

Influence of water volume and drop size in raspberries

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- 1. Deposition trials**
Fluorimetric measurements

- 2. Biological efficacy**
Botrytis fruit rot
Two-spotted spider mites

Water volume and nozzles

**Hollow cone nozzles
fine drop size**

**Flat fan nozzles
coarse drop size**

300 l/ha



ATR brown



AVI 80 01

600 l/ha



ATR orange



AVI 80 02

900 l/ha



ATR red



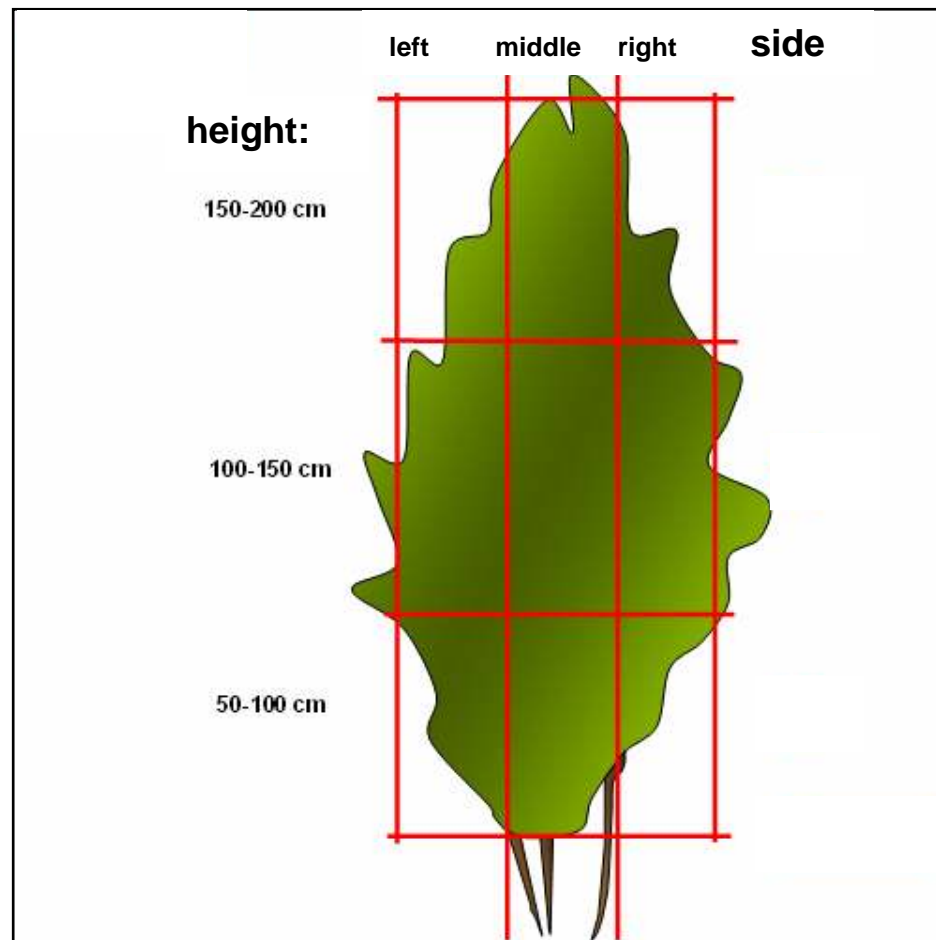
AVI 80 03

Deposition trials

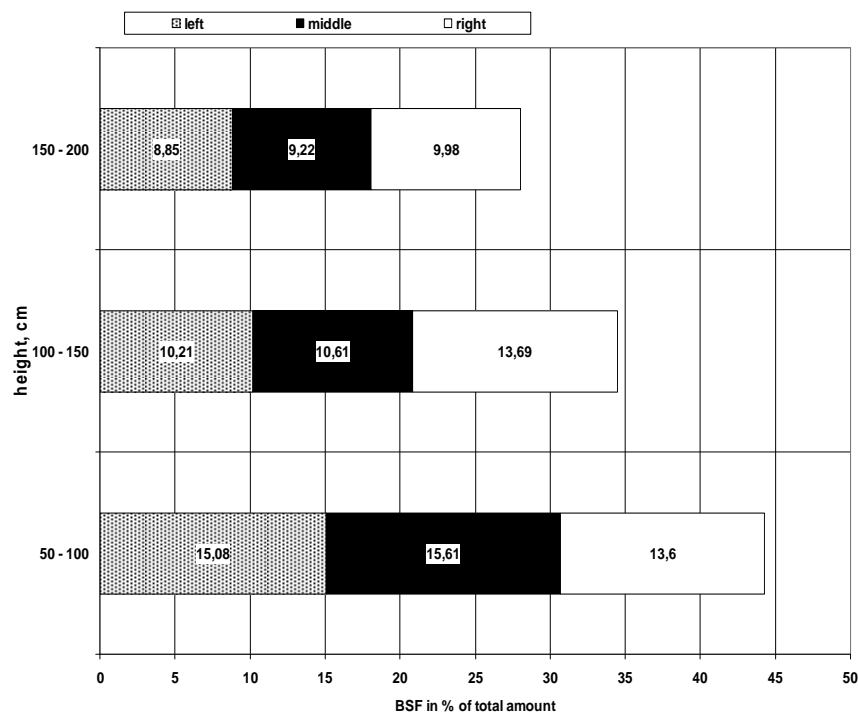
Location:	Rutenbeck
planting distance:	3 m x 0.4 m
cultivar:	Tulameen
age:	8 years
sprayer:	Wanner NA 32
fluorescent chemical:	Brilliant sulphoflavin (BSF) 10 g per 100 l
treatment:	5. June 2010, end of flowering



