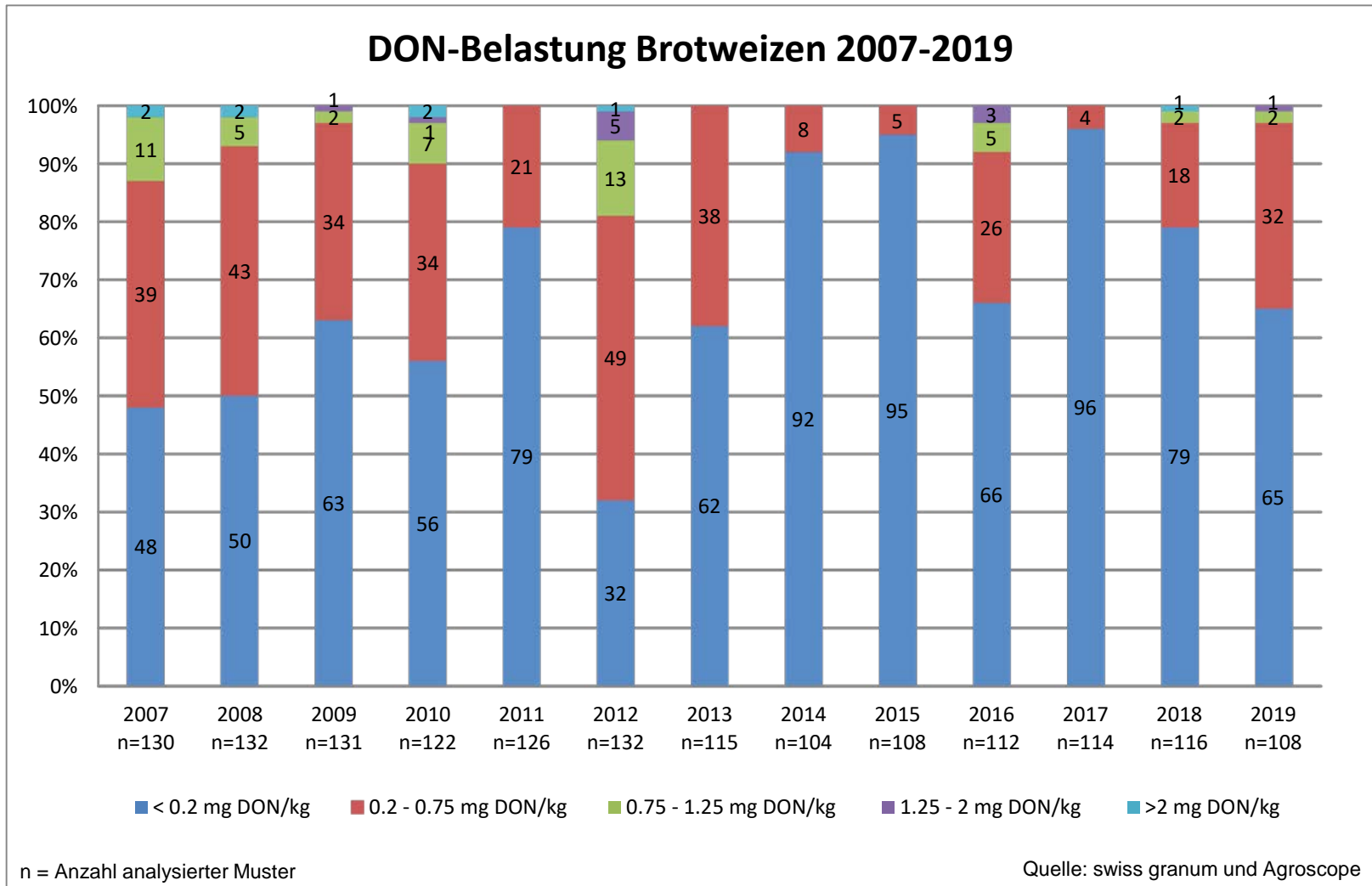




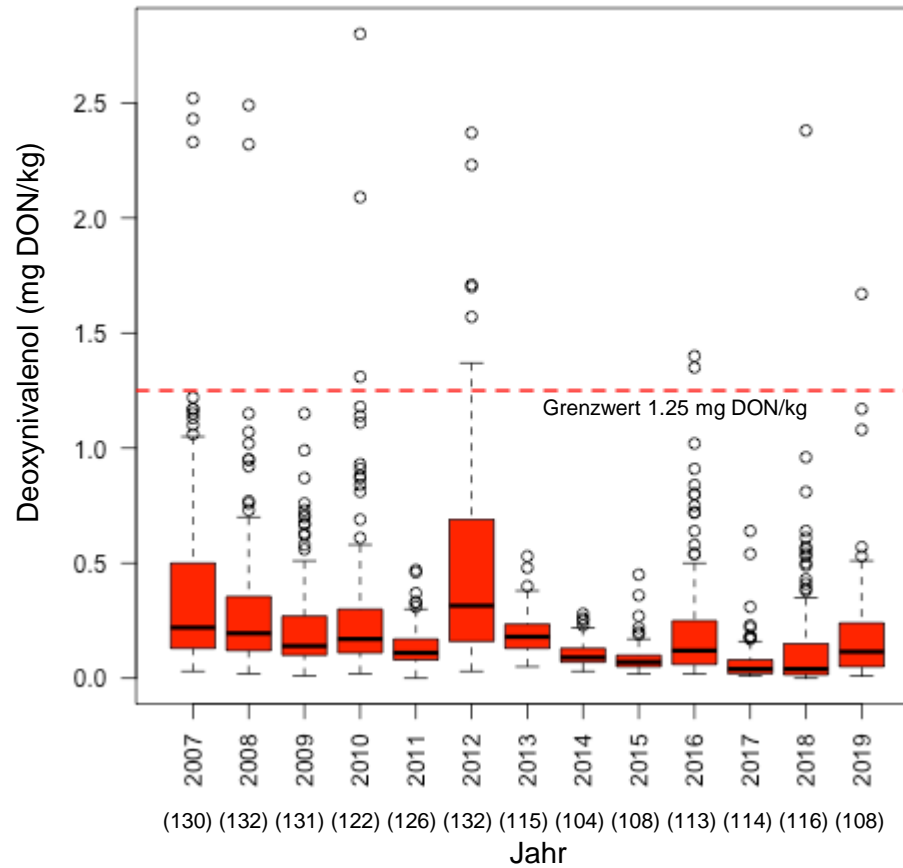
# **Mykotoxin-Monitoring Getreide Ernte 2019**

