



Minimizing residues in South Tyrol

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25.05.2016



Südtirol – Alto Adige – Autonomous province of Bolzano



- Austrian origin
- 500.000 habitants
- In the eastern alps
- Summer and winter tourism
- Commercial bridge between north and south
- agriculture: apple orchards, viticulture, dairy
- turnover of apple production: 700 mil. Euro
- 8000 owners & their family

Fruticultura in Alto Adige



Val Venosta – Silandro – Golden Delicious



Fruit-growing in AA: some information

18.500 ha	Total area (30% hail net)
8.000	Owners-producers
2,3 ha	Size of the farm
1.150.000 t	(11% EU27)
62 t/ha	Production per ha 2014
95%	Commercialization by cooperatives
7%	Organic orchards
ITA, D	Market places (others important marktes: Spain, scandinavia, y new markets in Asia)

The topic residues in South Tyrol

- residues on fruits from IP orchards
- residues on fruits from organic orchards (drift from IP orchards!!)
- Drift to other crops from IP orchards
- Drift to public and private areas

Residues on fruits from IP orchards

- **Retailers have different requirements:**
 - N° of residues: e.g. of residues max. 4-5 residues
 - Quantity of residues: e.g. restriction to 30% of some active ingredients MRL
 - Restriction on sum of residues: e.g. 15 % MRL of captan + 29 % MRL of Delan..
 - From some a.i.: no residues

Babyfood: 0 residues, organic apples

Plant protection in IP production & residues

- Active ingredients, number of treatments, application rate and preharvest interval are defined at national and regional level
- IP in South Tyrol is defined from the WG Agrios (SBR, VOG, V.IP etc., including foliar fertilizers (amino alcohols, morfolines ecc.)
- Residues on fruit lower than 50 % of MRL
- Important are independent field trials with new a.i., new formulations, biotechnologies against pests, application techniques and disease on different varieties checking efficacy, side effects and residues (W. Rizzolli)

Plant protection in IP production & residues

- Aim is not the scientific publication but the background for the decisions of the WG Agrios
- Residue monitoring in IP-production 1 sample at harvest for 2000 t
- The reports are owned by the Growers Association, they are not public
- Checking the technical magazines (Obstbau/Weinbau; Südtiroler Landwirt, Apfel aktuell, rivista di frutticoltura from the last 5 Years.....) common consensus everything is under control

Plant protection in organic production & residues

- Organically grown apples from South Tyrol are normally free of **relevant** residues
- From the organic PPP you find: copper and sulphur
- Spinsad, PBO are not allowed, and Neem used only early in the spring
- Monitoring with samples in every farm

Plant protection in organic production & residues

sulphur

class	N°	in %
0	87	79,1
0-10	22	20,0
10-20	0	0,0
20-30	0	0,0
30-40	0	0,0
40-50	1	0,9
50-60	0	0,0
60-70	0	0,0
70-80	0	0,0
80-90	0	0,0
90-100	0	0,0
Total postive	23	20,9
Total	110	100,0

copper

class	N°	in %
0	61	55,5
0-10	0	0,0
10-20	44	40,0
20-30	2	1,8
30-40	2	1,8
40-50	1	0,9
50-60	0	0,0
60-70	0	0,0
70-80	0	0,0
80-90	0	0,0
90-100	0	0,0
Total postive	49	44,5
Total	110	100,0

How do the labs distinguish between applied S and natural one ?

Organic farming and drift from IP production

- The farms in South Tyrol are small and divided in parcels (min. 3.000 m²)
- We have problems with contamination from IP production (phosphites !!)
- The GA proposed a agreement for a peaceful neighbourhood between organic & IP
- Some organic growers complain

Organic farming and drift from IP production

- The cooperatives have a risk evaluation from the borders to conventional land
- Monitoring plan include samples from these risk evaluation (partly paid by the organic growers and by the cooperatives)

Pesticide drift to private and public areas

- New law in our province which regulate these topic
- If someone is interested on it?

Activities with a impact on residues on fruits

- Field trails with PPP (RW)
- Biology of post harvest disease and monitoring of infection conditions (KM)
- Single row netting (codling moth and others) (MK)
- Coverage (Keep in Touch®) to protect the trees from the rain avoiding pathological infections (MK)
- Field trials with alternative products against disease (Co-free, AltRameBio) (MK+RW)
- Post harvest techniques (AZ)
- Hot water dipping (new EFRE-project HotApple??) (MK)

Activities with a impact on residues on fruits

- Physical Barriers between organic & IP
- Alternatives to herbicides (low impact on residues) (MK+MT)
- Mechanical thinning (low impact on residues) (MK+CA)
- Functional biodiversity (EcoOrchard) (MK)
- Resistant & Robust varieties (WG+MK)

Keep in touch®



Barrier against drift



Hot water shower

Danke für Ihre Aufmerksamkeit

Thank you for your attention



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