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Trees of South Dakota

Paul Collins

L.L. Helwig

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TREES

of South Dakota

Circular 566

\$1.00

Cooperative
Extension Service

South Dakota State University
Brookings

-
- Black Hills Spruce is the state tree of South Dakota.
 - A 4,600-year-old Bristlecone pine is the oldest living tree.
 - Trees are the largest living plants.
 - Each year trees in the Black Hills forest grow enough lumber to build more than 5,000 homes.
 - About 6,000 acres of young seedling trees are planted for conservation purposes in South Dakota each year.
 - Trees soften man-made and climatic effects of an environment.
 - Trees planted on the prairie lands need extra care.
 - Forest conservation is wise use.
 - Dutch Elm Disease was first confirmed and made its first known appearance in South Dakota in 1967.
-

Trees of South Dakota

By

PAUL E. COLLINS, associate professor, Agricultural Experiment Station,
and

L. L. HELWIG, Extension forester, Horticulture-Forestry Department,
South Dakota State University

The study of trees often becomes puzzling to the beginner when several trees of the same species are examined. The leaves, bark, shape, fruit, etc., may differ from tree to tree.

Trees are like people—no two are exactly alike. Thus, no two American elms are exactly alike. To really know American elm, one must recognize this variation. We learn our trees, then, by studying several trees, not just one. This gives us a knowledge of the range of these variations. In time we take these differences in stride. Identification is then no longer a problem.

This booklet was prepared mainly for South Dakota boys and girls. It will assist teachers in the public schools and will be of help to lead-

ers and members in carrying out 4-H Forestry and Horticulture Projects. Trees included are either native to South Dakota or have been planted here. The authors have attempted to include those most likely to be encountered in the state.

All of us—grownups and youth—need to acquaint ourselves with South Dakota's trees for they are extremely important to our economy. Harvesting and processing timber ranks third in importance among the three great natural resource industries of South Dakota—behind agriculture and mining. Thousands of miles of shelterbelts protect our farms from the destructive effects of wind. Trees provide shade and beauty for our city and country homes.

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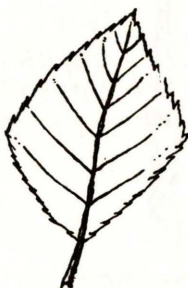
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How Nature Labels Trees

Leaf Shapes and Margins



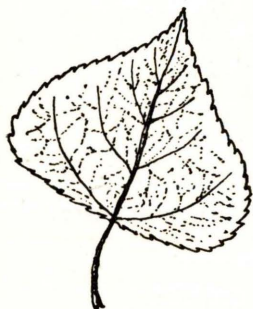
LANCE-SHAPED
(serrated margin)



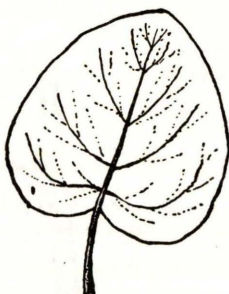
RHOMBIC
(serrated margin)



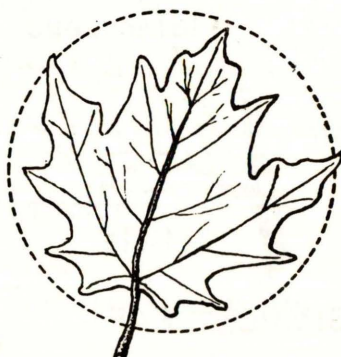
OVATE
(doubly serrated margin)



TRIANGULAR
(serrated margin)



ROUND TO
HEART-SHAPED
(margin smooth-
entire)



ROUNDED
IN OUTLINE
(lobed in margin)

NEEDLE-LIKE



AWL-
SHAPED

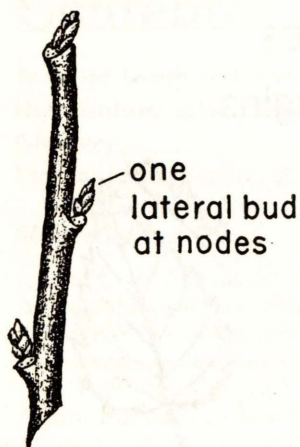


LINEAR

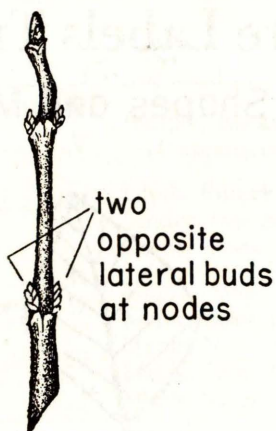


SCALE-LIKE

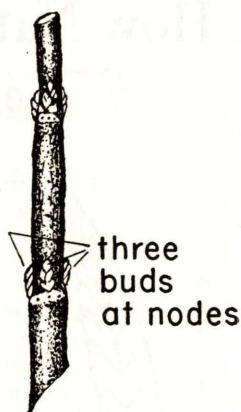
How Nature Labels Trees



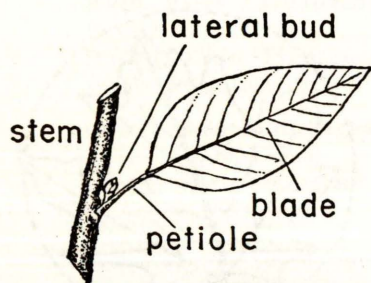
ALTERNATE



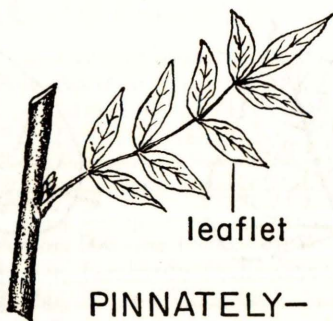
OPPOSITE



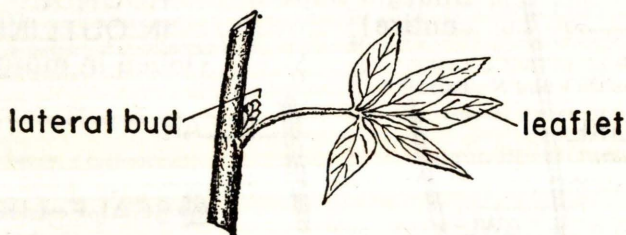
WHORLED



SIMPLE LEAF



PINNATELY-COMPOUND LEAF



PALMATELY-COMPOUND LEAF

Glossary

ALTERNATE—With only a single leaf at each node.

AWL-SHAPED—Tapering from the base to a slender and stiff point.

AXIL—The upper angle formed between the leaf (petiole) and the stem to which it is attached.

BLADE—The flat, expanded portion of a leaf.

BRACT—A modified reduced leaf found below a flower or fruit (or a flower or fruit cluster).

BRANCHLET—A small branch, particularly the current year's growth.

BUD SCALES—The minute and usually shell-like leaves that cover and protect the growing point within the bud and/or flower buds. In some buds only one cap-like scale is present.

CAPSULE—A dry fruit that splits when ripe along two or more lines, freeing the seeds within. (Like in radish or mustard.)

CATKIN—An elongate cluster of reduced flowers (without petals), with each flower being sessile and singly attached to the central stem; usually flexible and drooping. (Like in willow.)

COMPOUND LEAF—A leaf with two or more completely separate blades or leaflets. (Like in green ash.)

CONE—An elongated axis or stem which bears pollen or seed producing scales. (Like in pine.)

CONE SCALE—The visible structures of cones which open or close, freeing the seeds or pollen borne at their base.

DECIDUOUS—Falling off usually at the close of the season; usually applied to trees that shed their leaves in the fall.

DIVERGENT—Tending to spread apart from a common base.

DOUBLY PINNATE—Twice pinnate, i.e., the leaflets of a compound leaf being again compounded.

DOUBLY SERRATE—Coarsely serrate with the teeth margins having small serrations.

DRUPE—A fleshy fruit with a pit or stone, like a plum or chokecherry.

ENTIRE—The outer margin of a leaf or other expanded structure that is completely without teeth, lobes or divisions.

FASCICLE—A cluster or bundle of leaves or other structures arising from a common point of attachment.

FISSURE—A split or division, a crack.

FRUIT—The developing or ripened ovary within which are borne the seeds.

GLABROUS—Smooth, i.e., without hairs or any form of pubescence.

GLAND—Any small protuberance or knob-like structure arising above the general level of a surface, like those on the petiole of chokecherry.

HEAD—A dense cluster of sessile or nearly sessile flowers.

LEAF—The green and often expanded organ of a plant that is concerned with the process of photosynthesis. A simple leaf is made up of a blade—the expanded portion, the petiole (or stalk) and often reduced leaves at the base called stipules. In the axil at the point of attachment is found the axillary bud, the presence or absence of which determines whether the leaf is simple or compound.

LEAFLET—A leaf-like structure which with other leaflets makes up a compound leaf. The lack of an axillary bud at the base of the leaflets and the presence of a bud at the base of the stem that supports the several leaflets defines a compound leaf.

LEAF-SCAR—The scar left on the stem by the falling of a leaf.

LENTICILS—Breathing pores in the bark, such as in the birches.

LINEAR—Long and narrow, with the sides parallel or nearly so.

LOBE—Any segment of an organ formed by relatively deep indentations such as in maple leaves.

LUSTROUS—Shiny, glossy.

MARGIN—The outer border of a leaf or other flattened structure.

MIDRIB—The central vein or main rib of a leaf.

NODE—The particular location on the stem that normally bears a leaf or leaves.

NUT—A dry, one-seeded fruit with a bony, woody or leathery shell or covering that does not naturally split open.

NUTLET—A minute nut such as in birch.

OPPOSITE—Having two leaves at a single node, one on each side of the twig.

OVAL—A somewhat flattened circle with the width greater than one-half the length.

OVATE—Egg-shaped in outline, with the broadest portion at the basal end.

PALMATE—Radiating from a common center somewhat like outspread fingers of the hand.

PALMATELY COMPOUND—A compound leaf where the leaflets have a common point of attachment.

PENDULOUS—Hanging or drooping.

PERSISTENT—Remaining attached; retaining green leaves on the tree for more than one growing season (evergreen).

PETIOLE—The stalk of a leaf.

PINNATE—Arranged like individual tufts on a feather; describes veining, lobing and compound leaves.

PINNATELY COMPOUND—Compound leaf having the leaflets attached on both sides of a common central stalk.

PITH—The middle or central portion of a stem, usually made up of soft tissue. It can be solid or continuous, or broken up into empty chambers by cross partitions or plates.

PLATY BARK—Said of outer bark that breaks up into flattened pieces of various sizes and shapes.

POD—A dry fruit that splits open along two lines of suture such as the bean.

