

Unit D: Forest Products

Lesson 1: Identifying Forest Products and Uses

Terms

- ◆ Flitch
- ◆ Forestry
- ◆ Longwood
- ◆ Multiple-use forest
- ◆ Piling
- ◆ Poles
- ◆ Pulpwood
- ◆ Shortwood
- ◆ Single-use forest
- ◆ Timber
- ◆ Veneer

What is forestry?

- ◆ Forestry is the science and art of managing forests so they continuously yield a maximum quality and quantity of forest products and services.



What is forestry?

- ◆ Forestry includes logging and the manufacturing, marketing and use of wood products.
 - Objectives include protection of watersheds, production of timber, provision of wildlife habitat, recreation, regulation of stream flow, control of erosion, and general aesthetics.

What are products of a forest?

- ◆ More than 10,000 different products, ranging from lumber to plastics, paper, and fabrics, are manufactured of wood.

What are products of a forest?

- ◆ Each timber product is important in the total picture of timber management because each product allows the grower to remove timber, to receive payment for it and to improve the productivity of the stand.

What are products of a forest?

- ◆ Timber is wood used for lumber, paper, building boards, poles, piling and fuelwood.



What are products of a forest?

- ◆ Each timber product has its own specifications.
- ◆ Generally, the higher the value of the product is, the more the stringent or limiting are the specifications.
 - With softwood, the acceptable limits for pulpwood are quite broad, whereas the limits for poles and piling are quite narrow.

What are products of a forest?

- ◆ With hardwood, the range of material suitable for making railroad cross-ties is very broad, whereas the range suitable for veneer logs is very narrow.

What are products of a forest?

◆ Forest products.

- Pulpwood is the raw material of a myriad of paper products.
- Virtually all softwoods and hardwoods are now acceptable to pulp and paper mills.
 - ◆ No two pulp or paper mills have identical pulpwood specifications.

What are products of a forest?

- ◆ Pulpwood is classified as shortwood if less than 3 meters in length and longwood if it is 3 meters or more in length.
- ◆ Some paper mills purchase tree-length pulpwood, that is, the whole tree is harvested instead of being cut up before being loaded or stacked.

What are products of a forest?

- ◆ All trees must be cut fairly close to the ground, and limbs must be trimmed close to the surface of the stick.
- ◆ Sticks must be cut from sound, live trees that are unmarred by charred or pitched wood or that contain metal.

What are products of a forest?

- ◆ Fence posts provide good outlets for small timber, especially the timber cut in the thinning of softwood plantations.



What are products of a forest?

- ◆ Pines are the preferred species for posts because of the ease of treating pine with preservatives, but some hardwoods, such as sweetgum, are increasingly being used for posts.

What are products of a forest?

- ◆ Trees for posts must be reasonably straight and have fairly dense wood to provide adequate post strength.

What are products of a forest?

- ◆ Mine timber is the timber used in mines to support the construction of tunnels, shafts, openings and chambers.
 - Hardwoods, principally oak, and the southern pines are the main species used as mine timber.
 - The species used for this purpose must rate high in bending and column strength.

What are products of a forest?

- ◆ Railroad cross-ties are used to support steel railroad tracks.
 - Larger-sized, low grade southern pine, Douglas fir and other softwoods and virtually all species of low grade hardwood are suitable for making railroad cross-ties.
 - Generally, trees that are not suitable for other uses are best sold for use as cross-ties.

What are products of a forest?

- ◆ Sawtimber trees are generally trees that are large enough and of sufficient quality to cut into sawlogs that produce lumber, veneer and plywood.
 - Nearly all softwoods can be harvested for sawtimber.
 - Virtually all species of hardwood of adequate quality can also be used to produce lumber.

WOOD PRODUCTS



What are products of a forest?

- ◆ Lower grades of hardwood can be used to produce board road, a lowgrade lumber used to build roads for oil-well drilling rigs.

What are products of a forest?

- ◆ Poles are round timbers most often used to support utility lines.
 - Most utility poles are produced from pine, Douglas fir, cedar and western larch timber.
 - The specifications for pole timber are very high.

What are products of a forest?

- ◆ Poles must be free of defects, such as crossbreaks or cracks, bird holes, hollow butts or tops from red heart or other decay, or splits in butts or tops; they must also be free of metal.

What are products of a forest?

- ◆ Piling are round timbers, generally driven into the ground to support other structures and generally pressure-treated with creosote.

What are products of a forest?

- ◆ Piling is used for the construction of bridges, docks, wharves, foundations, and in other heavy general construction.
- ◆ The same requirements used in selecting poles are used in selecting piling.

What are products of a forest?

- ◆ Veneer is a thin sheet of wood of uniform thickness produced by peeling, slicing, or sawing logs, bolts, or flitches.

