**Results of the glyphosate detection in urines from 48 persons at the European Parliament and in relation to their urine creatinine value**

Tab.1. Average glyphosate concentrations in urines of all 48 persons of the EU parliament in relation to creatinine content in urines

|  |  |  |  |
| --- | --- | --- | --- |
|  | μg/L glyphosate | g/L creatinine | μg glyphosate/  g creatinine |
| maximum | 3.57 | 25.8 | 0.138 |
| minimum | 0.17 | 1.3 | 0.131 |
| average | 1.73 | 13.2 | 0.131 |
| standard deviation | 0.87 | 5.9 | 0.147 |

|  |  |  |  |
| --- | --- | --- | --- |
|  | **ng/ml glyphosate** | **g/l creatinine** | Gly (µg)/Crea (g) |
| Max | 3,57 | 25,74 | 0,139 |
| Min | 0,17 | 1,29 | 0,132 |
| Mittelwert | 1,73 | 13,04 | 0,133 |
| Standardabweichung | 0,89 | 5,91 | 0,150 |

Tab. 2 Glyphosate and creatinine concentrations in urines of 48 members of the EU parliament in relation to their nationality

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | glyphosate |  |  |  | Creatinine |  | μg glyphosate/  g creatinine |
| Country | N | average  μg/L | max | min | stand  deviat | average  g/L | stand  deviat | average |
| BELGIUM | 20 | 1.63 | 3.57 | 0.56 | 0.90 | 12.62 | 5.81 | 0.129 |
| Czech REPUB | 1 | 0.17 | 0.17 |  | 0.00 | 1.29 | 0.00 | 0.132 |
| FRANCE | 7 | 2.10 | 2.45 | 0.39 | 0.70 | 14.34 | 5.42 | 0.146 |
| GERMANY | 7 | 1.87 | 2.59 | 0.68 | 0.72 | 14.81 | 4.47 | 0.126 |
| HUNGARY | 1 | 2.63 |  |  | 0.00 | 21.61 | 0.00 | 0.122 |
| ITALY | 4 | 0.98 | 2.63 | 2.53 | 0.00 | 14.14 | 4.85 | 0.069 |
| LITHUANIA | 1 | 2.84 |  |  | 0.00 | 13.93 | 0.00 | 0.204 |
| NETHERL-ANDS | 1 | 1.18 |  |  | 0.00 | 10.7 | 0.00 | 0.110 |
| SPAIN | 1 | 2.40 |  |  | 0.00 | 25.77 | 0.00 | 0.093 |
| UK | 2 | 0.56 | 2.53 | 0.67 | 0,45 | 7.18 | 2.54 | 0.078 |
| CROATIA | 1 | 2.46 |  |  | 0.00 | 9.59 | 0.00 | 0.342 |
| FINLAND | 1 | 0.62 |  |  | 0.00 | 7.62 | 0.00 | 0.081 |
| IRELAND | 1 | 0.80 |  |  | 0.00 | 8.84 | 0.00 | 0.090 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | glyphosate |  |  |  | creatinine (g/l) |  | Gly (µg)/  Crea (g) |  |
| **country** | **n** | **average** | **standard deviation** | **maximum** | **minimum** | **average** | **standard deviation** |  |  |
| BELGIUM | 20 | 1,63 | 0,90 | 3,57 | 0,56 | 12,62 | 5,81 | 0,129 | 86,577 |
| CZECH REPUBLIC | 1 | 0,17 | 0,00 | 0,17 |  | 1,29 | 0,00 | 0,132 | #DIV/0! |
| FRANCE | 7 | 2,10 | 0,70 | 2,45 | 0,39 | 14,34 | 5,43 | 0,146 | 146,540 |
| GERMANY | 7 | 1,87 | 0,72 | 2,59 | 0,68 | 14,81 | 4,47 | 0,126 | 129,779 |
| HUNGARY | 1 | 2,63 | 0,00 | 2,63 |  | 21,61 | 0,00 | 0,122 | #DIV/0! |
| ITALY | 4 | 2,62 | 0,13 | 2,84 | 2,53 | 14,14 | 4,85 | 0,185 | 25,027 |
| LITHUANIA | 1 | 0,98 | 0,00 |  |  | 13,93 | 0,00 | 0,070 | #DIV/0! |
| NETHERLANDS | 1 | 1,18 | 0,00 |  |  | 10,70 | 0,00 | 0,110 | #DIV/0! |
| SPAIN | 1 | 2,40 | 0,00 |  |  | 25,77 | 0,00 | 0,093 | #DIV/0! |
| UNITED KINGDOM | 2 | 0,56 | 0,11 | 0,67 | 0,45 | 7,18 | 2,54 | 0,078 | 69,273 |
| CROATIA | 1 | 2,46 | 0,00 |  |  | 9,59 | 0,00 | 0,256 | #DIV/0! |
| FINLAND | 1 | 0,62 | 0,00 |  |  | 7,62 | 0,00 | 0,081 | #DIV/0! |
| IRELAND | 1 | 0,80 | 0,00 |  |  | 8,91 | 0,00 | 0,090 | #DIV/0! |