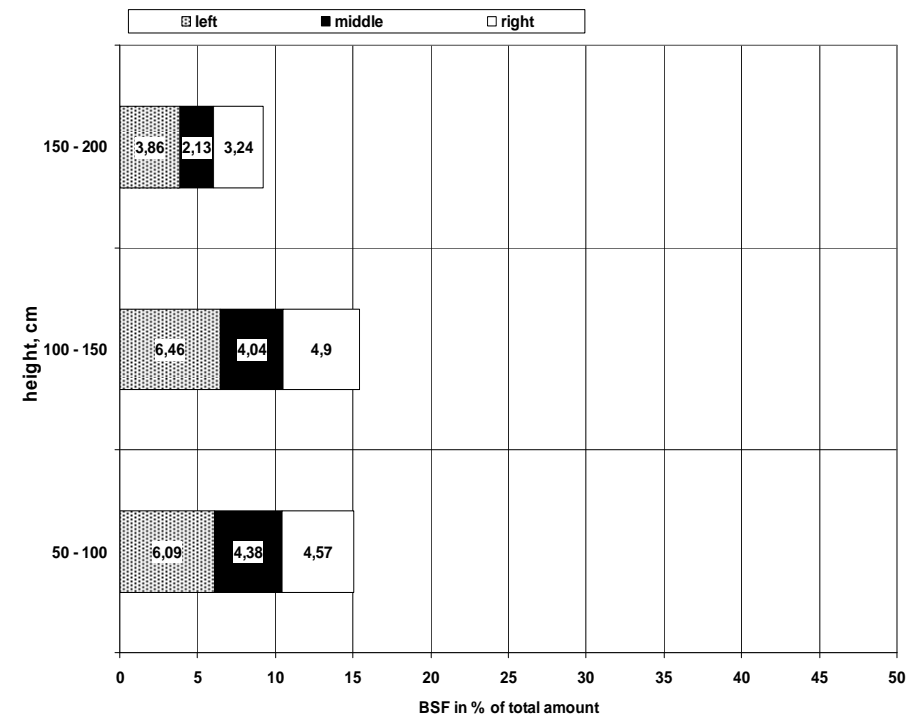
Collection of leaf samples



BSF (%) on the leaves in the different positions in the plants

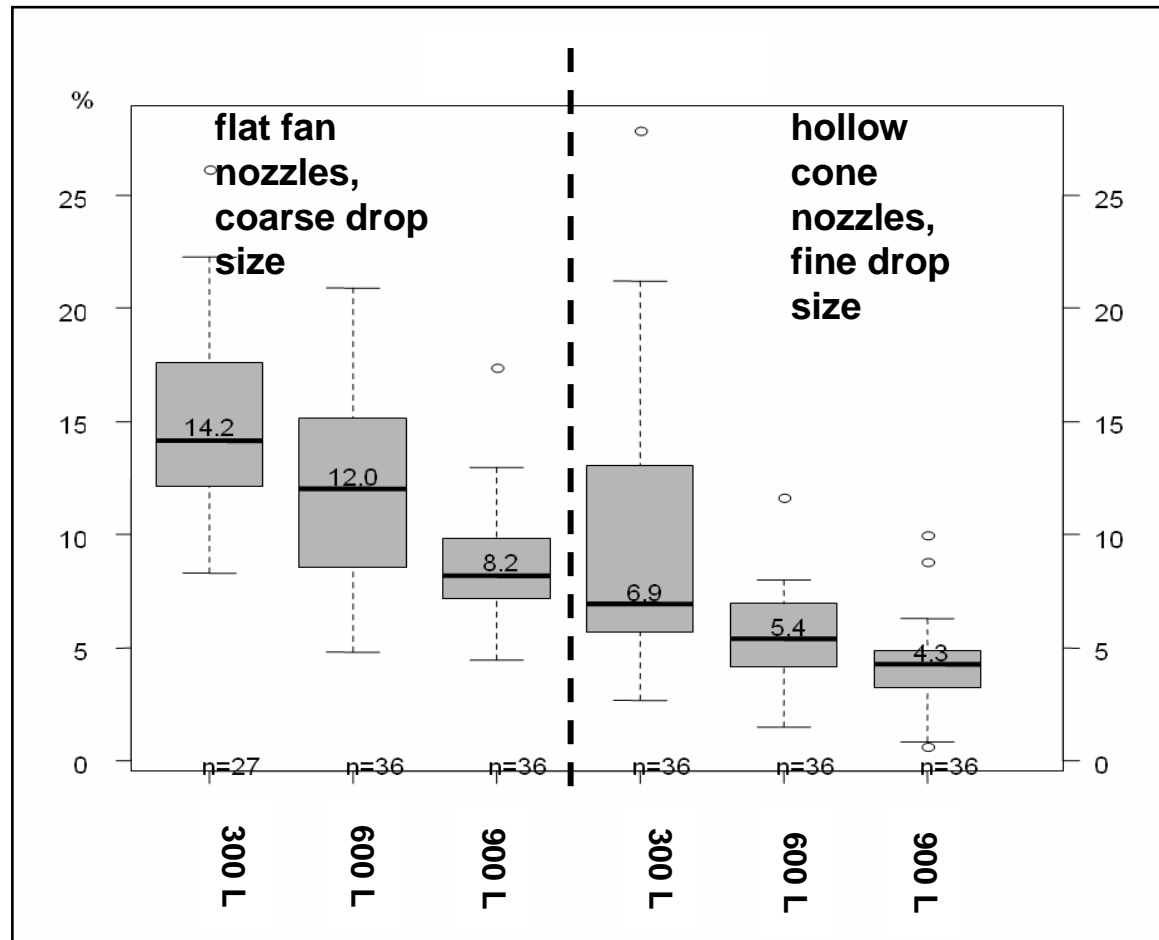


300 L/ha with coarse drop size



900 L/ha with fine drop size