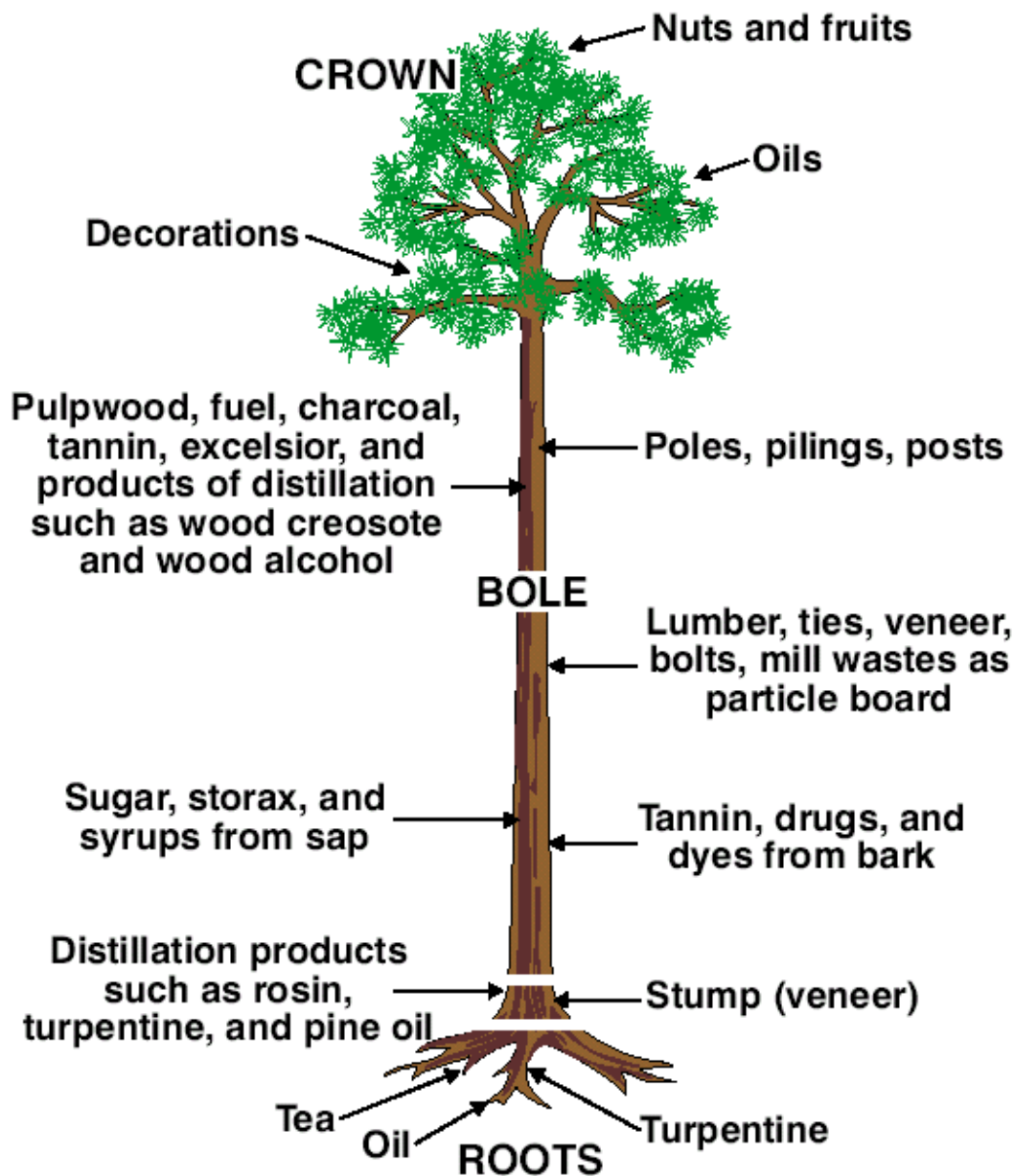
What are products of a forest?

- ◆ A flitch is a thick piece of clean wood, usually squared.
- ◆ Sliced veneer is usually confined to very valuable furniture or panel stock.
- ◆ Veneer may cut thick enough to be used as is, or it may be glued together in thin sheets to form plywood.

What are products of a forest?

- ◆ The portion of the tree used for veneer must be free of defects, including rot and limbs.
 - Frequently, veneer logs are cut from the lower portion of the tree stem, and a sawlog is cut from the remaining merchantable portion.

PRODUCTS FROM TREES



What are the uses of forest products?

- ◆ Forests provide important and widely used products.



What are the uses of forest products?

- ◆ Numerous products are made of and from wood.
 - A single-use forest is a forest managed for one purpose.
 - A multiple-use forest is one managed for more than one purpose.
 - ◆ More emphasis is placed on multiple-use forestry and its role in ecosystem management.

What are the uses of forest products?

- ◆ The roots of the tree provide tea, oil and turpentine.
- ◆ The stump provides veneer, distillation products such as resin, turpentine and pine oil.