POME—A fleshy fruit with a central core such as pear or apple.

PUBESCENT—Covered with fine, soft, short hairs.

RACHIS—The axis or central stalk of a compound leaf or flower cluster.

RECURVED—Curved downward or backward.

RESINOUS—Pitchy.

RHOMBIC—More or less diamond-shaped.

SAMARA—A dry, one-seeded, winged fruit that does not split open when mature, such as elm or ash.

SCALE—A minute leaf or bract, or any small, flat, superficial appendage; also the structures that make up the visible portions of a cone.

SERRATE—Having saw-like teeth on the margins and also, in this bulletin, any condition that can be described as toothed.

SESSILE—Without a supporting stalk of any kind.

SIMPLE—Of one piece; not compound.

SPECIES—A group of freely interbreeding, similar individuals such as bur oak, or green ash.

SPINE—A sharp, woody outgrowth from the stem.

SPUR—A short branchlet with much shortened internodes, usually bearing a cluster of leaves or fruit.

THORN—A reduced, sharp-pointed branch.

TOMENTOSE—Having a dense mat of wooly-like hairs.

TWO-RANKED—In two rows, so that the third leaf is directly above the first, fourth directly above the second, and so on.

VEINS—The lines or rib-like tubes that form a net-work in the leaf blade.

WHORLED—A group of three or more similar organs such as leaves that radiate out from the same node of a branch.

WING—A membranous or other thin and dry expansion bordering on or surrounding a fruit or organ.

Key for Identification of South Dakota Trees

Keys can best be used in the field where the tree to be identified is growing. All the characteristics of the tree are then handy for checking as the key is being used. If this is not possible, a good branch sample with the leaves attached is necessary. It is also very helpful to have samples of the flowers or fruit.

A key can be compared to road signs where a choice of two directions must be made at an intersection. We would naturally follow the arrow that points in the direction we wish to go. In this key, two alternatives are given for each number. Which of the two we pick depends on how well the descriptions fit the characteristics of the tree we are identifying. Only one of the two choices will normally fit. Always start with number one and proceed down the key until the tree is named at the end of one of the choices.

Suppose we are examining a tree that is an evergreen; it has needle-like leaves about 2 inches in length, in fascicles (see glossary for definition) of two, the bark of the upper trunk is orange-colored, and it has a woody cone. It would key out thus: starting with No. 1, the first choice fits because leaves are persistent—go to No. 2 (as the number at the end of the line indicates); the first choice again fits because leaves are needle-like—go to No. 3; leaves are in fascicles which is the first choice—go to No. 4; here the second choice is right because the leaves are in fascicles of two—go to No. 6; since only fascicles of two are present, only the second choice fits—go to No. 7; the 2 inch needles puts this in the group of the second choice—go to No. 8; the first choice includes orange-colored bark and our tree is named—Scotch Pine.

1. Leaves green over winter (persistent); fruit a dry cone or berrylike	2
1. Leaves turning color and usually shed in the fall (deciduous); fruit variable	15
2. Leaves needle-like or linear; fruit a dry cone	3
2. Leaves scale-like or awl-shaped; fruit a dry cone or berrylike	13
3. Several leaves arising from a common point of attachment (fascicled)	4
3. Only one leaf arising from point of attachment	9

4. Leaves in fascicles of fives or one to many on the same tree 5
4. Leaves in fascicles of twos or twos and threes..... 6
5. Leaves in fascicles of fives; slender, flexible..... **Eastern White Pine**
5. Leaves borne singly on new shoots, fascicled on spur-like growths on older stems, deciduous in the fall..... **European Larch**
6. Leaves in fascicles of twos and threes on the same tree, at least 4" long **Ponderosa Pine**
6. Leaves in fascicles of twos..... 7
7. Leaves more than 3" long, thick, stiff and sharp-pointed... **Austrian Pine**
7. Leaves usually less than 3" in length..... 8
8. Leaves flexible, blue-green; cones point backwards; bark of upper trunk and branches orange-colored..... **Scotch Pine**
8. Leaves stiff, yellow-green; cones point forward and persist for many years; bark dark gray..... **Jack Pine**
9. Leaves 4-sided, pointed, leaving peg-like bases on the twigs when shed..... 10
9. Leaves flattened and not sharp pointed, not on peg-like bases..... 12
10. Leaves yellowish-green; twigs pendulous; cones 3" to 7" long, cone scales stiff..... **Norway Spruce**
10. Leaves whitish-green or bluish-green; cones usually less than 4" in length, cone scales papery or stiff..... 11
11. Leaves rigid and sharp-pointed; twigs stout; cones 2½" to 4" long, with papery wedge-shaped scales..... **Blue Spruce**
11. Leaves not as sharp to the touch; twigs medium; cones usually less than 2" long, with rounded cone scales..... **White Spruce**
12. Leaves with a short petiole, cones 2" to 4" long, pendulous, with 3-pointed bracts extending beyond the scales..... **Douglas-fir**
12. Leaves sessile and leaving a circular scar on shedding; cones upright, disintegrating when mature, bracts shorter than the cone scales..... **White Fir**
13. Leaves all scale-like; branchlets flattened in cross section; fruit a small dry cone..... **Northern White-cedar**
(**Eastern Arborvitae**)
13. Leaves both scale-like and awl-shaped; branchlets 4-angled in cross section; fruit berry-like..... 14

14. Leaves normally dark green; fruit ripening in one season **Eastern Redcedar**
14. Leaves normally silvery to pale green; fruit ripening in two seasons **Rocky Mountain Juniper**
15. Leaves linear or needle-like, borne singly on new growth, fascicled on spur-like growths on older stems **European Larch**
15. Leaves not needle-like but with an expanded blade..... 16
16. Leaves two or more at each node (opposite or whorled)..... 17
16. Leaves one at a node (alternate)..... 25
17. Leaves 3 or more at each node (whorled), simple, large, entire; twigs stout; fruit a long, slender capsule (pod-like) ... **Northern Catalpa**
17. Leaves only two at a node..... 18
18. Leaves composed of several leaflets (compound)..... 19
18. Leaves with only 1 leaf blade (simple)..... 21
19. Leaflets having a common point of attachment (palmately compound) **Buckeye***
19. Leaflets attached in rows to a central stem (rachis), usually with a terminal leaflet (pinnately compound)..... 20
20. Twigs yellowish-green or purplish-brown; leaflets 3" to 4", usually lobed; fruit a double samara..... **Boxelder**
20. Twigs gray to grayish-brown and stout; leaflets 7 to 9, toothed (serrate); fruit a single samara..... **Green Ash**
21. Small shrubby tree; leaves 3-lobed; lobes doubly serrate, the middle lobe much longer than the lateral ones..... **Amur Maple**
21. Large tree; leaves normally 3 to 5 lobed, lobes entire or serrate..... 22
22. Margins of lobes serrate; fruit ripening in the spring, wings of double samara widely divergent; older bark breaking up into flat plates..... **Silver Maple**
22. Margins of lobes normally entire; fruit ripening in the fall; older bark furrowed and rough, not platy..... 23

*Winter buds coated with resin, leaflets usually 7, sessile or nearly so, flowers white—**Horsechestnut**.

*Winter buds not resinous. Leaflets usually 5, short stalked, flowers yellowish—**Ohio Buckeye**.

23. Sap milky, samara wings widely divergent, seed cavity flattened **Norway Maple**
23. Sap not milky; samara wings forming horse-shoe shaped fruit, seed cavity rounded **24**
24. Leaves normally 3-lobed, green and pubescent along the veins below, petioles pubescent **Black Maple**
24. Leaves normally 5-lobed, whitish-green and nearly glabrous below, petioles glabrous **Sugar Maple**
25. Leaves pinnately compound **26**
25. Leaves simple **33**
26. Stems with spines or thorns **27**
26. Stems without spines or thorns **28**
27. Stems with paired spines at the base of each leaf (peeling off with the bark); fruit a small bean-like pod **Black Locust**
27. Stems with stout thorns arising above the leaf axil, the thorns often branched; fruit a long, often twisted, bean-like pod **Honeylocust**
28. Fruit a bean-like pod; leaflets entire or very finely serrate **29**
28. Fruit not bean-like; leaflets sharply serrate **30**
29. Leaves doubly pinnate; leaflets entire; pith large and orange-colored **Kentucky Coffeetree**
29. Leaves singly or doubly pinnate; leaflets finely toothed; pith not as above **Thornless Honeylocust**
30. Pith plated; fruit a nut; bark furrowed or ridged **31**
30. Pith solid; fruit a small pome (apple-like), borne in clusters; bark smooth **32**
31. Nut spherical; bark with deep, narrow furrows and ridges; leaf scar without a downy pad at the top **Black Walnut**
31. Nut oval shaped; bark with shallow furrows and broad ridges; leaf scar with a dense hairy pad at the top **Butternut**
32. Leaf stem and lower surface of leaflets with dense, white wooly-like hairs, leaflets to 2" in length; winter buds densely covered with long, white hairs **European Mountain-ash**
32. Leaf stem and lower surface of leaflets glabrous or nearly so, leaflets to 4" in length; winter buds glabrous or only slightly hairy **American Mountain-ash**

33. Leaves variously lobed or entire (without any indentations).....	34
33. Leaves variously serrated	43
34. Leaves entire, covered by silvery scales as are the young twigs; often spiny; fruit small yellowish and olive-like Russian-olive	
34. Leaves lobed, not silvery in appearance as above.....	35
35. Leaves palmately 3 to 5 lobed, lobe margins coarsely serrate; bark mottled on upper trunk; fruit borne in multiples in a spherical, dry head.....	Sycamore
35. Leaves not palmately 3 to 5 lobed; fruit not as above.....	36
36. Sap milky; lobed and non-lobed leaves on the same tree; multiple fleshy blackberry-like fruit.....	37
36. Sap watery; fruit borne singly or conelike.....	39
37. Leaves usually rough above, hairy below; fruit reddish- black when mature.....	Red Mulberry
37. Leaves usually smooth above, nearly glabrous below; fruit variable in color.....	38
38. Leaves 2" to 5" in length; fruit ½" to 1" in length, white, pinkish, or purplish-violet.....	White Mulberry
38. Leaves 1½" to 3" in length; fruit to ½" in length, dark red, (sometimes white)	Russian Mulberry
39. Margins of lobes entire, lobes rounded; young twigs often becoming corky-ridged in one or two seasons; fruit an acorn partially enclosed in a fringed cup.....	Bur Oak
39. Margins of lobes variously indented; fruit not an acorn.....	40
40. Young twigs and buds and under surface of young leaves covered by a dense cottony felt; leaves shiny, dark green above, variously lobed to coarsely serrate, palmately veined.....	41
40. Twigs and leaves not as above; leaves pinnately veined.....	42
41. Tree with a broad crown; bark smooth and whitish, becoming very rough and dark at the base of the trunk on older trees	White Poplar
41. Tree with branches pointing sharply upward forming a narrow columnar crown; bark greenish-white and remaining rela- tively smooth	Bolleana Poplar