Fig. 1. Distribution of glyphosate amounts in urines of members of the EU parliament in relation to nationality. No significant differences between the participants of the different countries.

Tab. 3. Glyphosate and creatinine amounts in urines of 48 members of EU parliament as well as glyphosate-creatinine quotient, calculated in μg glyphosate / g creatinine, in relation to gender.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | glyphosate |  |  |  | creatinine |  | gly./crea.  Quotient |  |
| gender | N | μg/L  average | max. | min. | stand.  deviat. | average  g/L | stand.  deviat. | μg/g |  |
| Male | 25 | 1.96 | 2.84 | 0.17 | 0.83 | 14.75 | 6.44 | 0.133 |  |
| female | 23 | 1.48 | 3.57 | 0.45 | 0.88 | 11.22 | 4.62 | 0.132 |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | glyphosate |  |  |  | creatinine (g/l) |  | Gly (µg/g) |  |
| **n** | **average** | **standard deviation** | **maximum** | **minimum** | **average** | **standard deviation** | **average** | **standard deviation** |
| 25 | 1,96 | 0,83 | 2,84 | 0,17 | 14,74 | 6,44 | 0,133 | 0,129 |
| 23 | 1,48 | 0,88 | 3,57 | 0,45 | 11,22 | 4,62 | 0,132 | 0,191 |

No significant differences were detected between males and females calculated in μg glyphosate / g creatinine.







Fig. 2. Glyphosate amounts in urines of 48 members of the EU parliament. No significant differences were detected between the genders. No significant differences were detected between genders.

Tab. 4. Glyphosate and creatinine amounts in urines of 48 members of EU parliament as well as glyphosate-creatinine quotient, calculated in μg glyphosate / g creatinine, in relation to age.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | glyphosate |  |  |  | creatinine |  | gly./crea.  Quotient |  |
| age groups | N | average  μg/L | max. | min. | stand. deviat. | average  g/L | stand.  deviat. | μg/g |  |
| 28 | 1 | 2.57 |  |  |  | 14.27 | 0.00 | 0.180 |  |
| 30-39 | 6 | 2.26 | 2.84 | 0.80 | 0.00 | 15,91 | 6.22 | 0.142 |  |
| 40-49 | 11 | 1.84 | 2.56 | 0.83 | 0.67 | 14.90 | 5.37 | 0.123 |  |
| 50-59 | 19 | 1.39 | 3.57 | 0.17 | 0.71 | 11.63 | 6.13 | 0.120 |  |
| 60-68 | 11 | 1.87 | 2.83 | 0.39 | 0.95 | 12.03 | 5.02 | 0.155 |  |

No significant differences between age groups.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | glyphosate |  |  |  | creatinine (g/l) |  | Gly (µg/g) |  |
| age groups | **n** | **average** | **standard deviation** | **maximum** | **minimum** | **average** | **standard deviation** | **average** | **standard deviation** |
| 28 | 1 | 2,57 | 0,00 |  |  | 14,03 | 0,00 | 0,183 | #DIV/0! |
| 30-39 | 6 | 2,26 | 0,67 | 2,84 | 0,80 | 15,91 | 6,22 | 0,142 | 0,107 |
| 40-49 | 11 | 1,84 | 0,71 | 2,58 | 0,83 | 14,90 | 5,37 | 0,123 | 0,133 |
| 50-59 | 19 | 1,39 | 0,95 | 3,57 | 0,17 | 11,63 | 6,13 | 0,119 | 0,156 |
| 60-68 | 11 | 1,87 | 0,82 | 2,63 | 0,39 | 12,03 | 5,02 | 0,155 | 0,163 |







Fig. 3. Glyphosate amounts in urines of 48 members of EU parliament in relation to age. No significant differences were detected.

