

Appendix - Olives on the Hill 2018 Leccino, Anthracnose Observation

Background

- The grove is located near the Brynderwyn Hills, 5km inland from Mangawhai Heads, north of Auckland NZ
- Trees planted 4m x 5m, north facing
- 330 Leccino trees were coppiced in October 2015
- Managed under a preventative spray program for fungal leaf diseases since October 2016
- Pruned once in October 2017
- Produced ~10kg/tree in the 2017-18 growing season
- Leaf health is good
- Fruit looked healthy until maturity index reached 2-4 after which signs of anthracnose began to show
- Noted a serious need to monitor the anthracnose threat after the Focus Grove field day onsite 21st March
- First observation; recorded 22nd March
- Two rounds of spray were applied between the first and second observation
- Second observation; recorded 4th April
- Third observation; recorded 8th April

Method

Observations included seven trees, either Leccino or Pendolino variety. The example trees selected were spread among the worst affected areas.

A branchlet on each example tree, with diseased fruit on, was marked with tape. All olives between the tape and the tip of the branchlet that were not suitable were counted and recorded. An example photo was also taken for each tree at each observation.

Climate

22nd March to 8th April;

- Daily average temperature between 19-20 degrees Celsius
- Daily average humidity between 78-90%
- Total rainfall 9mm

<http://www.mangawhaiweather.co.nz/wxhistory.php?date=201804>

Location

The location of the example trees are shown on the simplified diagram of the block below. The rows run south to north down the slope and are lettered A to K. Each tree in the row is numbered either from the top (1) or the bottom (1up) of the row;

K	J	I	H	G	F	E	D	C	B	A
1	.	.	.	.	.	.	.	.	.	1
2	.	.	.	.	.	.	.	.	.	2
3	.	.	.	.	.	.	.	.	.	3
4	.	.	.	.	.	.	.	.	.	4
5	.	.	.	.	.	.	.	.	.	5
...
5up	.	.	.	.	.	.	.	.	.	5up
4up	.	.	.	.	.	.	.	.	.	4up
3up	.	.	.	.	.	.	.	.	.	3up
2up	.	.	.	.	.	.	.	.	.	2up
1up	.	.	.	.	.	.	.	.	.	1up
K	J	I	H	G	F	E	D	C	B	A

Observations

Tree Location	Variety	Number of non-suitable / diseased olives on marked branchlet		
		22nd March	4th April	8th April
A5*	Pendolino	~30	~50	50+
C3*	Leccino	4	32	35+
D1	Leccino	16	31	30+
D5up*	Pendolino	4	7	11
F3up	Leccino	8	16	24
H1*	Leccino	4	15	20
I13	Leccino	3	14	17

Photos taken of all branchlets.

* Photos ideal for further example are provided below.

EXAMPLE ONE

Location A5
Variety Pendolino



22nd March 2018
Observation 1
Approximately **30** olives non-suitable on sample branchlet

- Photo shows;
- Upper dotted olive has started to rot
 - Lower dotted olive is clean
 - Maturity index of 4



4th April 2018
Observation 2
Approximately **50** olives non-suitable on sample branchlet

- Photo shows;
- Upper and lower dots completely mummified after rotting
 - Olive to the right of the lower dot is clean



8th April 2018
Observation 3
Over **50** olives non-suitable on sample branchlet

- Photo shows;
- Olive to the right of the lower dot has begun to rot. Approximately a quarter of the flesh rotten.

EXAMPLE TWO

Location C3
Variety Leccino



22nd March 2018
Observation 1
4 olives non-suitable on sample branchlet

Photo shows;
- Three olives in good condition in a bunch of six
- Maturity index 3-4



4th April 2018
Observation 2
32 olives non-suitable on sample branchlet

Photo shows;
- Five out of six olives completely mummified after rotting
- Olive between the upper and lower dots (on the right) looks clean



8th April 2018
Observation 3
Over **35** olives non-suitable on sample branchlet

Photo shows;
- Half of the bunch has dropped off
- Sixth olive rotting

EXAMPLE THREE

Location D5up
Variety Pendolino



22nd March 2018
Observation 1
4 olives non-suitable on sample branchlet

- Photo shows;
- Upper dot has started to rot
 - Middle dot is mummified
 - Lower dot has started to rot
 - Maturity index 3-4



4th April 2018
Observation 2
7 olives non-suitable on sample branchlet

- Photo shows;
- Upper and middle dots rotten and mummified
 - Lower dot rotting
 - Maturity index 4-5



8th April 2018
Observation 3
11 olives non-suitable on sample branchlet

- Photo shows;
- All three dots mummified
 - Olive two left of the upper dot rotting

EXAMPLE FOUR

Location H1
Variety Leccino



22nd March 2018

Observation 1

4 olives non-suitable on sample branchlet

Photo shows;

- Upper dot is green
- Middle dot has started to rot
- Lower dot looks clean
- Maturity index 1.5-4



4th April 2018

Observation 2

15 olives non-suitable on sample branchlet

Photo shows;

- Upper dot is now the middle dot, still green
- New upper dot is rotten
- Lower dot rotting
- Maturity index of remaining suitable olives 2

This observation has accuracy limitations and is intended to show the speed of the anthracnose disease as it rots ripening fruit.

Observations and commentary by Neil Smith, Olives on the Hill Ltd.