

## PESTICIDE RESIDUES IN BERRIES (EXCLUDING STRAWBERRIES) MAY-AUGUST 2008

### BACKGROUND

Berries, no matter if currants, raspberries, blueberries, blackberries or gooseberries, are very popular with consumers. Due to their fruity and fresh taste, they are a widely appreciated healthy refreshment, especially in the hot summer months. But as they are very sensitive, pesticides are often used in their cultivation.

For this reason, pesticide residues in berries have again been part of this years pesticide residue monitoring at CVUA Stuttgart.



### RESULTS

From May to August a total number of 91 samples of conventionally and mainly locally grown berries were inspected for pesticide residues at CVUA Stuttgart. Additionally, 9 berry samples from organic cultivation were tested. Samples were collected by the official food inspectors mainly from local growers or wholesale fruit markets. None of the tested berries showed to be a possible risk for the consumers' health.

#### CONVENTIONALLY GROWN BERRIES:

details shown in table 1

**Currants:** Pesticide residues above the MRL were detected in 14 % of the samples and 19 % showed residues from non-authorized pesticides. All the samples with detected residues showed residues from more than one pesticide (= multiple residues). The residues average to 5.0 different pesticides per sample in currants.

**Gooseberries:** Gooseberries showed multiple residues in 16 samples (89 %), but none of the tested samples exceeded the maximum residue level. On average gooseberries contained 3.6 substances per sample.




**Raspberries:** All raspberry samples containing pesticide residues showed multiple residues leading to a total average of 2.6 residues per sample.

**Blueberries:** On average, blueberries contained 2.4 residues per sample. Residues of non-authorized pesticides (for use in blueberries) were found in only one of the samples.

**Blackberries:** Pesticide residues were detected in all 4 samples with 3 of them showing multiple residues. On average, blackberries contained 3.3 substances per sample.

**Josta- and Cranberry:** One sample of jostaberry and cranberry was examined, respectively. None showed maximum residue level exceedances.

Table 1: Comparison of pesticide residues in berries from conventional production of the years 2004-2008

		No. of samples	No. of samples with residues	No. of samples with multiple residues	No. of samples above MRL	Active substances above MRL	No. of samples with non-authorized substances <sup>†</sup>	Non-authorized substances <sup>†</sup>
Conventional berries. (May - Aug 08)	 currants	52	50 (96%)	50 (96%)	7 (14%)	boscalid (6x), dithianon, fludioxonil, tebufenozide	10 (19%)	boscalid (6x), dithianon (2x), folpet, pyraclostrobin (5x), pyrimethanil, tebufenozide
	 gooseberries	18	17 (94%)	16 (89%)	0	-	1 (6%)	myclobutanil
	 raspberries	10	8 (80%)	8 (80%)	0	-	0	-
	blueberries	5	3**	3**	1**	captan, rotenone	1**	dithianon
	blackberries	4	4**	3**	1**	boscalid, trifloxystrobin	1**	boscalid
	cranberries	1	1**	0**	0**	-	0**	-
	jostaberries	1	1**	1**	0**	-	1**	folpet
	<b>Sum</b>	<b>91</b>	<b>84 (92%)</b>	<b>81 (89%)</b>	<b>9 (10%)</b>	<b>13</b>	<b>14 (15%)</b>	<b>20</b>
<b>In comparison:***</b>								
2007	136	125 (92%)	107 (79%)	5 (4%)	8	14 (10%)	16	
2006	177	167 (94%)	154 (87%)	22 (12%)	26	29 (16%)	47	
2005	94	88 (94%)	80 (85%)	16 (17%)	22	28 (30%)		
2004	114	98 (86%)	83 (73%)	16 (14%)	22	23 (20%)		

MRL = maximum residue level

\* Substances found in samples of German origin that are not authorized for the usage in the specific culture

\*\* Too few data for percentage evaluation

\*\*\* This data should not be compared directly to the different years because different amounts of each culture were analysed per year

A total of 9 organically grown berries (2 x blackberry, 3 x currant, 4 x blueberry) were tested for pesticide residues till reporting date. They originated from Germany (5 samples including 3 from Baden-Württemberg) and Spain (4 samples). Fortunately, none of the examined samples showed any pesticide residues, therefore they all fulfilled the legal provisions for organically grown products (concerning pesticide residues).

## CONCLUSION AND EVALUATION

The results indicate that conventionally grown berries are, in parts, again fruits with a high level of pesticide residues. The majority of the examined conventionally grown berries (92 %) showed pesticide residues, with blueberries having the least. The percentage of samples with multiple residues was 89 %. Residues above the maximum residue level were found in 9 out of 91 samples (10 %). Fortunately, pesticides banned completely in Germany were not detected, whereas non-authorized pesticides for the specific cultures were found.

The results show that the situation in terms of maximum residue level exceedance and the usage of non-authorized pesticides for the specific cultures has kept on improving for gooseberries and raspberries compared to previous years.