**Supplementary Information for**

**Persistence and degradation pattern of acequinocyl and its metabolite, hydroxyl-acequinocyl and fenpyroximate in butterburs (*Petasites japonicus* Max.)**

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TABLE S1. Theoretical maximum daily intake (TMDI) for the risk assessment of acequinocyl for registered crops in South Korea

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| food item | food daily intake (g) | body weight  (kg) | MRL  (mg/kg) | EDI (mg/kg\*day) | ADI (mg/person/day) | %ADI | TMDI (%) |
| egg plants | 3.00 | 57.8 | 1.0 | 0.003 | 1.329 | 0.23 | 24.02 |
| mandarin | 20.06 | 57.8 | 1.0 | 0.020 | 1.329 | 1.51 |  |
| chilly | 27.37 | 57.8 | 2.0 | 0.055 | 1.329 | 4.12 |  |
| coastal hog fennel | 0.01 | 57.8 | 7.0 | 0.000 | 1.329 | 0.01 |  |
| nuts | 7.85 | 57.8 | 0.0 | 0.000 | 1.329 | 0.01 |  |
| kiwi | 0.00 | 57.8 | 0.2 | 0.000 | 1.329 | 0.00 |  |
| jujube | 0.45 | 57.8 | 2.0 | 0.001 | 1.329 | 0.07 |  |
| jujube (dry) | 0.00 | 57.8 | 2.0 | 0.000 | 1.329 | 0.00 |  |
| doeduk | 0.14 | 57.8 | 0.1 | 0.000 | 1.329 | 0.00 |  |
| perilla leaf | 3.43 | 57.8 | 30.0 | 0.103 | 1.329 | 7.74 |  |
| strawberry | 3.65 | 57.8 | 1.0 | 0.004 | 1.329 | 0.27 |  |
| lemon | 1.10 | 57.8 | 1.0 | 0.001 | 1.329 | 0.08 |  |
| butterburs | 0.47 | 57.8 | 7.7 | 0.004 | 1.329 | 0.27 |  |
| melon | 1.55 | 57.8 | 0.5 | 0.001 | 1.329 | 0.06 |  |
| fig | 0.16 | 57.8 | 2.0 | 0.000 | 1.329 | 0.02 |  |
| pear | 14.88 | 57.8 | 0.3 | 0.004 | 1.329 | 0.34 |  |
| raspberry | 0.11 | 57.8 | 0.5 | 0.000 | 1.329 | 0.00 |  |
| peach | 10.92 | 57.8 | 2.0 | 0.022 | 1.329 | 1.64 |  |
| chives | 2.91 | 57.8 | 0.1 | 0.000 | 1.329 | 0.02 |  |
| seasoned pigweed | 0.21 | 57.8 | 20.0 | 0.004 | 1.329 | 0.32 |  |
| apple | 53.96 | 57.8 | 0.5 | 0.027 | 1.329 | 2.03 |  |
| apricot | 0.11 | 57.8 | 2.0 | 0.000 | 1.329 | 0.02 |  |
| watermelon | 16.55 | 57.8 | 0.2 | 0.003 | 1.329 | 0.25 |  |
| salary | 0.15 | 57.8 | 0.3 | 0.000 | 1.329 | 0.00 |  |
| spinach | 7.32 | 57.8 | 7.0 | 0.051 | 1.329 | 3.85 |  |
| orange | 7.57 | 57.8 | 1.0 | 0.008 | 1.329 | 0.57 |  |
| plum | 2.63 | 57.8 | 0.5 | 0.001 | 1.329 | 0.10 |  |
| grapefruit | 1.70 | 57.8 | 1.0 | 0.002 | 1.329 | 0.13 |  |
| cranberry | 0.17 | 57.8 | 0.2 | 0.000 | 1.329 | 0.00 |  |
| passion fruit | 0.47 | 57.8 | 0.2 | 0.000 | 1.329 | 0.01 |  |
| grapes | 15.09 | 57.8 | 0.2 | 0.003 | 1.329 | 0.23 |  |
| paprika | 0.88 | 57.8 | 2.0 | 0.002 | 1.329 | 0.13 |  |

TABLE S2. Theoretical maximum daily intake (TMDI) for the risk assessment of fenpyroximate for registered crops in South Korea

