

Nutrient and heavy metal offtake potential for a 20 hectare contaminated site.

| Parameter | Unit | Typical value for SRC willow chip ¹ | Typical variation ¹ | Research results from contaminated sites | | Nutrient recommendations for SRC (kg/ha/yr) ² | Potential off take in kg over 22 years (7 harvests) from 20 hectare planting ³ | |
|-------------|---------|--|--------------------------------|--|------------------------|--|---|--------|
| | | | | Project 1 ⁴ | Project 2 ⁵ | | Typical | Max |
| Nitrogen | w-% d | 0.5 | 0.2-0.8 | | | 180.0 | 16,812 | 36,000 |
| Phosphorous | mg/kg d | 800 | 500-1,300 | | | 24 | 2,690 | 4,800 |
| Potassium | mg/kg d | 2,500 | 1,700-4,000 | | | 155 | 8,406 | 31,000 |
| Arsenic | mg/kg d | <0.1 | <0.1 | | | | 0.34 | 0.34 |
| Cadmium | mg/kg d | 2 | 0.2-5.0 | 9.7 | 19.4 | | 6.72 | 65.23 |
| Chromium | mg/kg d | 1 | 0.3-5.0 | | | | 3.36 | 16.81 |
| Copper | mg/kg d | 3 | 2.0-4.0 | 13.3 | 7.8 | | 10.09 | 44.72 |
| Nickel | mg/kg d | 0.5 | 0.2-2.0 | 3.8 | | | 1.68 | 12.78 |
| Lead | mg/kg d | 0.1 | 0.1-0.2 | | | | 0.34 | 0.67 |
| Zinc | mg/kg d | 70 | 40-100 | 157 | 69.9 | | 235.37 | 527.90 |

¹ Solid biofuel – Fuel specifications and classes Part 1: General requirements British Standards BS EN 14961-1: 2010. B.4. Typical values for virgin wood materials, short rotation coppice.

² [Short Rotation Coppice Willow Best Practice Guidelines. AFBI / Teagasc 2015](#)

³ Based on an anticipated yield of 7.64 oven dry tonnes per hectare per year for 22 years (a total of 168.12 odt per hectare)

⁴ Riddell-Black et al 1997. Clonal variation in heavy metal uptake by willow. Aspects of Applied Biology 49 Biomass & Energy Crops

⁵ The European Willow Breeding Partnership Report 2001-02. Bioremediation using willows. Heavy metal investigations by the Water Research Centre.