42. Bark white and papery; leaves deeply and sharply cut; fruit small conelike **Cutleaf Weeping Birch**
42. Bark reddish to grayish-brown; leaves not sharply cut as above; fruit a pome (apple-like) **Crab Apple**
43. Bark of main limbs and trunk (except base of trunk in some species) white or greenish-white to light green **44**
43. Bark usually various shades of gray or reddish-brown **51**
44. Bark white and papery (reddish-brown on young stems); fruit conelike, ripening in late summer or fall **45**
44. Bark greenish-white to green and not papery; fruit borne on drooping catkins, ripening in late spring **46**
45. Bark becoming dark-furrowed at the base of the trunk; leaves rhombic-ovate to triangular; the middle lobe of the scale or bract that subtends the small, winged nutlets, triangular and barely longer than the two lateral lobes **European White Birch**
45. Bark remaining papery on older trunks; leaves ovate; middle lobe of bract twice as long as the lateral lobes **Paper Birch**
46. Young twigs and buds and under surface of young leaves covered by a dense cottony felt; leaves shiny, dark green above, usually with some of the leaves lobed **41**
46. Twigs and leaves not as above **47**
47. Leaves with rounded petioles; bark greenish-brown and becoming gray furrowed **Balsam Poplar**
47. Leaves with flattened petioles, especially at the point of attachment to leaf blade **48**
48. Tree with branches pointing sharply upward (columnar crown); leaves rhombic-shaped and finely serrate **Lombardy Poplar**
48. Trees not columnar; leaves triangular or ovate to round **49**
49. Leaves broadly triangular and coarsely serrate; twigs yellowish; buds long-pointed and gummy; bark of trunk becoming deeply furrowed and dark gray **Eastern Cottonwood**
49. Leaves not broadly triangular; twigs mostly brown to reddish-brown **50**
50. Leaves finely serrate; bud scales shiny and smooth **Quaking Aspen**
50. Leaves coarsely serrate; bud scales dull and hairy **Bigtooth Aspen**

51. Sap milky, often with some lobed leaves present.....	37
51. Sap watery; leaves normally not lobed.....	52
52. Leaves 2-ranked (the third leaf attached to the twig directly above the first), at least on spreading branches.....	53
52. Leaves in more than two ranks.....	60
53. Leaves round or heart-shaped, palmately veined; fruit small, spherical, borne in open clusters with a wing-like structure (bract) at the base of the cluster stalk.....	American Basswood
53. Leaves at least twice as long as broad.....	54
54. Leaves palmately veined; bark of trunk with narrow, crowded, steep-sided corky ridges or warts built up to many layers; fruit a drupe (stone-fruit).....	Hackberry
54. Leaves pinnately veined; bark of trunk more or less furrowed; fruit a samara (winged dry fruit) or nutlet.....	55
55. Leaves usually unequal at the base; bark coarsely furrowed; fruit a samara.....	56
55. Leaves usually equal at the base.....	59
56. Leaves about 2" in length, usually singly serrate.....	Siberian Elm
56. Leaves usually over 4" in length, doubly serrate.....	57
57. Twigs or small branches usually warty or corky-ridged; upper surface of leaves nearly or quite smooth.....	Rock Elm
57. Twigs or branches not as above; upper surface of leaves usually rough	58
58. Leaves folded along the midrib; buds and twigs dense hairy or bristly; outer bark uniformly brown in cross section	Slippery Elm
58. Leaves more or less flat; buds glabrous or nearly so; outer bark with alternate light and dark layers in cross-section	American Elm
59. Leaves about 2" in length, usually singly serrate; fruit a samara	Siberian Elm
59. Leaves about 4" in length, sharply doubly serrate; fruit a nutlet borne enclosed in a papery sac, the sacs attached to a central stem in dense clusters	Eastern Hophornbeam (Ironwood)

60. Buds covered by a single cap-like scale; leaves lance-shaped..... 61
60. Buds covered by several overlapping scales; leaves
broader than above..... 62
61. Twigs greenish-gray to olive-brown; petiole with small
glands **White Willow**
61. Twigs reddish-brown to orange; lustrous, glabrous; petiole
without glands..... **Peachleaf Willow**
62. Pith distinctly five-angled (star-shaped); buds gummy; fruit
borne on drooping catkins, ripening in late spring..... 63
62. Pith more or less round in cross-section; buds not as
above; fruit a pome or drupe..... 64
63. Leaves triangular, coarsely serrate..... **Eastern Cottonwood**
63. Leaves usually ovate, finely serrate..... **Balsam Poplar**
64. Leaf petioles usually with small glands; fruit a drupe..... 65
64. Leaf petioles without glands; fruit a pome..... 66
65. Leaves broad at the base or as broad as long; with several buds
side by side at some of the leaf nodes; bark bronze to reddish-
gray or brown; fruit yellowish and peach-like..... **Apricot**
65. Leaves much longer than broad; only one bud at a node; bark
dark gray, breaking up into persistent scaly plates; fruit small,
spherical and black when ripe, borne attached to a central
stem in clusters..... **Black Cherry***
66. Serrations of leaves normally terminating in bristle-tips;
bark yellowish-gray to brown; branches often with sharp
thorns; fruit pear-shaped and yellowish..... **Harbin Pear**
66. Serrations of leaves sharp to rounded but normally not
bristle-tipped, some trees with doubly-serrate or lobed
leaves; bark dark gray or reddish-gray and ridged; branches
often with spurs or less frequently thorns; fruit
apple-like..... **Crab Apple**

*Note: Chokecherry is often tree-like and can be separated from Black Cherry by its broader leaf and by the bark which remains smooth on older trunks.)

IMPORTANT NOTES

Pictures of leaves and fruit have been covered with squares to give you an idea of the average size of these parts. Each square represents one square inch.

Size of trees as used in this booklet.

SMALL—Usually not over 20' when mature.

MEDIUM—Usually not over 40' when mature.

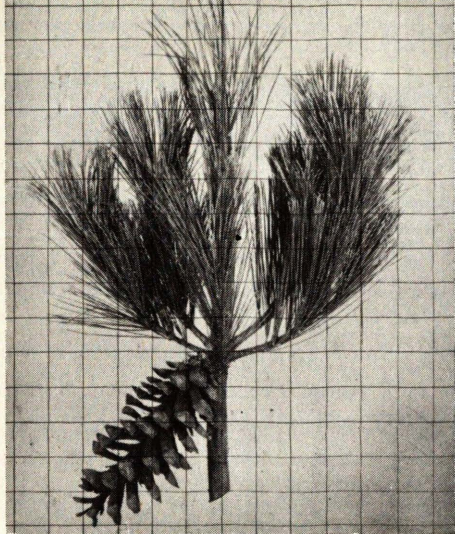
LARGE—Usually over 40' when mature.

Where more than one tree species is named on a page the illustrations apply to the first named. For example, on page 7 the illustrations show Black Hills Spruce.

Common and scientific names follow the "Check List of Native and Naturalized Trees of the United States," by Elbert L. Little, Jr., 1953. Those not covered by this publication follow other recognized sources.

Eastern White Pine

Pinus strobus L.



COMMON USES: Lumber, sash and doors, pattern making, framing, boat spars, models, boxes, crating, matches, novelties.

LANDSCAPE USES: Is somewhat pyramidal in form; the branches are horizontal and curved slightly upward. It becomes quite picturesque with age, and can be used for shade or specimen purposes.

GROWTH HABITS: Medium to large tree. Prefers moist, sandy loams, and makes fast growth where soil and moisture conditions are favorable. Stands more shade than any of the other eastern pines. Shallow rooted.

LEAVES: Needle-like, slender, flexible, 3 to 5 inches long, in fascicles of five.

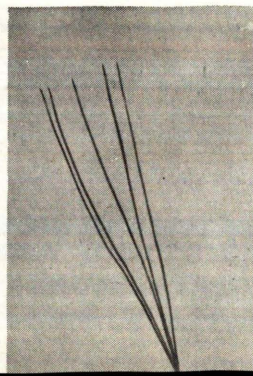
TWIGS: Orange-brown, smooth or very slightly pubescent; buds covered with thin reddish or orange-brown scales.

BARK: Thin, smooth and greenish-brown on young trees. On old trees it becomes deeply fissured into narrow, roughly rectangular blocks and may vary from less than an inch to four inches in thickness.

FRUIT: A cone, about 5 inches long and narrow; with thin scales having a small scar at tip; two terminally winged seeds borne at the base of each scale.

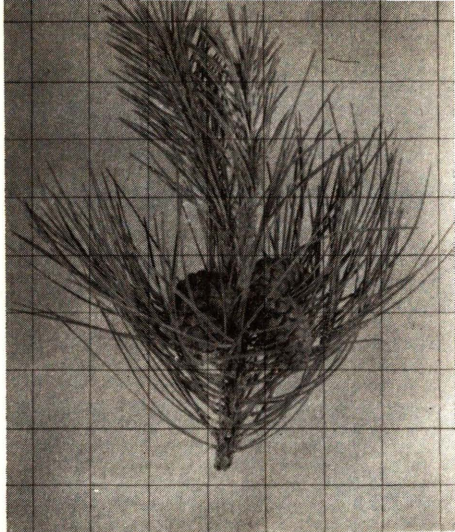
NATIVE RANGE: Southeast Canada, Lake States, northeastern United States and Appalachian Mountain Region.

Needles five to a bundle



Ponderosa Pine

Pinus ponderosa Laws.



COMMON USES: Lumber, interior trim, ties, mine timbers, fuel, poles, crating, posts, pulpwood, boxes, shelterbelts.

LANDSCAPE USES: Has spreading stout branches and rigid needles resulting in a coarse texture. In the landscape best used in large areas as a background or screen.

GROWTH HABITS: Small to large tree. Deep rooted, hardy and drought resistant. Requires plenty of light. Adapted to a wide variety of soil and exposure conditions.

LEAVES: Needle-like, stout, not as stiff and sharp pointed as Austrian pine, 4

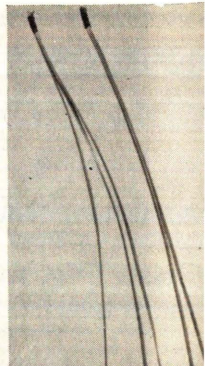
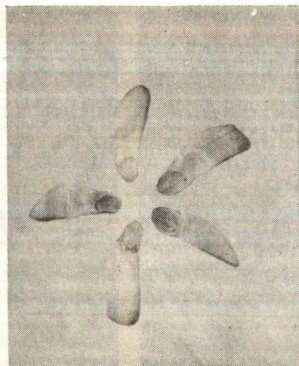
to 7 inches long, in fascicles of 2's and 3's on the same tree.

