of plots at time or just prior to commercial harvest period.

STUDY DIRECTOR: Dr Lawrence Marais; Lance Beem

PRIMARY RESEARCHER: Wes Deuel, Full Circle Ag, Oregon

CROP: Wine Grapes

VARIETY: Various Pinot Noir

GROWER: Jim Huggins

WINERY/BRAND: Eola Hills

LOCATION OF TRIAL: ~5 MILES West of Salem, Oregon

GPS COORDINANTS: 44° 58.92 N; 123° 09.53W; Elevation = 348 feet

PLOT DESIGN: Down the Row Randomized Plots with 1 plant buffers

PLOT (Rep) SIZE: 7 Vines per replicated plot per treatment

PLOT SPACING: 21 ft. length X 63 in. between rows

TREATMENT: 6 Sampled Replicates per Treatment

TARGET PESTS: Plant Parasitic Nematodes by genus. Analysis by A&L Western Services.

TREATMENT LIST:

1. Untreated control
2. QL AGRI 35 (Quillaja saponaria 35% Plant Extract) 2.5 Gallons per Acre @ Beginning of Spring Root Flush Period in the top 18 inches of soil for achieve feeding of plant parasitic nematodes). Fall Applications will be same as above.

APPLICATION DATE (S): Spring (April) and Fall (September) 2006.

APPLICATION CROP STAGE OF GROWTH: Beginning of Bud Break

APPLICATION EQUIPMENT: 5-gal. bucket with a solution of 1% by volume. Approximately 40 mls per complete plot area (length and width from row to row) of 10,000 PPM ratio Quillaja (QL Agri 35) to water. Same application guidelines in fall.

EVALUATION DATES(s): #1: Benchmarks taken prior to Spring application; #2 taken 3-4 weeks post-application #3 taken prior to harvest and again post-harvest (#4).

EVALUATION METHODS: Pre and Post Treatment soil counts.

First application @ 10,000 PPM (1%), 6 replicates of 14 plants going down and full width row to row. Same number of plants and treated area for Control (Untreated replicates).

Soil cores (12) taken at staggered intervals (between plants and 2 feet out from plants) down west side of plots with 1 plant buffer each end using single soil core tool. Depth of soil core is 18 inches. Pre and post treatment (3-4 weeks) nematode counts.

In the Fall just soil sample under the bucket diameter area you are treating. In the Spring, we should use a sprinkler can method or backpack sprayer method to treat the entire area around each vine in each replicate. But for now I just want nematode counts using this simple 5-gallon with holes in the bottom method.

IRRIGATION METHOD: Rainfall

WEATHER CONDITIONS DURING APPLICATION (S): Spring = 68°F, Sunny

WEATHER STATION CLOSEST TO TRIAL LOCATION: TBD

ABNORMAL CONDITIONS WHICH MIGHT AFFECT TRAIL: Abnormally cool temperatures for April, May & June 2006

RESULT SUMMARY (S): To include Statistical Analysis of Data in graph, spreadsheet and electronic format.

RECOMMENDATION (S):

DIGITAL PHOTO (S): General Shots of Application Date, Phytotoxicity Evaluation Date, Harvest Date, Any Observable Differences When Evaluating in the Field or in the Lab.

CONTACTS

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Report/Update as of May 10, 2006

Soil Samples taken at pre-application returned with disappointing parasitic Nematode analysis results. Will continue to gather additional data parameters at Wolf Hill according to protocol. A new site (back-up) with known high parasitic Nematode counts was established May 15, as a new trial (Daffodil Hill). Applications of QL Agri 35% were applied (in accordance with the above protocol) and trial is ongoing.

Photos taken at Wolf Hill and Daffodil during first Applications are included in this report.

Report Update 2; June 1, 2006

Back-up trial at Daffodil Hill implemented on May 15, 2006, in an established vineyard near (~ 5 miles to the North) Eola Hills. Daffodil Vineyard is also managed by Jim Huggins of Eola Hills. Past soil samples indicate the presence of parasitic nematodes as indicated by attached analysis.