Stand 09.10.2019

# Mykotoxin-Monitoring Brotweizen



# Mykotoxin-Monitoring Brotweizen



Die horizontale Linie im Boxplot entspricht dem Median

() = Anzahl analysierter Proben

Quelle: Agroscope

## Ergebnisse des Analyseprogramms für Brotweizen von swiss granum (vorsortierte Proben; vorletzte Reinigung)

|                                              | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|----------------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Anzahl untersuchter Proben                   | 130  | 132  | 131  | 122  | 126  | 132  | 115  | 104  | 108  | 112  | 114  | 116  | 108  |
| Proben mit <b>0 mg DON/kg</b>                | 48%  | 50%  | 63%  | 56%  | 79%  | 32%  | 62%  | 92%  | 95%  | 66%  | 96%  | 79%  | 65%  |
| <i>n</i> =                                   | 62   | 66   | 83   | 69   | 100  | 42   | 71   | 96   | 103  | 74   | 109  | 90   | 70   |
| Proben mit <b>&gt; 0 - 0.75 mg DON/kg</b>    | 39%  | 43%  | 34%  | 34%  | 21%  | 49%  | 38%  | 8%   | 5%   | 26%  | 4%   | 18%  | 32%  |
| <i>n</i> =                                   | 51   | 57   | 45   | 41   | 26   | 65   | 44   | 8    | 5    | 29   | 5    | 20   | 35   |
| Proben mit <b>&gt; 0.75 – 1.25 mg DON/kg</b> | 11%  | 5%   | 2%   | 7%   | 0%   | 13%  | 0%   | 0%   | 0%   | 5%   | 0%   | 2%   | 2%   |
| <i>n</i> =                                   | 14   | 7    | 2    | 9    | 0    | 17   | 0    | 0    | 0    | 6    | 0    | 2    | 2    |
| Proben mit <b>&gt; 1.25 - 2 mg DON/kg</b>    | 0%   | 0%   | 1%   | 1%   | 0%   | 5%   | 0%   | 0%   | 0%   | 3%   | 0%   | 0%   | 1%   |
| <i>n</i> =                                   | 0    | 0    | 1    | 1    | 0    | 6    | 0    | 0    | 0    | 3    | 0    | 0    | 1    |
| Proben mit <b>&gt; 2 mg DON/kg</b>           | 2%   | 2%   | 0%   | 2%   | 0%   | 1%   | 0%   | 0%   | 0%   | 0%   | 0%   | 1%   | 0%   |
| <i>n</i> =                                   | 3    | 2    | 0    | 2    | 0    | 2    | 0    | 0    | 0    | 0    | 0    | 1    | 0    |

0 bedeutet unterhalb der Nachweisgrenze (0,2 mg/kg)