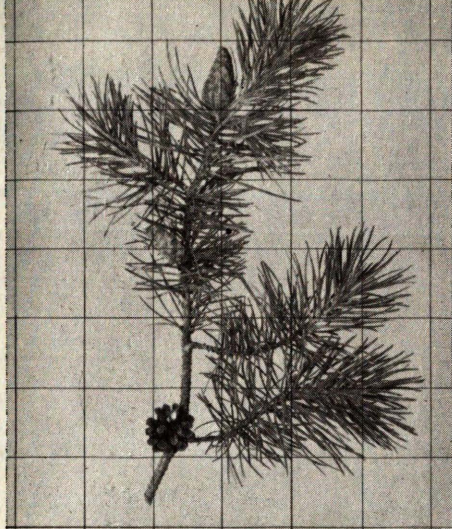
TWIGS: Stout, giving off a spicy, turpentine odor when crushed.

BARK: Dark brown to nearly black and deeply furrowed on young trees. Yellowish-brown to orange-yellow and irregularly divided into scaly plates on old trees.

FRUIT: A cone, 3 to 6 inches long, stubby in appearance; the cone scales thickened at the ends, and armed with short prickles usually hooked backwards; two terminally winged seeds borne at the base of each scale.

NATIVE RANGE: Western North America.





Jack Pine

Pinus banksiana Lamb.

COMMON USES: Pulpwood, rough lumber, fuel, crating, mine timbers, posts, ties, slack cooperage, shelterbelts.

LANDSCAPE USES: Not especially prized for landscape use.

GROWTH HABITS: Small to medium tree. Often found on barren, sandy or rocky soil but makes best development on moist soils of good quality. Root system wide-spreading and moderately deep. Requires plenty of light.

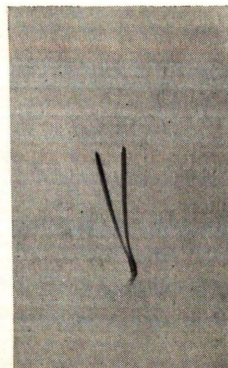
LEAVES: Needle-like, stout, twisted, about 1 inch in length, in fascicles of 2's usually divergent.

TWIGS: Short, tough. Many crooked branches.

BARK: Thin, dull red-brown, irregularly divided into scaly ridges.

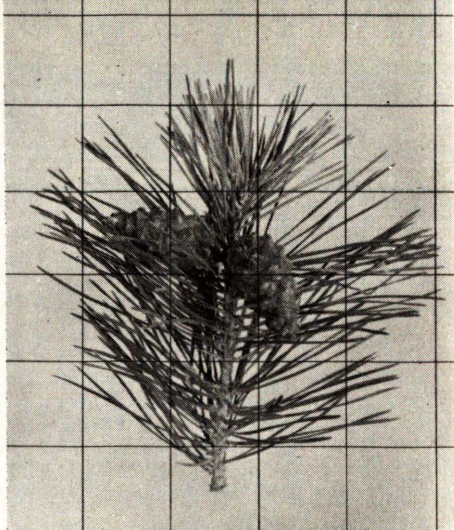
FRUIT: A cone, about 1½ inches long, often strongly incurved, and usually pointing toward end of branch; often remaining closed for many years or, if opening, persistent on the tree; cone scale ends rounded; seeds borne as in Ponderosa Pine.

NATIVE RANGE: Canada, Lake States and northeastern United States.



Scotch Pine

Pinus sylvestris L.



COMMON USES: Windbreaks, lumber, Christmas trees, interior trim, posts and poles. Widely used throughout Europe for general construction.

LANDSCAPE USES: An attractive medium textured, irregular shaped tree. The cinnamon colored bark also adds interest to the landscape. Use for shade, specimen or contrast accent.

GROWTH HABITS: Medium to large tree. Prefers soil that is deep, well drained and moist but will grow on fairly dry, shallow soils.

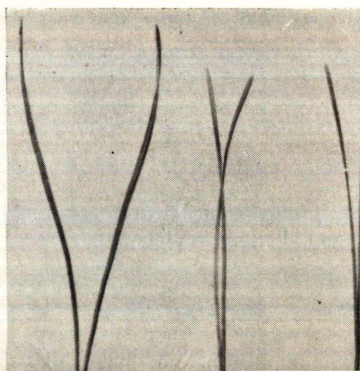
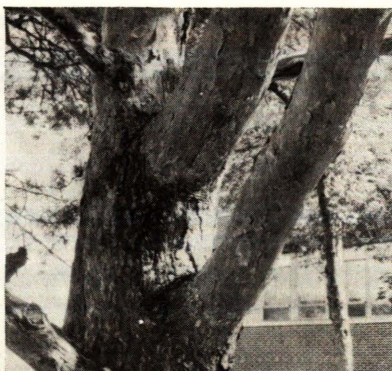
LEAVES: Needle-like, stout, twisted or spiraled, about 2 inches in length, in fascicles of 2's.

TWIGS: Medium thick, grayish-yellow, terminated by blunt orange-red buds whose small scales turn backward.

BARK: Orange-red, thin, and peels off in papery flakes on upper trunk and larger limbs. Grayish-brown on lower trunk, with longitudinal scaly plates and irregular furrows showing streaks of orange-red inner bark.

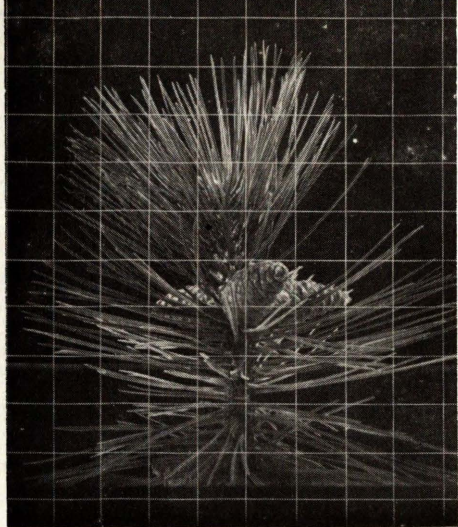
FRUIT: A cone, 1 to 2½ inches long, horizontal or bent backward along the branch; cone scale ends flattened or raised in form of a pyramid; seeds borne as in Ponderosa Pine.

NATIVE RANGE: Europe to Siberia (widely planted in northern half of eastern United States).



Austrian Pine

Pinus nigra Arnold



COMMON USES: Naval stores, lumber, shelterbelts.

LANDSCAPE USES: Becomes a rather large, coarse textured, flat topped tree. The needles are dark green making the tree quite predominant in the landscape. Good for lawn, accent or wind-break planting.

GROWTH HABITS: Medium to large tree. Fairly rapid growth; hardy when planted on good sites.

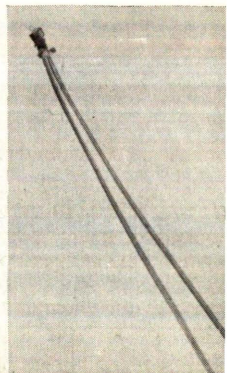
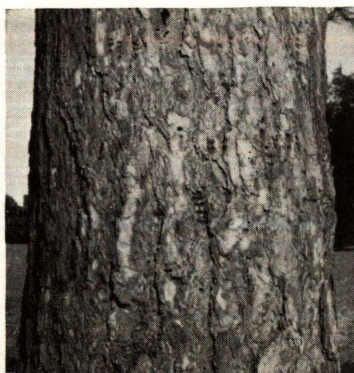
LEAVES: Needle-like, stiff and sharp pointed, 3 to 6 inches in length, in fascicles of 2's.

TWIGS: Bark on new twigs greenish-brown.

BARK: Dark brown to black.

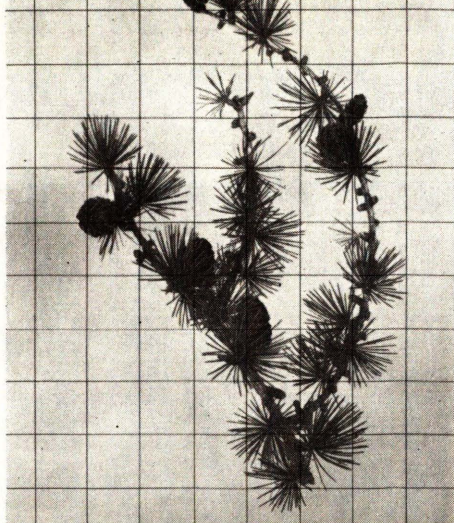
FRUIT: A cone, 2 to 3 inches long, borne at right angles to the branches; cone scale ends thickened and rounded, often with a dull spine; seeds borne as in Ponderosa Pine.

NATIVE RANGE: Central and southern Europe, Asia Minor (widely planted in eastern United States).



European Larch

Larix decidua Mill.



COMMON USES: Timber, tannin, wild-life food and cover.

LANDSCAPE USES: This pyramid-shaped tree is an interesting specimen in the landscape; however, the winter appearance is somewhat like a dead spruce. It is difficult to transplant.

GROWTH HABITS: Long roots which prefer deep, light, well-drained soil.

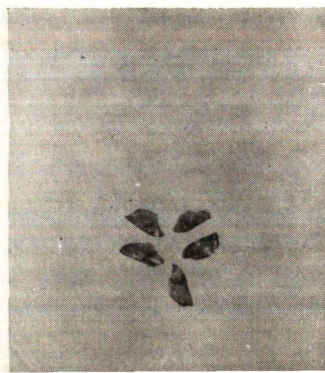
LEAVES: Needle-like or linear, deciduous, soft, slender, 1 to 1½ inches in length; borne in clusters on spurlike branches or singly on new growth.

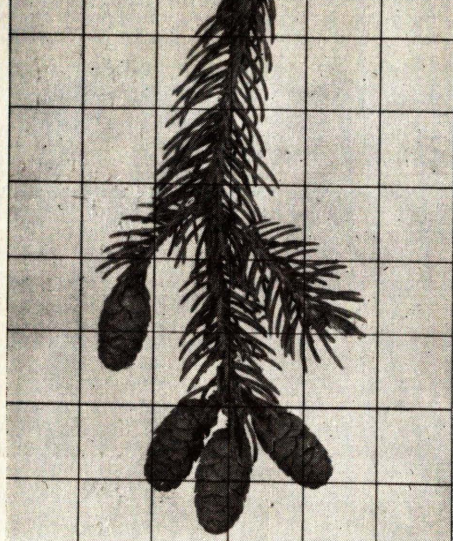
TWIGS: Yellowish or straw-colored, studded along their sides by short projections, from the ends of which the leaves arise.

