

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.