Quelle: swiss granum und Agroscope

# Mykotoxin-Monitoring Brotweizen

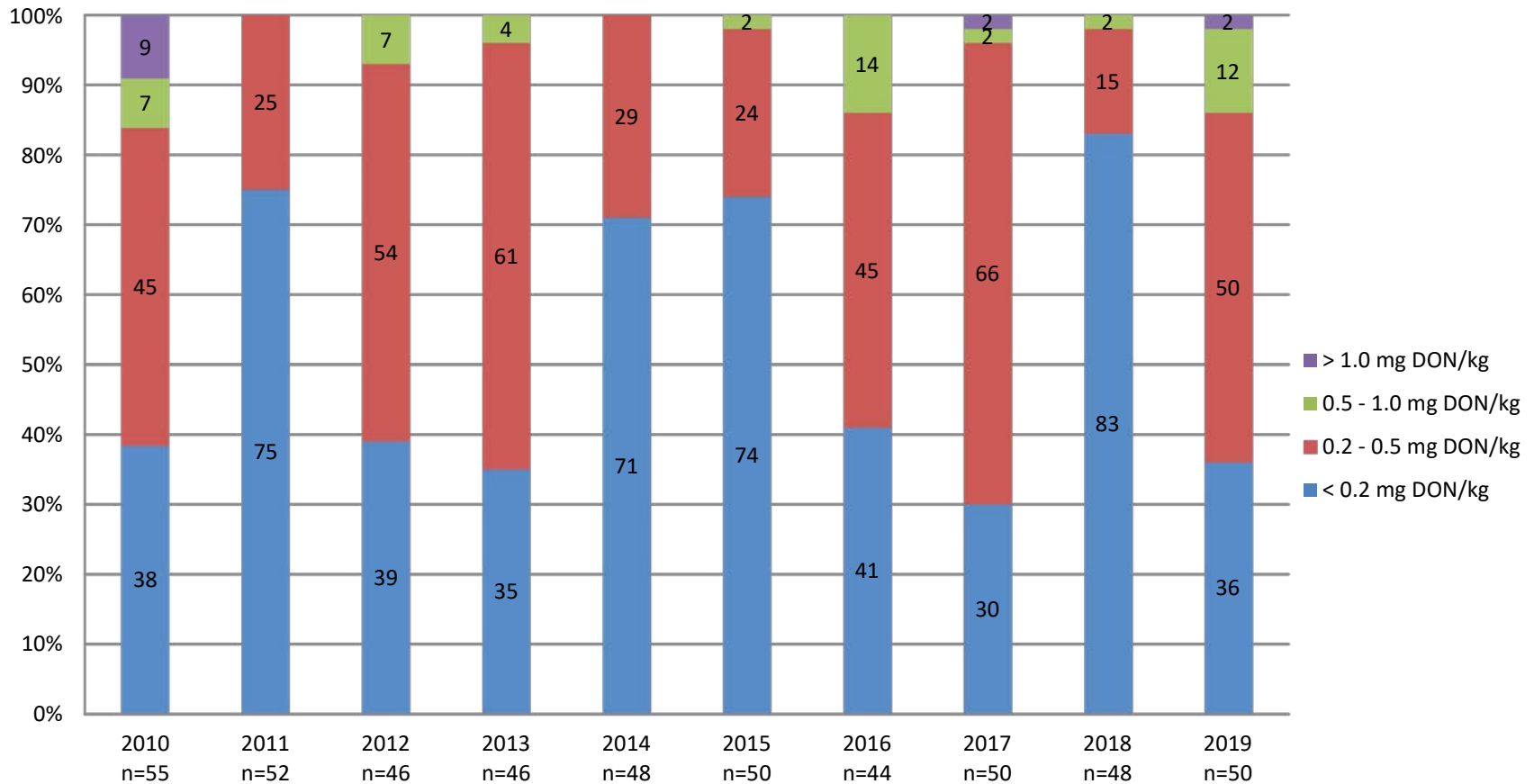
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| DON                                        | Brotweizen |
|--------------------------------------------|------------|
| registriert                                | 108        |
| Anzahl Sammelstellen                       | 37         |
| <0.2 mg/kg                                 | 65%        |
| 0.2-0.5 mg/kg                              | 32%        |
| 0.5-1.0 mg/kg                              | 2%         |
| >1.0 mg/kg                                 | 1%         |
| % DON positiv                              | 35%        |
| Maximalwert mg/kg                          | 1.67       |
| Mittelwert mg/kg (inkl. Proben <0.2 mg/kg) | 0.18       |
| Mittelwert mg/kg DON positiv               | 0.38       |
| Median mg/kg (inkl. Proben <0.2 mg/kg)     | 0.12       |
| Median mg/kg DON positiv                   | 0.27       |