BARK: Rough, scaly, dark grayish-brown.

FRUIT: A cone ¾ to 1½ inches long, borne upright on the branch; with 40 to 50 thin, hairy scales; seeds small, terminally winged, usually two at the base of each scale.

NATIVE RANGE: Northern and central Europe (widely planted in northern half of eastern United States).





Black Hills Spruce

Picea glauca var. *densata* Bailey

White Spruce

Picea glauca (Moench) Voss

COMMON USES: Lumber and interior finish; shelterbelts.

LANDSCAPE USES: Popular pyramidal evergreens used extensively as screens or accent plants. Removal of some of the terminal buds helps to shape the tree and generally induces more compactness. Beautiful young or old and stands crowding. Protect from red spider and pine needle scale.

GROWTH HABITS: Prefers moist, well drained porous soils.

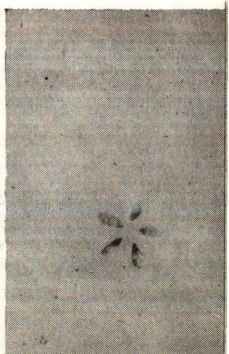
LEAVES: Linear, four-sided, crowded along branchlets, $\frac{1}{2}$ to $\frac{3}{4}$ inches in length; pungent odor when crushed.

TWIGS: Reddish-brown bark; glabrous.

BARK: Ash-gray, and broken into small, thin scaly plates on older trunks. Smooth or only slightly roughened on young trees.

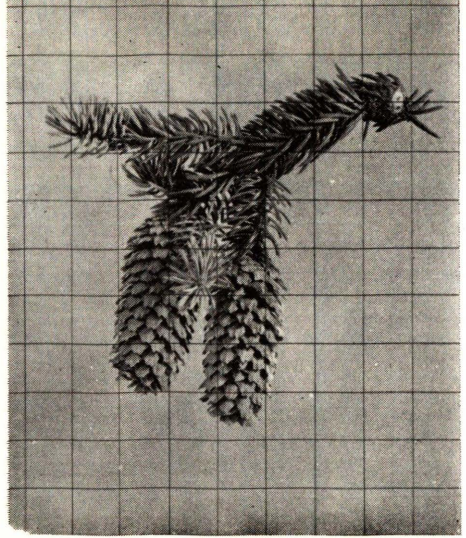
FRUIT: A cone, $1\frac{1}{2}$ to $2\frac{1}{2}$ inches long, cylindrical, pendent; with thin and flexible scales, scale ends rounded and mostly entire; seeds small, terminally winged, usually two at the base of each scale. (Black Hills Spruce has heavier, thicker, and shorter and darker cones.)

NATIVE RANGE: Alaska, Canada, Lake States and northeastern United States. The variety, Black Hills Spruce, is local to the Black Hills.



Blue Spruce

Picea pungens Engelm.



COMMON USES: Shelterbelts, wildlife food and cover, poles, fuel, ties, mine props, house logs.

LANDSCAPE USES: Not all have the blue color people seem to prefer; so, to be assured of exactly what you want, a trip to a nursery might be necessary. Is a favorite pyramidal, specimen tree but should not be used close to building. Protect from red spider.

GROWTH HABITS: Moderately deep rooted. Does best in fairly rich, moist, well-drained soil. Conical crown extending to ground on open-grown trees.

LEAVES: Linear, very stiff and sharp pointed, four-sided, $\frac{3}{4}$ to 1 inch in length; often with bluish color.

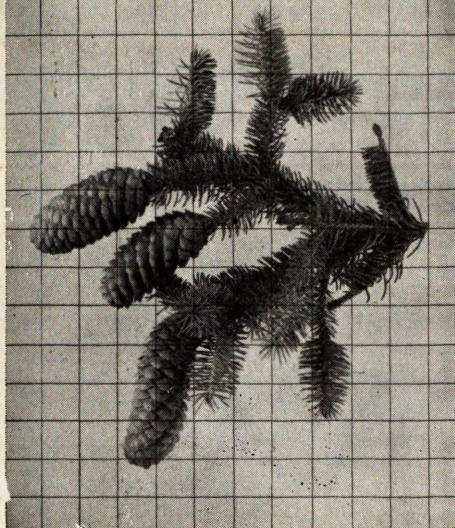
TWIGS: Stout, dark yellowish-brown, glabrous.

BARK: Thin, ashy brown and composed of many thin loosely attached scales on young trees. On older trunks from a half-inch to over an inch thick and furrowed.

FRUIT: A cone, 2 to 4 inches long, cylindrical, light brown, pendent; with thin, papery but stiff scales; the scale ends irregularly toothed, rounded to wedge-shaped; seeds two per scale, terminally winged.

NATIVE RANGE: Rocky Mountains of western United States.





Norway Spruce

Picea abies (L.) Karst.

COMMON USES: Lumber, pulpwood, shelterbelts, Christmas trees.

LANDSCAPE USES: The pendulous twigs and the lustrous dark green foliage add interest to this tree. It requires much space and is used in large areas and as a windbreak.

GROWTH HABITS: Tall symmetrical tree. Prefers well drained, moist sandy loam soil. Comparatively short lived. More rapid in growth than native spruce but not as well adapted to South Dakota conditions.

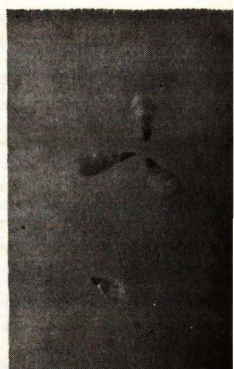
LEAVES: Linear, four-sided, about $\frac{3}{4}$ inches in length, slightly curved; yellow-green in color.

TWIGS: Light, reddish-brown bark with nearly conical buds.

BARK: Reddish-brown, scaly and rarely more than half an inch thick.

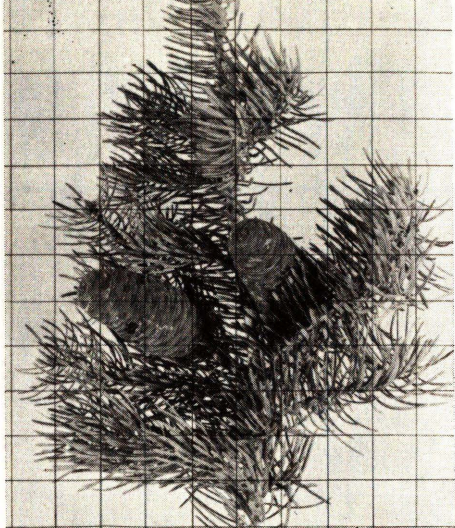
FRUIT: A cone, 4 to 7 inches long, cylindrical, pendent; scales thick, firm, broad and cut off almost square across the upper end, broadly wedge-shaped; seeds two per scale and terminally winged.

NATIVE RANGE: Northern and central Europe (widely planted northern half of eastern United States).



White Fir

Abies concolor (Gord. & Glend.) Lindl.



COMMON USES: Lumber, pulpwood.

LANDSCAPE USES: Has the widest range of usefulness of any of the firs. The pyramidal growth habit and the bluish-green color of the leaves make good contrast when planted with Pine.

GROWTH HABITS: Medium to large size. Shallow rooted. Prefers deep, rich, moist, well-drained soil.

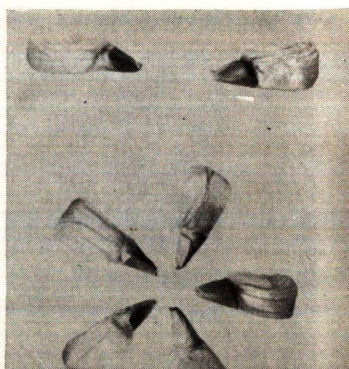
LEAVES: Linear, flat, blunt pointed, sessile, 1 to 2 inches in length, usually curved.

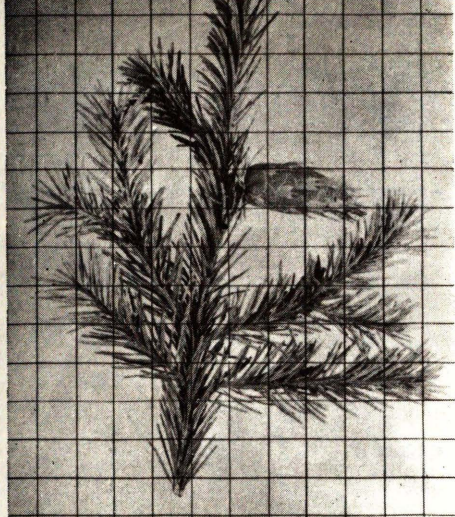
TWIGS: Yellowish to brownish-green. Buds yellowish-brown, resinous, one-fourth inch long.

BARK: Fairly smooth, ash gray bark on young trees, with conspicuous resin blisters. Old bark divided into deep irregular furrows, 4" to 6" thick.

FRUIT: A cone, 3 to 5 inches long, cylindrical, borne upright on the upper branches; olive-green to purple, breaking up when mature; seeds two per scale, yellow-brown, terminally winged, usually resinous.

NATIVE RANGE: Western United States.





Douglas-fir

Pseudotsuga menziesii var. *glauca*
(Biessn.) Franco

COMMON USES: Lumber, structural timbers, poles, piling, ties, plywood, pulpwood, shelterbelts, Christmas trees.

LANDSCAPE USES: This fast growing evergreen is a good one for home grounds, wherever it can be used, as it can take abuse and still be a very attractive specimen tree.

GROWTH HABITS: Deep, rich, well-drained porous loams and plenty of moisture are preferred by this tree. Develops a strong, wide-spreading lateral root system. Moderately tolerant of shade when young, but requires plenty of overhead light when older.

LEAVES: Linear, flat, slightly pointed,

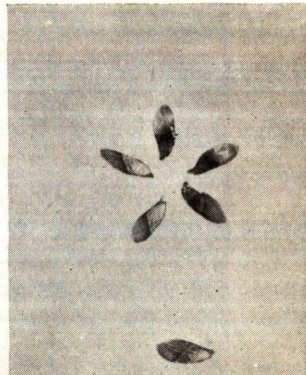
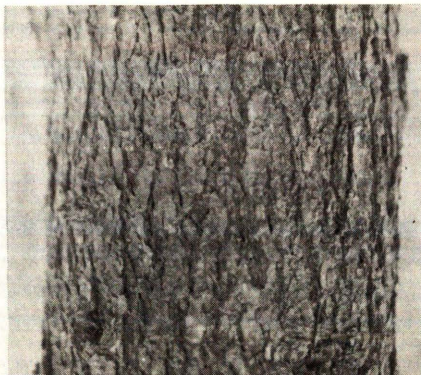
with a short petiole; grooved above, $\frac{3}{4}$ to $1\frac{1}{4}$ inches in length.