The influence of water volume and drop size on the BSF (%) on the leaves (mean value of all positions) (median value)



Control of botrytis fruit rot 2010

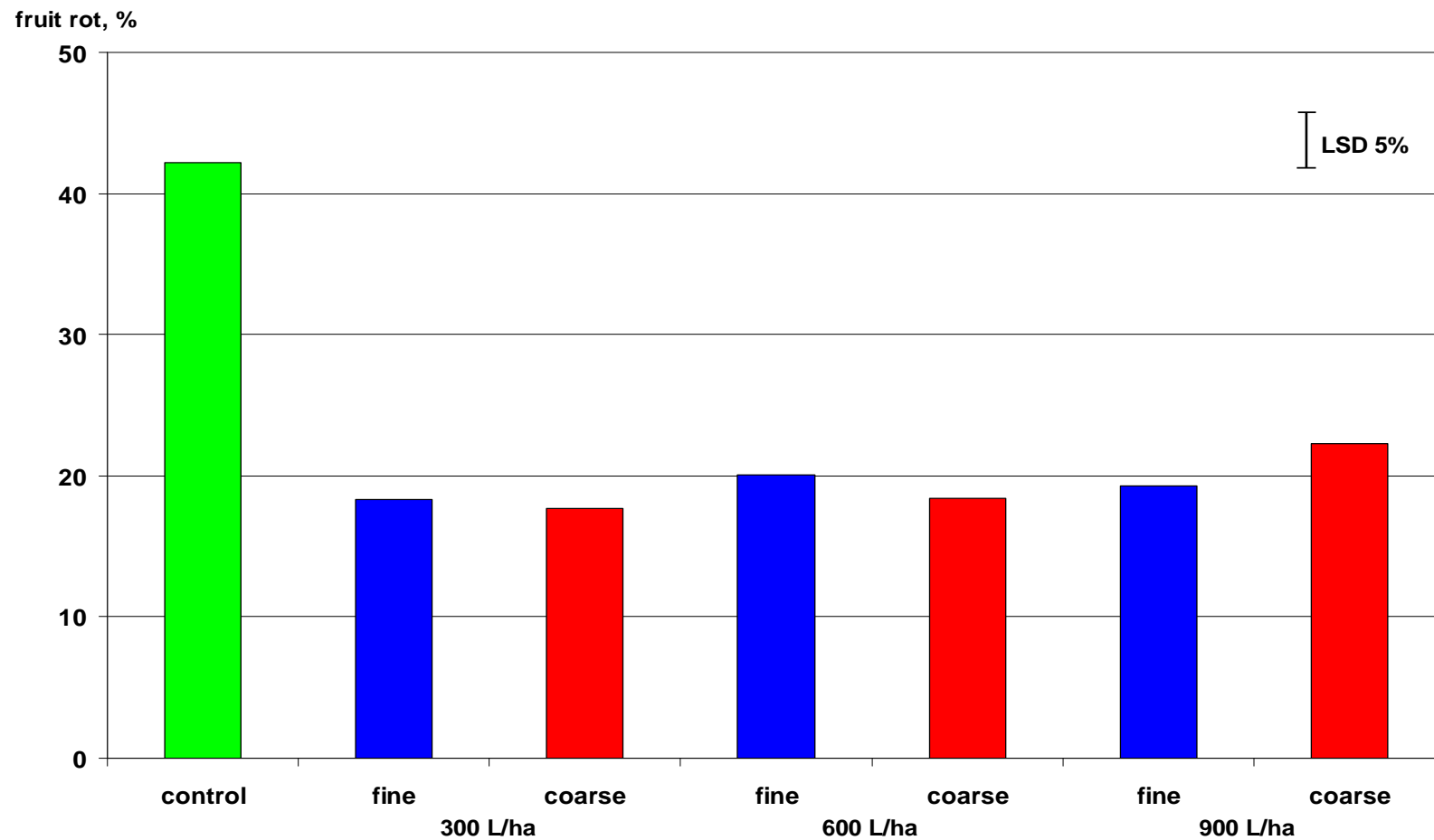
Tulameen, 5 year-old, 3 m x 0.4 m, 8 m per plot, 4 replications,
sprayer: Lochmann APS 4/80 Q