Quelle: Agroscope und swiss granum

# Mykotoxin-Monitoring Gerste

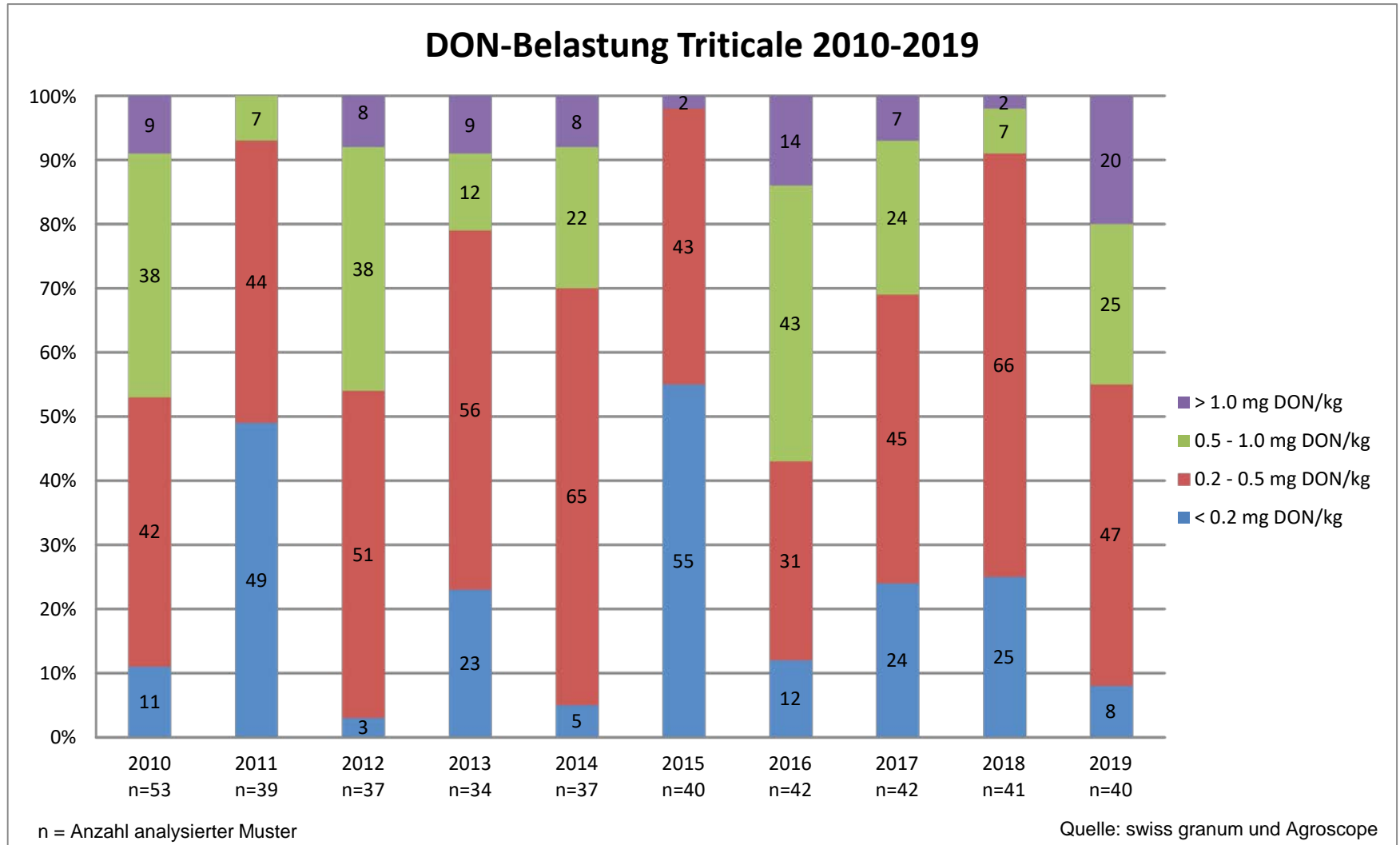
**DON-Belastung Gerste 2010-2019**



n = Anzahl analysierter Muster

Quelle: swiss granum und Agroscope

# Mykotoxin-Monitoring Triticale



# Mykotoxin-Monitoring Futtergetreide

Ergebnisse des Analyseprogramms für Futtergetreide von swiss granum (vorsortierte Proben; vorletzte Reinigung)

