

# THE BEGINNERS GUIDE TO WILLOW RIPARIAN BUFFERS



## BUFFER SITE PLANNING

- Soils:** Willows grow on most agricultural soils.
- Slope:** Plant on areas with less than 7% slope.
- Access:** Tractor access is important for biomass harvest.

**Site Selection:** Plant on grassland or previously cropped land. Focus on areas with little or no natural riparian vegetation. Do not plant on natural riparian areas. Follow provincial regulations for minimum planting distance from water's edge.

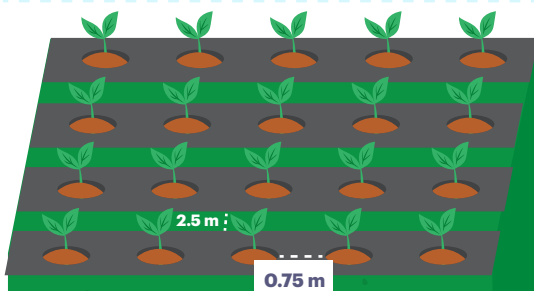


## SITE PREPARATION

- Timing:** Best time is the fall prior to planting.
- Tillage:** Uniform seedbed to 25 cm depth.
- Plastic mulch:** For within-row weed control, apply UV resistant 2.0 mil plastic mulch (1.1 m wide) using a mulch applicator on prepared planting rows.

## PLANT MATERIAL

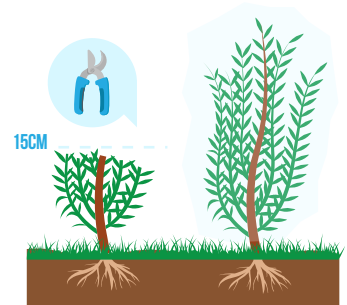
- Cuttings:** Use 25 cm long hardwood cuttings.
- Cultivars:** Select locally adapted willow cultivars such as: *Salix viminalis* '5027', *S. miyabeana* 'SX64' and 'SX67', *S. sachalinensis* 'SX61'.



## WILLOW BUFFER MANAGEMENT

**Weed control:** Plastic mulch controls in-row weeds; mow vegetation between rows in years one and two.

**Coppice:** Cut back to 15 cm in the first fall to encourage increased stem production.



## PLANTING

- Timing:** Late May to early June, while soil moisture is still high.
- Technique:** Hand plant into plastic mulch, 10 – 15 cm deep.
- Density:** 5,300 stem/ha.
- Spacing:** 0.75 m between plants x 2.5 m between rows.
- Number of rows:** Four or more.

## BIOMASS HARVEST

**Timing:** Harvest on a three-year cycle in late fall (after leaf drop). For maximum riparian protection, harvest biomass one year following potato production.

**Equipment:** Tractor and modified sugar cane harvester (cut-and-chip system).

**Yield:** Willow riparian buffers in PEI can produce up to 8-12 oven-dry tonnes/ha/year.