TWIGS: Sharp-pointed, orange-red buds from $\frac{3}{8}$ " to $\frac{1}{2}$ " long at ends of twigs are a distinctive feature of Douglas-fir.

BARK: Gray to gray-brown, deeply furrowed and corklike on older trees. Smooth, with resin blisters on young trees.

FRUIT: A cone, $1\frac{1}{2}$ to 4 inches long, cylindrical, pendent; with bracts protruding beyond the ends of the scales; bracts 3-pointed with the central lobe much longer than the lateral ones; seeds two per scale with a short terminal wing.

NATIVE RANGE: Western North America.



Northern White-cedar (Eastern Aborvitae)

Thuja occidentalis L.



COMMON USES: Shingles, posts, poles, canoe building, wreaths and decorations, wildlife browse.

LANDSCAPE USES: The erect, flattened or fan-shaped branches are distinct characteristics even though the growth pattern might be columnar or globe. Can be used either as specimen or hedges but tolerate very little shade.

GROWTH HABITS: Medium sized, slow growing tree with a dense pyramidal crown. Shallow, spreading root system. Requires plenty of moisture.

LEAVES: Scale-like, $\frac{1}{8}$ to $\frac{1}{4}$ inch in length, borne in pairs alternately crossing at

right angles and so arranged that branchlet is flattened.

TWIGS: Light yellow-brown bark becoming reddish on the small branches.

BARK: Thin, light grayish-brown and divided into shallow grooved, narrow, horizontal, fibrous strips which tend to spiral around the trunk.

FRUIT: A cone, $\frac{1}{2}$ inch long, borne upright; scales leathery to semi-woody, thin, yellowish-brown; seeds two or three per scale, very small, laterally winged.

NATIVE RANGE: Southeast Canada, Lake States, northeastern United States and Appalachian Mountain Region.

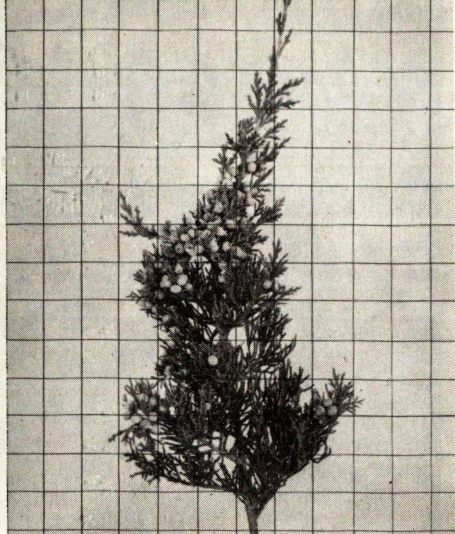


Eastern Redcedar

Juniperus virginiana L.

Rocky Mountain Juniper

Juniperus scopulorum Sarg.



COMMON USES: Furniture, interior finish, posts, poles, pencils, woodenware, shelterbelts, wildlife food, fuel.

LANDSCAPE USES: Favorite upright, fine textured evergreens for corner and entrance plantings. Also makes good screen or hedge. Considerable variation in color and compactness. Because they are subject to red spider they should be planted out from buildings so that spraying may be easily accomplished.

GROWTH HABITS: Rocky Mountain Juniper of medium size, sometimes shrubby. Eastern Redcedar a small to large tree. Both species are slow growing, hardy, quite tolerant of shade, and able to live on poor soils with limited moisture.

LEAVES: Of two kinds; (1) scale-like, very small, arranged so that branchlet

is four sided; (2) awl-shaped, sharp pointed, and spreading.

BARK: Thin, light gray to reddish-brown, fibrous and stringy, usually with narrow, interlacing ridges.

FRUIT: A berrylike cone, about ¼-inch in diameter, bluish to bluish-white when ripe; the fleshy fruit is somewhat sweet and resinous, and encloses 1 to 2 hard seeds. It matures in one season. (Two years to maturity in Rocky Mountain Juniper.) Male and female trees, only the latter produces fruit.

NATIVE RANGE: Eastern Redcedar—Eastern United States, southern Ontario.

Rocky Mountain Juniper—Rocky Mountains of U. S. and British Columbia; also South Dakota.

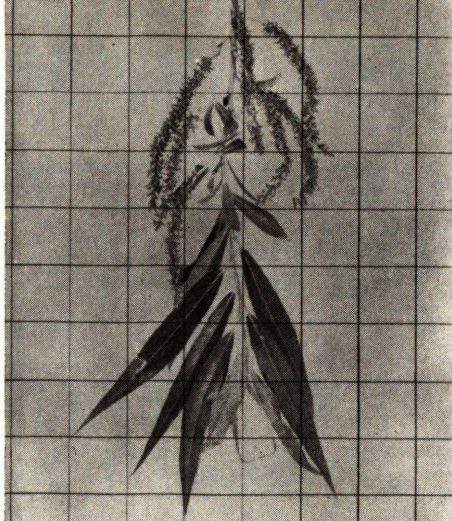


White Willow

Salix alba L.

Peachleaf Willow

Salix amygdaloides Anderss.



COMMON USES: Shelterbelts, erosion control.

LANDSCAPE USES: Large, graceful trees with attractive bark. Rather fragile and often considered messy in the landscape. Use only in large open areas and away from sanitary facilities.

GROWTH HABITS: Largest of the common willows. Several trees often found growing closely together. Branches generally point upward. Requires plenty of moisture.

LEAVES: Alternate, simple, lance-shaped finely serrate.

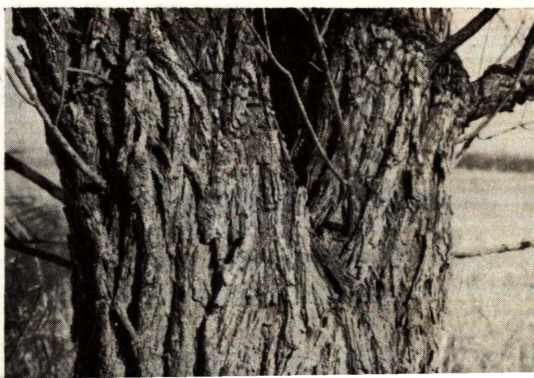
TWIGS: Slender, variable in color, usually yellow-green.

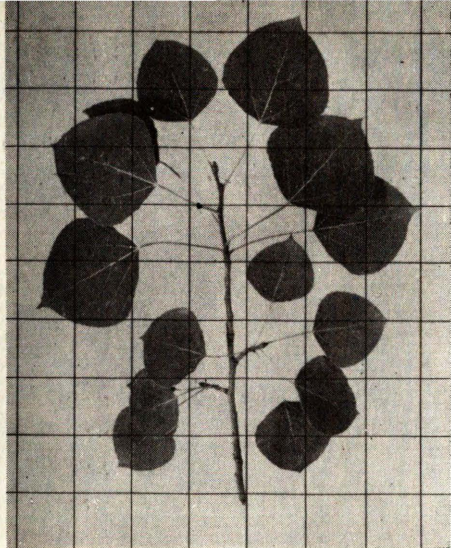
BARK: Dark gray, coarsely ridged.

FRUIT: A capsule, about $\frac{1}{4}$ inch long, maturing in late spring; fruiting branchlet a catkin; seeds are minute and hairy tufted. Male and female trees, only the latter produce fruit.

NATIVE RANGE: White Willow—Europe and North Africa to central Asia.

Peachleaf Willow—Southern Canada, northern half of the United States.





Quaking Aspen

Populus tremuloides Michx.

Bigtooth Aspen

Populus grandidentata Michx.

COMMON USES: Pulpwood, boxboards, matchwood, excelsior, wildlife food.

LANDSCAPE USES: Interesting forms with slender, reddish-brown branchlets and single central leaders. The constant movement of the leaves with the resultant light reflection is a welcome landscape addition. Bad habit of abundant suckering.

GROWTH HABITS: Small to medium sized. Fast growing and shortlived. Requires plenty of light.

LEAVES: Alternate, simple, broadly oval or rounded, finely serrate to coarsely toothed; flattened petiole.

TWIGS: Slender, shiny, reddish-brown.

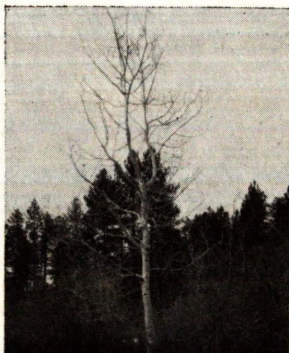
Terminal buds conical and sharp-pointed.

BARK: Smooth and chalky-white to greenish-white. Older bark may be furrowed and dark brown or gray, with many wartlike growths.

FRUIT: A capsule, narrowly cone-like, $\frac{1}{4}$ inch long, maturing in late spring; fruiting branchlet a catkin; seeds minute, cottony tufted. Male and female trees, only the latter produce "cotton."

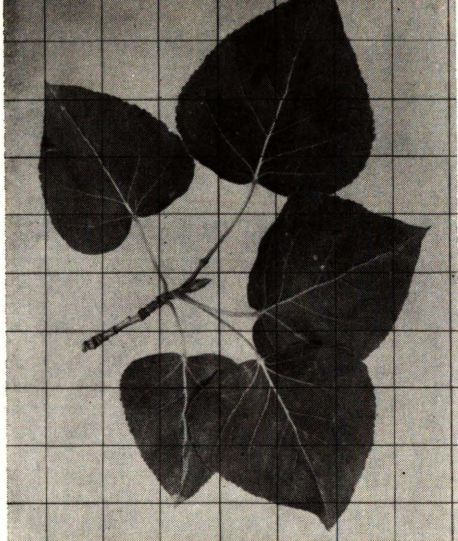
NATIVE RANGE: Quaking aspen—Alaska, Canada, northern United States and western mountains.

Bigtooth Aspen — Southeast Canada, northern half of eastern United States.



Balsam Poplar

Populus balsamifera L.



COMMON USES: Lumber, boxes, crating, grain doors, pulp.

LANDSCAPE USES: No particular ornamental value and not recommended here for use in gardens and grounds.

GROWTH HABITS: Medium sized, with a narrow, open crown. Shallow rooted. Prefers bottomlands and stream banks.

LEAVES: Alternate, simple, ovate-lance-shaped, dark green above, pale and silvery beneath, often with a rusty color due to a resinous secretion; finely serrate; petiole round.

