

**Potassium fertilisation reduces radiocesium uptake by Japanese cypress seedlings grown in a stand contaminated by the Fukushima Daiichi nuclear accident**

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Supplementary Table S1. Height, diameter at ground surface and weight of compartment of Japanese cypress seedlings.

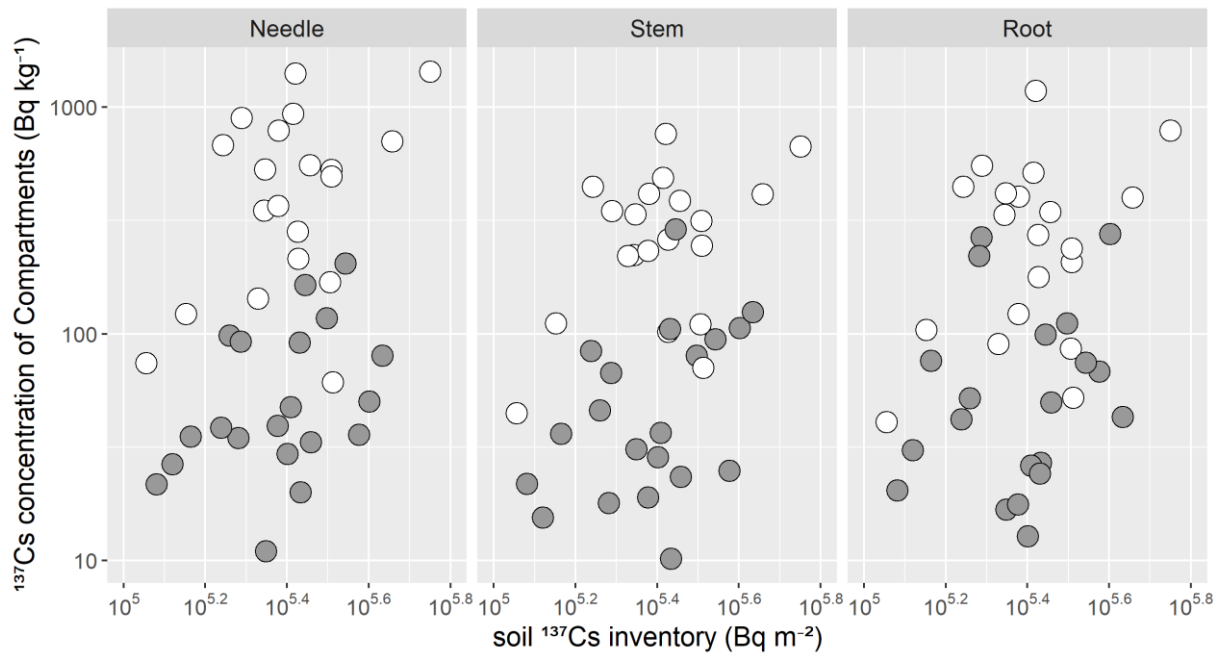
| Date            | Treatment    | Height [cm] | Diameter on ground<br>surface[mm] | Weight[g] |          |          |
|-----------------|--------------|-------------|-----------------------------------|-----------|----------|----------|
|                 |              |             |                                   | Needle    | Stem     | Root     |
| 2014/8          | K-fertilised | 47.4± 4.2   | 6.6±0.8                           | ND        | ND       | ND       |
|                 | Control      | 50.8± 2.2   | 6.9±0.1                           | 14.3±4.2  | 11.2±3.2 | 10.6±3.1 |
| 2014/11, 2015/4 | K-fertilised | 49.4± 5.0   | 7.2±0.8                           | 10.6±2.9  | 12.8±2.6 | 14.8±1.9 |
|                 | Control      | 52.9± 1.7   | 7.8±0.3                           | 12.3±3.7  | 11.7±2   | 14.6±0.6 |
| 2015/10         | K-fertilised | 73.1±12.8   | 10.5±1.2                          | 36.1±14.1 | 29.5±5.9 | 18.6±5.5 |
|                 | Control      | 74.7± 8.6   | 10.9±0.5                          | 41.2±13.8 | 32±9.1   | 18.1±3.9 |

Sample weights in August 2014 were obtained from pre-planted seedlings (n = 20), and the other weights were obtained from samples collected for radioactive analysis. Before weighting, all samples were dried at 75 °C for > 48 h. Each mean and SD was calculated from the mean of values at each plot (n = 4). There were no significant differences in heights, diameters and sample weights between the treatments (K fertilisation and control,  $p > 0.05$ , nested ANOVA).

Supplementary Table S2. Nutrient concentration (g kg<sup>-1</sup>) in cypress needles sampled in October 2015.

| Treatment             | Na          | Mg*       | Al            | P         | K*        | Ca*       | Mn*         | Fe            | Zn            |
|-----------------------|-------------|-----------|---------------|-----------|-----------|-----------|-------------|---------------|---------------|
| [g kg <sup>-1</sup> ] |             |           |               |           |           |           |             |               |               |
| K-fertilised          | 0.100±0.040 | 1.13±0.14 | 0.0618±0.0087 | 1.11±0.10 | 10.5±0.6  | 5.63±0.49 | 0.327±0.104 | 0.0718±0.0100 | 0.0262±0.0059 |
| Control               | 0.120±0.041 | 1.45±0.07 | 0.0545±0.0135 | 1.14±0.14 | 8.75±0.66 | 6.67±0.46 | 0.434±0.076 | 0.0747±0.0151 | 0.0312±0.0029 |

The concentrations of elements in the needle samples were measured after wet digestion by HNO<sub>3</sub> and H<sub>2</sub>O<sub>2</sub> (4:1) using ICP-MS (Agilent 7700x, Agilent Technologies). Each mean and SD was calculated from the mean of values at each plot (n = 4). Elements with asterisks (\*) indicate that their concentrations were significantly different between the treatments (p < 0.05, nested ANOVA).



**Supplementary Figure S1.  $^{137}\text{Cs}$  concentrations in each compartment of seedlings against soil  $^{137}\text{Cs}$  inventory sampled at control (open symbols) and K-fertilized (grey symbols) plots in October 2015 at the end of the second growing season. Logarithmic scales were used on the horizontal and vertical axes.**