



3 - 4 Years

Willow is harvested every three to four years depending on the plant growth. Harvesting is done during the dormant season in winter (mid-October to early March) after leaf fall and before bud break.

32-60% of costs

Harvesting is the single largest cost component of willow biomass production accounting for about 32-60% of costs over the life-cycle of the crop (20 plus years).

Harvesting methods

There are multiple ways of harvesting willow including the whole stem, cut and chip, and bundle harvesting systems.

Profit

Efforts to reduce harvesting costs by improving the performance and reliability of the harvesters and chip collection system are essential for the profitability of willow production.

Willow Harvesting

10 things to consider

1



Willow species & Varieties

The diversity of willow in growth form and stem structure affects the ease of harvesting and logistics required for harvesting.

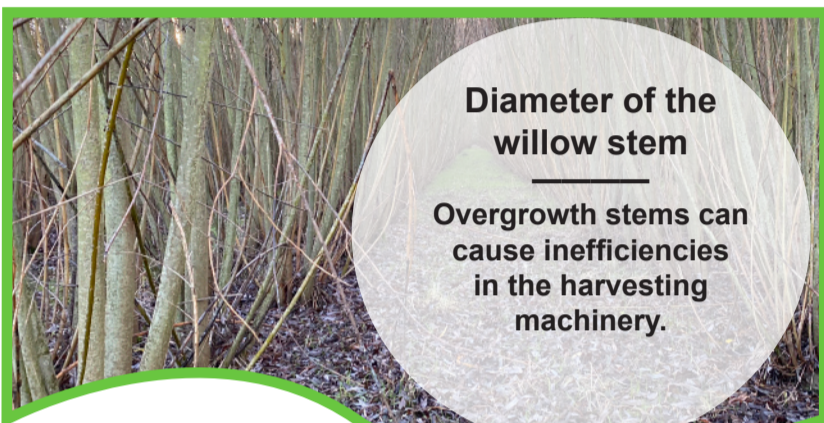
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Age of the willow plant

The annual biomass production begins to decline as the plant ages, as such it is best to harvest the willow plants every 3-4 years.

3



Diameter of the willow stem

Overgrowth stems can cause inefficiencies in the harvesting machinery.

4



End product

The machinery and harvesting methods employed will vary based on the desired end product, such as chips, pellets, or whole stems.

5



Size and layout of plantation

Plantation design with double or single rows, and headlands to accommodate the turning of machinery will improve efficiency and reduce harvester downtime.

6



Condition of soil

It is best to harvest under dry or frozen ground conditions/ Avoid very wet soils which affects machinery mobility and damages the soil.

7



Availability of machinery

The availability of harvest machinery at farm or in the region where the willow plantation is located is an important consideration for the reduction of costs.

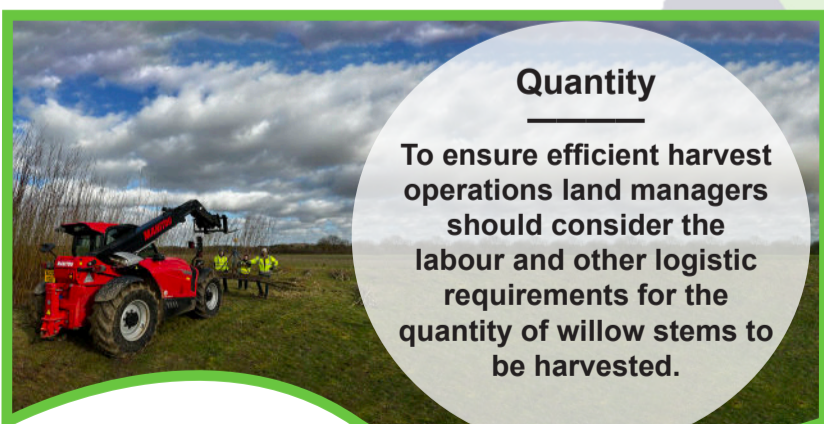
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Quality

The quality of the harvested willow biomass is influenced by characteristics such as ash, moisture, energy and elemental content, and particle size distribution.

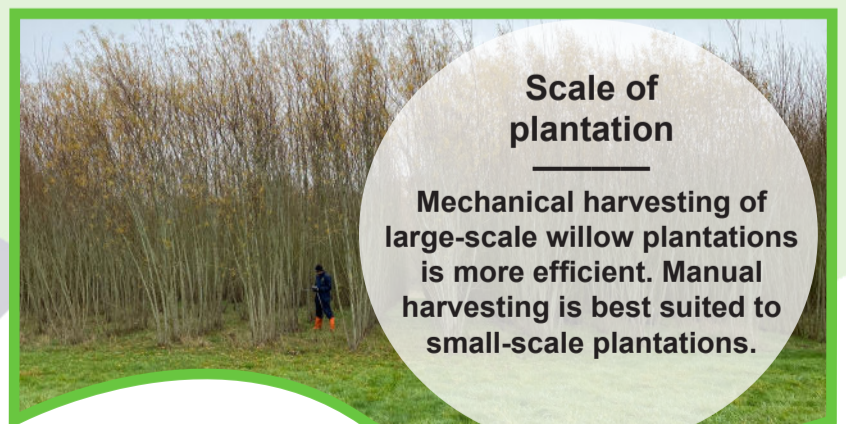
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Quantity

To ensure efficient harvest operations land managers should consider the labour and other logistic requirements for the quantity of willow stems to be harvested.

10



Scale of plantation

Mechanical harvesting of large-scale willow plantations is more efficient. Manual harvesting is best suited to small-scale plantations.