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| food item | food daily intake  (g) | body weight  (kg) | MRL  (mg/kg) | EDI (mg/kg\*day) | ADI (mg/person/day) | %ADI | TMDI (%) |
| persimmon | 20.52 | 57.8 | 0.05 | 0.001 | 0.578 | 0.18 | 25.58 |
| mandarin | 20.06 | 57.8 | 0.70 | 0.014 | 0.578 | 2.43 |  |
| potato | 20.72 | 57.8 | 0.05 | 0.001 | 0.578 | 0.18 |  |
| nuts | 7.85 | 57.8 | 0.05 | 0.000 | 0.578 | 0.07 |  |
| green tea | 0.2 | 57.8 | 20.00 | 0.004 | 0.578 | 0.69 |  |
| Korean angelica (leaf) | 0.3 | 57.8 | 5.00 | 0.002 | 0.578 | 0.26 |  |
| jujube | 0.45 | 57.8 | 0.10 | 0.000 | 0.578 | 0.01 |  |
| Dodeok | 0.14 | 57.8 | 0.05 | 0.000 | 0.578 | 0.00 |  |
| baloon flower | 0.74 | 57.8 | 0.10 | 0.000 | 0.578 | 0.01 |  |
| peria leaf | 3.43 | 57.8 | 7.00 | 0.024 | 0.578 | 4.15 |  |
| strawberry | 3.56 | 57.8 | 0.50 | 0.002 | 0.578 | 0.31 |  |
| garlic | 4.76 | 57.8 | 0.05 | 0.000 | 0.578 | 0.04 |  |
| butterbur | 0.47 | 57.8 | 5.00 | 0.002 | 0.578 | 0.41 |  |
| radish (root) | 24.98 | 57.8 | 0.05 | 0.001 | 0.578 | 0.22 |  |
| radish (leaf) | 5.15 | 57.8 | 5.00 | 0.026 | 0.578 | 4.46 |  |
| fig | 0.16 | 57.8 | 0.50 | 0.000 | 0.578 | 0.01 |  |
| water parsley | 1.22 | 57.8 | 0.30 | 0.000 | 0.578 | 0.06 |  |
| pear | 14.88 | 57.8 | 0.50 | 0.007 | 0.578 | 1.29 |  |
| raspbery | 0.11 | 57.8 | 0.70 | 0.000 | 0.578 | 0.01 |  |
| peach | 10.92 | 57.8 | 0.30 | 0.003 | 0.578 | 0.57 |  |
| blueberry | 0.78 | 57.8 | 0.50 | 0.000 | 0.578 | 0.07 |  |
| apple | 53.96 | 57.8 | 0.50 | 0.027 | 0.578 | 4.67 |  |
| apricot | 0.11 | 57.8 | 0.10 | 0.000 | 0.578 | 0.00 |  |
| cabbage |  | 57.8 | 5.00 | 0.000 | 0.578 | 0.00 |  |
| mulberry | 0.18 | 57.8 | 0.50 | 0.000 | 0.578 | 0.02 |  |
| plum | 2.63 | 57.8 | 0.10 | 0.000 | 0.578 | 0.05 |  |
| tea |  | 57.8 | 10.00 | 0.000 | 0.578 | 0.00 |  |
| Korean melon | 11.07 | 57.8 | 0.10 | 0.001 | 0.578 | 0.19 |  |
| cherry |  | 57.8 | 2.00 | 0.000 | 0.578 | 0.00 |  |
| taro |  | 57.8 | 0.05 | 0.000 | 0.578 | 0.00 |  |
| taro (stem) | 0.68 | 57.8 | 0.05 | 0.000 | 0.578 | 0.01 |  |
| grapes | 15.09 | 57.8 | 2.00 | 0.030 | 0.578 | 5.22 |  |
| green garlic | 0.75 | 57.8 | 0.05 | 0.000 | 0.578 | 0.01 |  |
| herbs |  | 57.8 | 0.05 | 0.000 | 0.578 | 0.00 |  |
| hof |  | 57.8 | 15.00 | 0.000 | 0.578 | 0.00 |  |
| safflower seed |  | 57.8 | 0.20 | 0.000 | 0.578 | 0.00 |  |

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