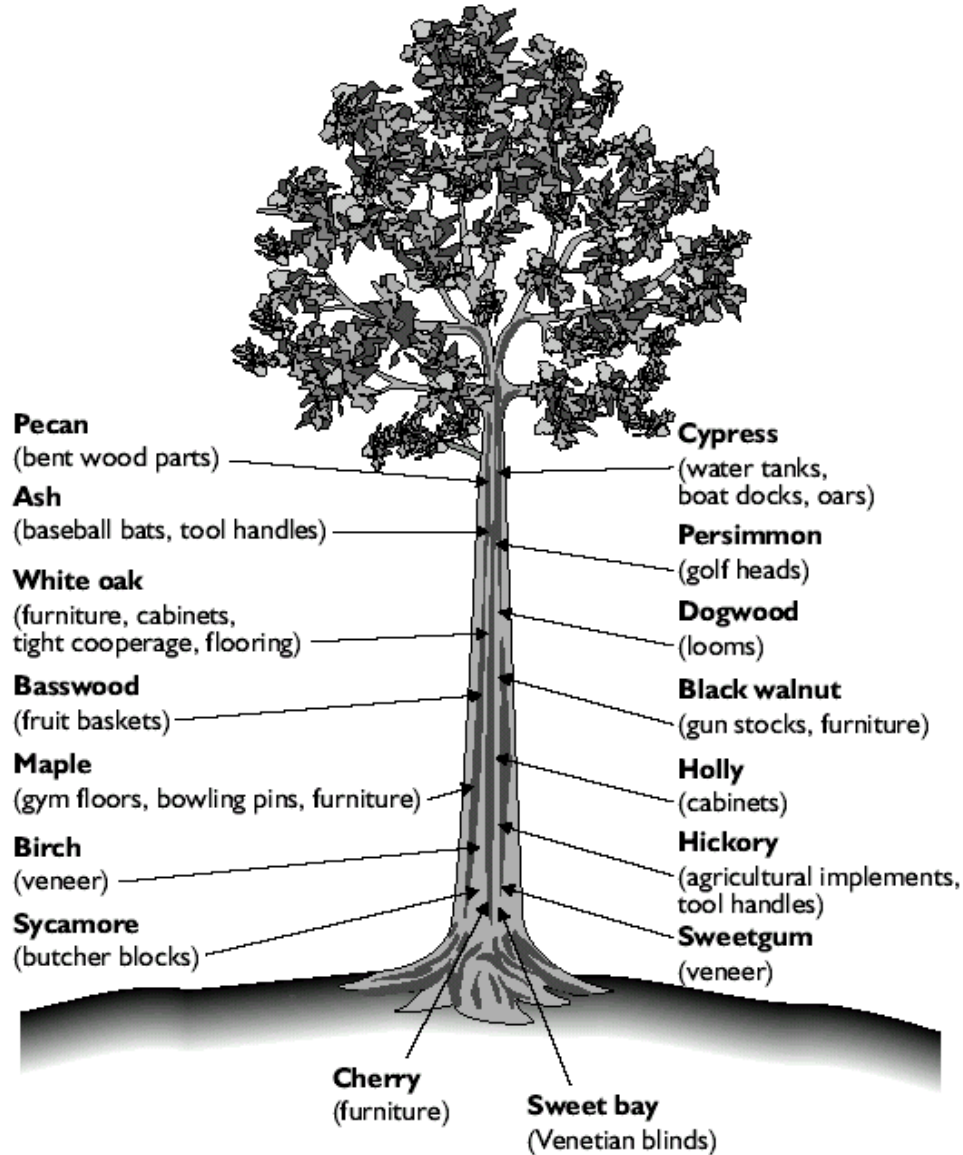
What are the uses of forest products?

- ◆ The trunk provides wood products such as pulpwood, poles, pilings, posts, lumber, ties, veneer, bolts, and mill wastes, such as particle board.

What are the uses of forest products?

- ◆ Other uses of forests include: fuel, charcoal, tannin, drugs, oils and dyes from bark, sugar, storax, and syrups for sap, excelsior and products of distillation, such as wood creosote and wood alcohol.

WOOD USES



(Courtesy, Interstate Publishers, Inc.)

What are the uses of forest products?

- ◆ The crown provides decorations, nuts and fruits and oils.
- ◆ Most woods have some specific purposes. The following are a few of the common woods and their uses.
 - a. Pecan is used for bent wood parts.

What are the uses of forest products?

- ◆ Ash is used to make baseball bats and tool handles.
- ◆ Oak is used in furniture, cabinets, tight cooperage and flooring.
- ◆ Basswood is used to make fruit baskets.

What are the uses of forest products?

- ◆ Maple is used in gym floors, bowling pins, and furniture.
- ◆ Birch and sweetgum are used in veneer.

What are the uses of forest products?

- ◆ Sycamore is used to make butcher blocks.
- ◆ Cypress is used to make water tanks, boat docks and oars.
- ◆ Persimmon is used in golf clubs.
- ◆ Dogwood is used in looms.

What are the uses of forest products?

- ◆ Black walnut can be found in gun stocks and furniture.
- ◆ Holly is used in cabinets.
- ◆ Hickory is used in agricultural implements and tool handles.

FOREST PRODUCT SPECIFICATIONS



Air-seasoned hickory wood handle stock



Hardwood veneer logs before veneer slicing operation



Pressure treated railroad cross-ties



Hardwood flitches, or cants, before slicing into veneer stock



Fence posts ready for pressure treating with preservative

Summary / Review

- ◆ 1. Describe forestry.
- ◆ 2. Identify forest products.
- ◆ 3. Identify the uses of forest products.