|           | Jahr und Anzahl untersuchter Proben |    | < 0.2 mg DON/kg |    | 0.2 - 0.5 mg DON/kg |    | 0.5 - 1.0 mg DON/kg |    | > 1.0 mg DON/kg |   |
|-----------|-------------------------------------|----|-----------------|----|---------------------|----|---------------------|----|-----------------|---|
|           |                                     |    | %               | n  | %                   | n  | %                   | n  | %               | n |
| Gerste    | 2019                                | 52 | 36              | 18 | 50                  | 25 | 12                  | 6  | 2               | 1 |
|           | 2018                                | 48 | 83              | 40 | 15                  | 7  | 2                   | 1  | 0               | 0 |
|           | 2017                                | 50 | 30              | 15 | 66                  | 33 | 2                   | 1  | 2               | 1 |
|           | 2016                                | 44 | 41              | 18 | 45                  | 20 | 14                  | 6  | 0               | 0 |
|           | 2015                                | 50 | 74              | 37 | 24                  | 12 | 2                   | 1  | 0               | 0 |
|           | 2014                                | 48 | 71              | 34 | 29                  | 14 | 0                   | 0  | 0               | 0 |
|           | 2013                                | 46 | 35              | 16 | 61                  | 28 | 4                   | 2  | 0               | 0 |
|           | 2012                                | 46 | 39              | 18 | 54                  | 25 | 7                   | 3  | 0               | 0 |
|           | 2011                                | 52 | 75              | 39 | 25                  | 13 | 0                   | 0  | 0               | 0 |
|           | 2010                                | 55 | 38              | 21 | 45                  | 25 | 7                   | 4  | 9               | 5 |
| Triticale | 2019                                | 40 | 8               | 3  | 47                  | 19 | 25                  | 10 | 20              | 8 |
|           | 2018                                | 41 | 25              | 10 | 66                  | 27 | 7                   | 3  | 2               | 1 |
|           | 2017                                | 42 | 24              | 10 | 45                  | 19 | 24                  | 10 | 7               | 3 |
|           | 2016                                | 42 | 12              | 5  | 31                  | 13 | 43                  | 18 | 14              | 6 |
|           | 2015                                | 40 | 55              | 22 | 43                  | 17 | 0                   | 0  | 2               | 1 |
|           | 2014                                | 37 | 5               | 2  | 65                  | 24 | 22                  | 8  | 8               | 3 |
|           | 2013                                | 34 | 23              | 8  | 56                  | 19 | 12                  | 4  | 9               | 3 |
|           | 2012                                | 37 | 3               | 1  | 51                  | 19 | 38                  | 14 | 8               | 3 |
|           | 2011                                | 39 | 49              | 19 | 44                  | 17 | 7                   | 3  | 0               | 0 |
|           | 2010                                | 53 | 11              | 5  | 42                  | 19 | 38                  | 17 | 9               | 4 |

< 0.2 mg/kg bedeutet unterhalb der Nachweisgrenze

Quelle: swiss granum und Agroscope



| DON                                        | Gerste | Triticale |
|--------------------------------------------|--------|-----------|
| registriert                                | 50     | 40        |
| Anzahl Sammelstellen                       | 25     | 21        |
| <0.2 mg/kg                                 | 36%    | 8%        |
| 0.2-0.5 mg/kg                              | 50%    | 47%       |
| 0.5-1.0 mg/kg                              | 12%    | 25%       |
| >1.0 mg/kg                                 | 2%     | 20%       |
| % DON positiv                              | 64%    | 92%       |
| Maximalwert mg/kg                          | 5.20   | 1.90      |
| Mittelwert mg/kg (inkl. Proben <0.2 mg/kg) | 0.34   | 0.58      |
| Mittelwert mg/kg DON positiv               | 0.53   | 0.63      |
| Median mg/kg (inkl. Proben <0.2 mg/kg)     | 0.24   | 0.40      |
| Median mg/kg DON positiv                   | 0.28   | 0.43      |

| ZEA                                          | Gerste | Triticale |
|----------------------------------------------|--------|-----------|
| registriert                                  | 50     | 40        |
| Anzahl Sammelstellen                         | 25     | 21        |
| analysiert, wenn DON >0.3 mg/kg              | 14     | 24        |
| <0.002 mg/kg                                 | 79%    | 92%       |
| 0.002-0.05 mg/kg                             | 21%    | 8%        |
| 0.05-0.1 mg/kg                               | 0%     | 0%        |
| 0.1-0.2 mg/kg                                | 0%     | 0%        |
| 0.2-0.4 mg/kg                                | 0%     | 0%        |
| >0.4 mg/kg                                   | 0%     | 0%        |
| % ZEA positiv                                | 21%    | 8%        |
| Maximalwert mg/kg                            | 0.0120 | 0.0150    |
| Mittelwert mg/kg (inkl. Proben <0.002 mg/kg) | 0.0019 | 0.0007    |
| Mittelwert mg/kg ZEA positiv                 | 0.0087 | 0.0088    |

Quelle: Agroscope und swiss granum