

BIOBASED MATERIALS : SOURCES AND USES IN FRANCE

in tonnes of dry matter per year (tDM/year)



RESIDUES OF ANNUAL CROPS

1

STRAW MULCH 9.2M ha

= 50,841 tDM/year

in total production; contributors:

—
common wheat, durum wheat, barley,
oats, rye, triticale

= 13,303 tDM/year

available:

10,185 tDM/year
livestock bedding, then manure

60 tDM/year
mulch for mushroom production

3 050 tDM/year
for other applications

—
Straw (stover) from sweet
and grain maize

= 12,044 tDM/year produced
= 1,728 tDM/year theoretically
available

Usage is currently unquantified.
This material is most often left
in the field.

50%
of straw
could be collected

2

OILSEED STRAW* 1,9M ha

= 14,667 tDM/year produced

= 1 098 tDM/year available

[excluding usage as soil amendment,
60% loss during mowing;
uses remain unknown.

*rapeseed, sunflower, soybean,
oilseed flax, camelina, and mustard

3

LEGUME STRAW** 213,000 ha

= 533 tDM/year produced

No collection method exists;
these materials have agricultural
benefits for soils.

**broad beans, pea, sweet lupin

4 DEDICATED CROPS

MISCANTHUS 6,400 ha

= 58 tDM/year

produced and available:



- 60% used as fuel
(to run dehydration ovens, boilers)
- 20% used
for livestock bedding
- 20% used
for horticultural mulch

FLAX FIBRE 118,900 ha

= 808 tDM/year

produced and available:



- 53% for the materials industry
- 16% for the energy industry
[combustion]
- 31% for the textile industry

INDUSTRIAL HEMP 14,500 ha

= 66 tDM/year

produced and available:



- 31.5% for the materials industry
(e.g., construction, insulation,
paper, bioplastics)
- 25.5% for the livestock bedding
industry
- 10.5% for the mulch industry
- 0.3% for the textile industry
- 9% for other industry
- 22.5% largely available
in powder form

WOOD



17M ha

in mainland France

38M m³

of wood harvested
for commercial purposes

Small-diameter stems/ branches

from short rotation coppices (SRCs)

4,100 ha

= 41 tDM/year produced
and available

All is used by the
energy and biomass industries

Timber

(logs for sawn wood and veneer) use
as raw material

19,6M m³



- 95% becomes sawn wood
- 2% becomes laths and battens
- 3% becomes veneers and plywood