

## **Harvesting chains for fibre crops**

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Main fibre crops considered in this paper are perennial rizhomatous grasses as *Miscanthus*, *Arundo*, switchgrass, or annual crops as hemp and kenaf.

Harvest is a key point for fibre crops chain because it's the step connecting production with processing through the deliver to the factory of a material with specific features.

The characteristics of the harvested product are determined by the transformation industry that must give inputs to the production. Harvest conditions are influenced by factors as moisture content, dry matter losses, structure of harvested material, traslocation of minerals, unevenness and impurities.

Main harvesting operation are mowing, size reduction and densification.

Mowing can be carried out with different models depending on : machines availability, minimum possible cutting height, small pieces loss, possibility to leave a good swath for next operation, handling lodged crop and fallen leaves, soil separation, combination with next operations.

Size reduction can take place with conditioners, choppers or forage harvesters, hammer mills and chunking machines.

Densification is planned to make handling easier. Baling and bundling are the the main operation to increase density for fibre crops. Pelleting and briquetting could became interesting for very specific chains.

Chains from harvesting to trasformation are discussed considering the optimal options.

Experiences and researches have shown that existing principles for harvesting and drying can be succesful used.

Number of harvesting chains to the storage place are numerous and variable on the basis of the needs of trasformation factories. Local conditions and weather parameters must be taken in account to optimise chains