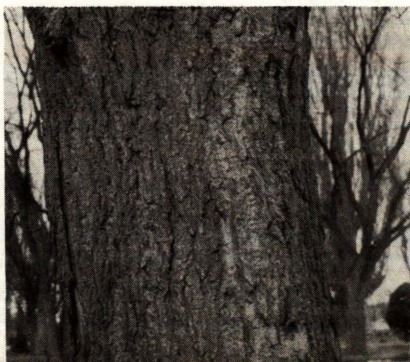
TWIGS: Reddish-brown to dark brown, shiny. Terminal buds long, slender,

acutely pointed and covered with five overlapping scales sealed by a fragrant resin.

BARK: Greenish - brown to reddish-brown on young trees. Gray to grayish-black and divided into ridges separated by narrow fissures on older trunks.

FRUIT: A capsule, egg shaped, $\frac{1}{4}$ to $\frac{1}{2}$ inch long, maturing in late spring; fruiting branchlet a catkin; seeds minute, cottony tufted. Male and female trees like Quaking Aspen.

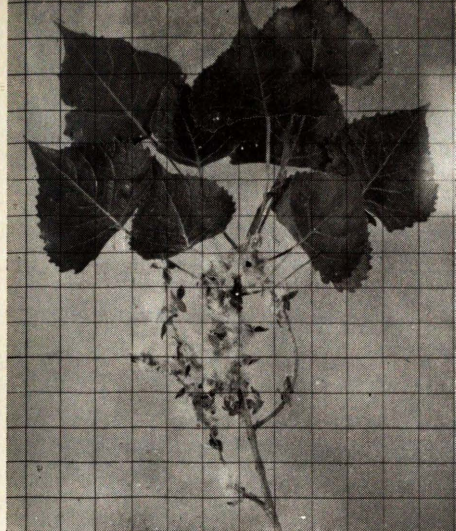
NATIVE RANGE: Alaska, Canada, northern United States.



Eastern Cottonwood

Populus deltoides Bartr.

Plains Cottonwood



COMMON USES: Box lumber, pulpwood, excelsior, veneer, cooperage, fuel, shelterbelts.

LANDSCAPE USES: Sometimes used in the home grounds because of rapid growth with minimum amount of care. It should be noted they become very large, sucker freely, and the roots often damage pavement and clog drainage lines.

GROWTH HABITS: Large, fast growing, short-lived tree. Requires plenty of moisture and light.

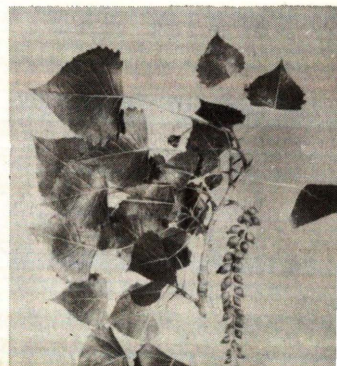
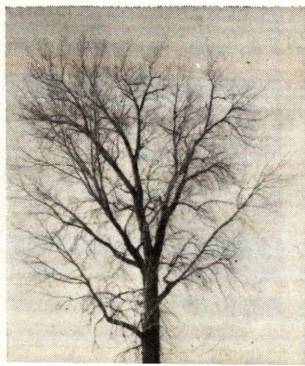
LEAVES: Alternate, simple, triangular in shape, rubbery textured, coarsely toothed, petiole flattened.

TWIGS: Angular, yellowish - brown, smooth. Terminal buds about $\frac{3}{4}$ " long, shiny brown and resinous.

BARK: Smooth and yellow-green to brownish on young stems. Ash-gray and thick with straight deep furrows and broad, rounded ridges on older trees.

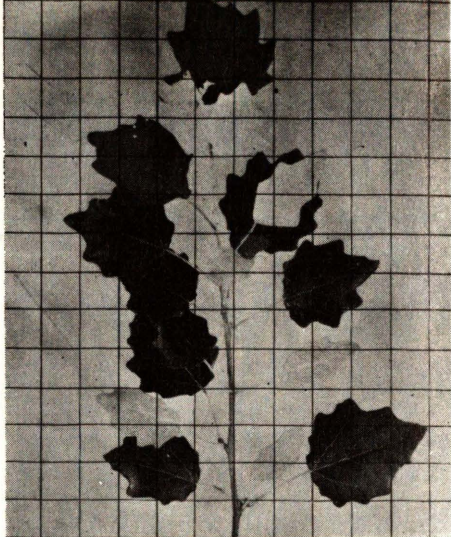
FRUIT: A capsule, egg shaped, $\frac{1}{8}$ inch long, maturing in late spring; fruiting branchlet a relatively long catkin; seeds very small, densely cottony tufted. Male and female trees like Quaking Aspen.

NATIVE RANGE: Eastern United States and the Great Plains.



White Poplar

Populus alba L.



COMMON USES: None of consequence.

LANDSCAPE USES: The beautiful foliage and good bark color results in an effective contrast accent, but it suckers too freely for desirable home grounds use.

GROWTH HABITS: Medium to large tree. Requires plenty of moisture and light. Suckers profusely from root sprouts.

LEAVES: Alternate, simple, oval or rounded, large-toothed or more often lobed, dark green above, dense felty and white below; petiole nearly round.

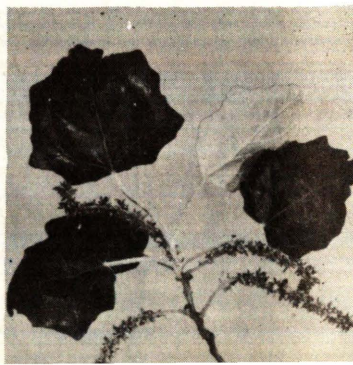
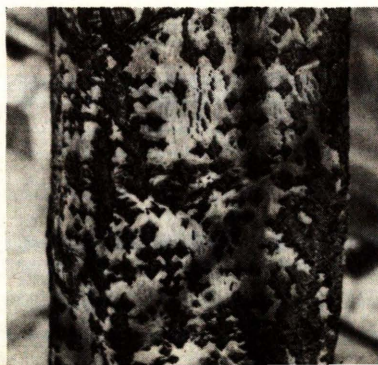
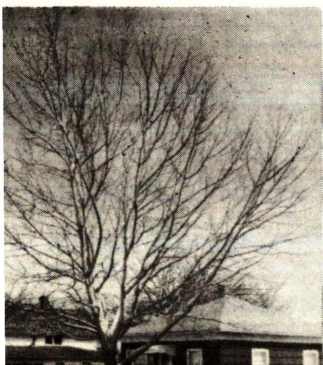
TWIGS: Dense, cottony down covers buds and twigs.

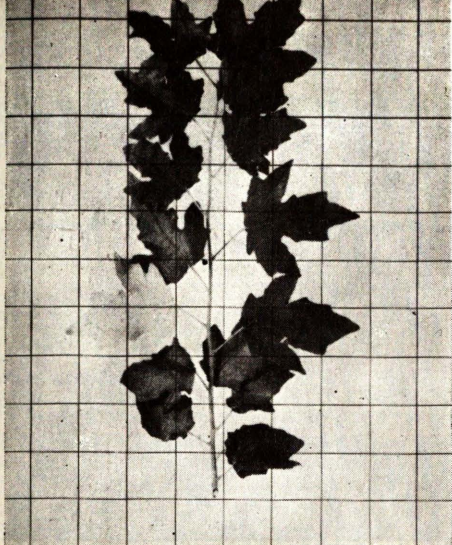
BARK: Grayish, rough and irregular on older trunks. Grayish-white and fairly smooth on young stems.

FRUIT: A capsule, egg shaped, $\frac{1}{4}$ to $\frac{1}{2}$ inch long, maturing in late spring; fruiting branchlet a catkin; seeds minute, cottony tufted. Male and female trees like Quaking Aspen.

NATIVE RANGE: Central and southern Europe to west Siberia and central Asia.

Underside of leaf dense felt white





Bolleana Poplar

Populus alba cv. 'Pyramidalis'

COMMON USES: Ornamental.

LANDSCAPE USES: Very popular columnar tree. Valuable as a tall screen or for accent next to large buildings. Gives quick effects.

GROWTH HABITS: Fast growing, narrow crowned tree. Short lived. Requires plenty of moisture and light.

LEAVES: Alternate, simple, coarsely

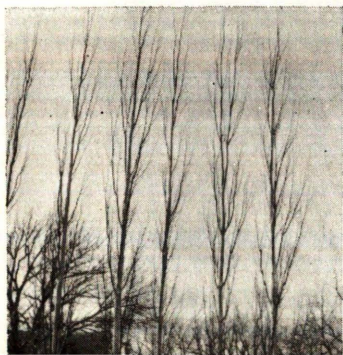
toothed or lobed, dark green above and white, cottony or felty beneath; petiole nearly round.

TWIGS: Smooth, greenish-gray, cottony.

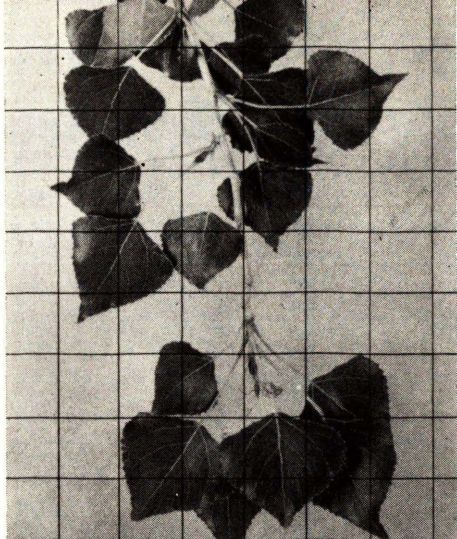
BARK: Greenish-gray, smooth, large lenticels.

FRUIT: All trees are male, therefore bear no fruit.

NATIVE RANGE: Introduced from Turk-
estan.



Lombardy Poplar



COMMON USES: Ornamental.

LANDSCAPE USES: Has been referred to as, "Nature's exclamation point," because of tall narrow growth habit. Makes good tall screen or interesting grouping in parks and cemeteries. Apparently not as hardy as Bolleana Poplar.

GROWTH HABITS: Large fast growing tree with a narrow columnar crown of ascending branches. Requires plenty of moisture and light. Suckers freely. Short lived.

LEAVES: Alternate, simple, rhombic-triangular, finely serrate, dull green above and paler beneath; petiole flattened.