treatments:	1. 10.06.	20 % open flowers	- Switch 1 kg/ha
	2. 16.06.	60 % " "	- Signum 1 kg/ha
	3. 23.06.	90 % " "	- Teldor 2 kg/ha
	4. 30.06.	end of flowering	- Switch 1 kg/ha



evaluation: fruit samples of 250 g per plot at 5 times over the
harvest period (11.07., 17.07., 20.07., 24.07., 27.07.),
storage at 16 °C, percentage rotted fruits

Botrytis fruit rot, %
mean value of 5 sampling dates



Control of two-spotted spider mites 2010

Tulameen, 4 year-old, 3.5 m x 0.4 m, 12 m per plot, 4 replications
 sprayer: Lochmann APS 4/80 Q, treatment: 19.08.10, Vertimec 0.5 l + Envidor 0.4 l/ha,
 only flat fan nozzles (coarse drop size)

	number spider mites per leaf		
	19.08.10 0 days	26.08.10 7 d.a.t.	02.09.10 14 d.a.t.
1. control	9.3	11.7	19.8
2. 300 l/ha	5.2	8.2	11.1
3. 600 l/ha	5.3	8.1	14.0
4. 900 l/ha	8.2	5.0	14.0
L.S.D. 5 % (t-Test)	n.s.	n.s.	n.s.

Wetness of the leaves: 900 l/ha

upper side



bottom side



Control of two-spotted spider mites 2010 (trial II)

treatment: 02.09.10, Vertimec 0.5 l + Envidor 0.4 l/ha

	number spider mites per leaf			
	02.09.10 0 days	09.09.10 6 d.a.t.	17.09.10 14 d.a.t.	23.09.10 20 d.a.t.
1. control	19.8	22.5	13.9	15.1
2. 900 l/ha, 35.800 m ³ /h	11.1	7.7	3.5	4.8
3. 1.800 l/ha, 35.800 m ³ /h	14.0	6.5	5.5	3.9
2. 1.800 l/ha, 25.500 m ³ /h	14.0	7.9	3.0	2.4
L.S.D. 5 % (t-Test)	n.s.	5.0	4.0	3.1

Wetness of the leaves: 1.800 l/ha + 35.800 m³/h

upper side



bottom side



Summary

Deposition trial

- The percentage of BSF on the leaves depend on the drop size and the water volume
- Flat fan nozzles gave higher percentages than hollow cone nozzles
- 300 l water per hectare gave higher percentages than 900 l

Biological trials

- No statistic significant influence on botrytis fruit rot through the water volume and drop size
- No control of two-spotted spider mites with 300, 600 and 900 l per hectare
- Increasing the air volume and the amount of water gave better results

Acknowledgement

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Thank you for your attention.