Table. S1 Effect of harvest time (HT, May, June, July, August and September), branch type (BT, reproductive vs vegetative branches) and their interaction (HT x BT) on biomass, nitrogen and phosphorus concentrations ([N] and [P]) in needles, phloem and xylem of one- and two-year-old twigs of *Pinus koraiensis*.

|  |  |  |
| --- | --- | --- |
|  | One-year-old branch | Two-year-old branch |
| Biomass | [N] | [P] | Biomass | [N] | [P] |
| Needle | Phloem | Xylem | Needle | Phloem | Xylem | Needle | Phloem | Xylem | Needle | Phloem | Xylem | Needle | Phloem | Xylem | Needle | Phloem | Xylem |
| HT | **23.32****\*\*\*** | **4.53****\*\*** | **7.92****\*\*** | **681.5****\*\*\*** | **29.29****\*\*\*** | **5926.52****\*\*\*** | **23.12****\*\*\*** | **33.7****\*\*\*** | **291.95****\*\*\*** | **7.5****\*\*\*** | 2.22ns | 1.63ns | **41.21****\*\*\*** | **127.1****\*\*\*** | **116.18****\*\*\*** | **12.5****\*\*\*** | **49.81****\*\*\*** | **130.79****\*\*\*** |
| BT | **20.47****\*\*\*** | **36.01****\*\*\*** | **28.71****\*\*\*** | **402.5****\*\*\*** | **20.26****\*\*\*** | **7886.29****\*\*\*** | **6.53****\*** | **193.26****\*\*\*** | **522.42****\*\*\*** | **6.12****\*** | **60.32****\*\*\*** | **45.95****\*\*\*** | **68.02****\*\*\*** | **385.91****\*\*\*** | **501.3****\*\*\*** | **437.11****\*\*\*** | **54.64****\*\*\*** | **373.63****\*\*\*** |
| HT x BT | **8.44****\*\*\*** | **5.59****\*\*\*** | **6.11****\*\*\*** | **67.21****\*\*\*** | 1.83ns | **620.83****\*\*\*** | **5.43****\*\*** | 1.52ns | **46.91****\*\*\*** | 2.49ns | **3.39****\*** | 2.06ns | 2.24ns | **19.38****\*\*\*** | **13.55****\*\*\*** | **3.12****\*** | 2.59ns | **5.02****\*\*** |

Linear mixed models were adjusted, with the tree considered a random factor. F-values are shown. Significant (*P* < 0.05) results are in bold. ns denotes a not significant effect; \*, \*\* and \*\*\* indicate significance levels at P< 0.05, 0.01 and 0.001, respectively.



Fig. S1 The relationship between cone number and nitrogen ([N]; a, c) and phosphorus (b, d) concentration in needles ([P]; a, b) and twigs (c, d) of two-year-old reproductive branches of *Pinus koraiensis*. Data of cone number, [N] and [P] were obtained from the last sampling campaign (September; five trees × three twigs). Note that some panels show less than 15 points due to overlaying data. Note the different scales for x-axes among panels.