Tab. 5. . Glyphosate and creatinine amounts in urines of 48 members of EU parliament as well as glyphosate-creatinine quotient, calculated in μg glyphosate / g creatinine, in relation to diets.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | glyphosate |  |  |  | creatinine |  | gly/crea. |
| diet | N | average  μg/L | max. | min. | stand. deviat. | average  g/L | stand. deviat. | μg/g |
| mixes | 31 | 1.59 | 3.57 | 0.17 | 0.91 | 12,13 | 5,68 | 0.131 |
| vegetarian | 9 | 2.10 | 2.58 | 0.91 | 0.66 | 14.95 | 6,94 | 0.140 |
| vegan | 2 | 2.57 | 2.59 | 2.55 | 0.02 | 14.20 | 0,00 | 0.181 |
| No information | 6 | 1,63 | 0,89 | 2,63 | 0,39 | 14,59 | 4,77 | 0,187 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | glyphosate |  |  |  | creatinine (g/l) |  | Gly (µg/g) |  |
|  | **n** | **average** | **standard deviation** | **maximum** | **minimum** | **average** | **standard deviation** | **average** | **standard deviation** |
| mixed diet | 31 | 1,59 | 0,91 | 3,57 | 0,17 | 12,13 | 5,68 | 0,131 | 0,161 |
| vegetarian | 9 | 2,10 | 0,66 | 2,58 | 0,91 | 14,95 | 6,94 | 0,141 | 0,095 |
| vegan | 2 | 2,57 | 0,02 | 2,59 | 2,55 | 14,20 | 0,00 | 0,181 | 8,840 |
| no information | 6 | 1,63 | 0,89 | 2,63 | 0,39 | 14,59 | 4,77 | 0,111 | 0,187 |









Fig. 4. Influence of kinds of food intake on glyphosate excretion with urines. Significant differences between groups in standard deviations (P<0.05, Brown-Forsythe test), not among mean values but in medians (P<0.05, Kruskal-Wallis-test).

Tab. 6. Glyphosate and creatinine amounts in urines of 48 members of EU parliament as well as glyphosate-creatinine quotients, calculated in μg glyphosate / g creatinine, in relation to diet form.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | glyphosate |  |  |  | creatinine |  | gly/crea |
| food | N | average  μg/L | max. | min. | stand.  deviat. | average  g/L | stand.  deviat | μg/g |
| conventional | 29 | 1.70 | 2.84 | 0.17 | 0.87 | 12.62 | 5.55 | 0.134 |
| organic | 16 | 1.76 | 3.57 | 0.45 | 0.89 | 13.88 | 6.71 | 0.126 |
| No information | 3 | 1,98 | 0,83 | 2,59 | 0,80 | 12,83 | 0,154 | 0,211 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | glyphosate |  |  |  | creatinine (g/l) |  | Gly (µg/g) |  |
| food | **n** | **average** | **standard deviation** | **maximum** | **minimum** | **average** | **standard deviation** | **average** | **standard deviation** |
| conventional | 29 | 1,70 | 0,89 | 2,84 | 0,17 | 12,62 | 5,55 | 0,134 | 0,160 |
| organic | 16 | 1,76 | 0,89 | 3,57 | 0,45 | 13,88 | 6,72 | 0,127 | 0,133 |
| no information | 3 | 1,98 | 0,83 | 2,59 | 0,80 | 12,83 | 3,94 | 0,154 | 0,211 |







Fig. 5. Influence of diet form on glyphosate excretion with urines. No significant differences between organic and non-organic eaters.