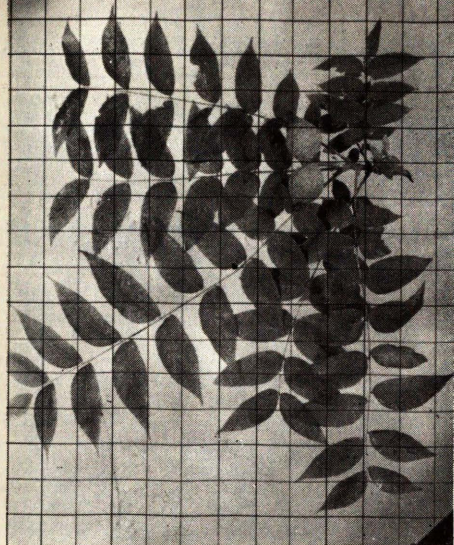
TWIGS: Slender, smooth, yellowish and shining.

BARK: Yellowish, later becoming gray, more or less ridged and dark brown on the trunks of old trees.

FRUIT: All trees are male, therefore bear no fruit.

NATIVE RANGE: Europe and western Asia, northern Africa.





Butternut

Juglans cinerea L.

COMMON USES: Cabinet work, human and animal foods, hulls for dyes.

LANDSCAPE USES: Texture is medium in summer but is considered coarse in winter. Tree becomes ragged with age. Considered less ornamental than the Black Walnut.

GROWTH HABITS: Medium sized tree which prefers moist rich loams. Usually short-trunked, with a many-branched, spreading crown.

LEAVES: Alternate, pinnately compound, 15 to 30 inches long, with 11 to 17 sharp pointed, oblong, finely serrate leaflets; leaf stem and leaflets velvety.

TWIGS: Dark brown chambered pith.

Bark of young twigs deep yellow-brown in color, smooth and shining and dotted with many small, round, whitish spots. Buds covered with dense yellowish-brown pubescence.

BARK: Light gray, divided into broad, flat ridges by shallow to moderately deep fissures.

FRUIT: A drupe-like nut, borne enclosed in a sticky, clammy, greenish-bronze husk; nut shell hard, thick, very rough and sharply ridged, lemon-shaped; kernel is edible.

NATIVE RANGE: Eastern United States except for the south Atlantic and Gulf Coastal Plains.



Black Walnut

Juglans nigra L.



COMMON USES: Furniture, interior trim, gunstocks, human and wildlife food, hulls for dye.

LANDSCAPE USES: A massive, fairly attractive tree for parks and wooded areas but prefers sunny situation. Difficult to transplant.

GROWTH HABITS: A large tree which prefers deep, rich moist soils and plenty of light. Deep, wide-spreading root system with a definite taproot in early life.

LEAVES: Alternate, pinnately compound, 12 to 24 inches long, with 13 to 23 sharp pointed, ovate-lance-shaped, sharply serrate leaflets; leaf stem smoother than butternut.

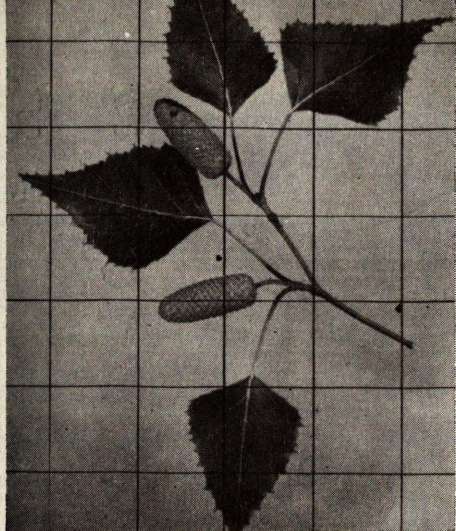
TWIGS: Buff-colored chambered pith. Bark light brown to orange-brown. Terminal buds short, blunt, covered by a few pubescent scales.

BARK: Dark brown to grayish-black, deeply grooved by narrow furrows into a roughly diamond-shaped pattern.

FRUIT: A drupe-like nut, borne enclosed in a thick, semifleshy, yellowish-green, pubescent husk; nut shell hard, thick, finely ridged and spherical; kernel is edible.

NATIVE RANGE: Eastern United States except on the southern Coastal Plains.





Paper Birch

Betula papyrifera Marsh.

COMMON USES: Pulpwood, spools, tooth-picks, clothes pins and other specialty products; the bark, for canoes and Indian ornaments.

LANDSCAPE USES: A very beautiful, graceful tree in woodlands effect or as a specimen. Bark is tempting to vandals thus limiting areas in which tree might be used.

GROWTH HABITS: A medium sized tree which prefers moist, rich soil and plenty of light. Fast growing and short lived.

LEAVES: Alternate, simple, ovate, usually doubly serrate, dull dark green above, yellow-green and glandular beneath.

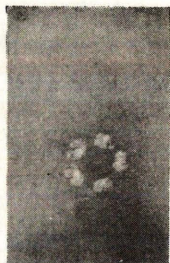
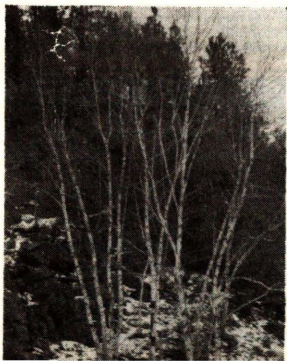
Twigs: Slender, dull reddish brown to

orange brown. Terminal buds absent; lateral buds gummy, covered with chestnut-brown scales.

BARK: Dark brown on young trees, turning chalky to creamy white and separating into thin papery strips on older trees. Long, narrow, dark markings make bands around the trunk.

FRUIT: A small nutlet or samara-like, borne in a pendent, cylindrical, cone-like fruiting branchlet about 1 inch in length; the cone-like scales 3-lobed with the middle lobe longer than the lateral ones; nutlet laterally winged and narrower than wings.

NATIVE RANGE: Alaska, Canada, northern United States.



Cutleaf Weeping Birch

European White Birch

Betula pendula Roth

COMMON USES: Cutleaf Birch—Ornamental planting. European White Birch—Lumber, ornamental, game food and cover.

LANDSCAPE USES: Perhaps the most popular lawn and accent tree; also very good among evergreens for contrast, or at water edge. The white bark and the pendulous, delicate branches are attractive the year around.

GROWTH HABITS: Small to medium sized trees. Make quite rapid growth in rich, moist soil. Susceptible to borer attack.

LEAVES: Alternate, simple, ovate, doubly serrate to sharply lobed (in cutleaf

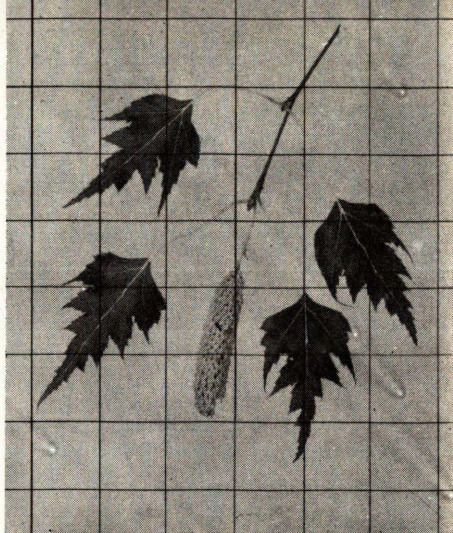
form), bright green above, paler beneath; more or less gland-dotted on both surfaces.

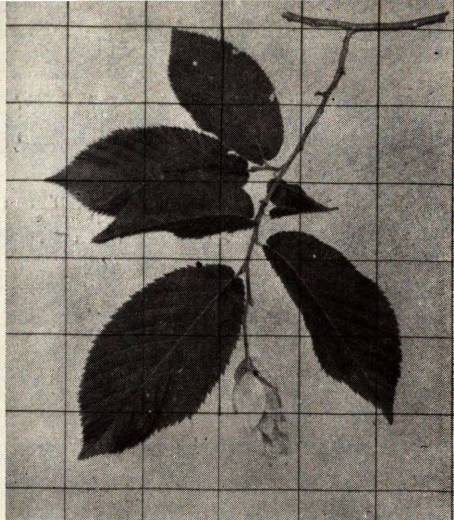
TWIGS: Slender, usually greenish to reddish brown. Terminal buds absent.

BARK: White.

FRUIT: A small nutlet or samara-like, borne in a pendent, cylindrical, cone-like fruiting branchlet about 1 inch in length; the cone-like scales 3-lobed with the middle lobe triangular and shorter than the lateral ones; nutlet laterally winged and narrower than wings.

NATIVE RANGE: Europe to Japan.





Eastern Hophornbeam (Ironwood)

Ostrya virginiana (Mill.) K. Koch

COMMON USES: Fence posts, handles, mallets, wildlife food and cover.

LANDSCAPE USES: Not widely found in South Dakota but has ornamental value wherever it can be cultivated.

GROWTH HABITS: A small slow-growing tree, usually found growing on well-drained, gravelly slopes, in the shade of other trees.

LEAVES: Alternate, simple, oblong-ovate; sharply doubly serrate, thin and paperlike, dull dark green above, paler below.

TWIGS: Slender, tough, light green,

turning shiny light orange by midsummer. Older twigs become dark brown. No terminal buds are formed.

BARK: Grayish brown and broken into small, shaggy plates which curve away from the trunk.

FRUIT: A small nutlet, borne in a pendent, cylindrical, hop-like or cone-like fruiting branchlet, 1 to 1½ inches long; nutlets are unwinged, and are borne enclosed in a leafy, sac-like structure.

NATIVE RANGE: Southeast Canada, eastern United States except Florida; Black Hills and Newton Hills in South Dakota.



Bur Oak

Quercus macrocarpa Michx.



COMMON USES: Construction lumber, tight cooperage, furniture, cross ties, fuel, game food, shelterbelts.

LANDSCAPE USES: Said to be the symbol of strength and durability. A hardy shade, street and specimen tree but is quite coarse textured and is rather difficult to transplant when large.

GROWTH HABITS: A medium sized, slow growing deep-rooted, long-lived tree. Drought resistant, hardy, and able to subsist on poor soils. Requires plenty of light.

LEAVES: Alternate, simple, 5 to 9 lobed with rounded lobes, often with a large

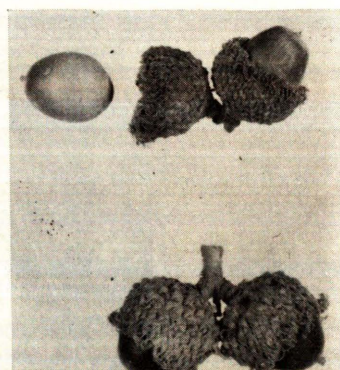
terminal lobe; nearly cut in half by two center indentations; thick, dark green above, paler below.

TWIGS: Yellowish brown, usually pubescent. Conspicuous corky ridges often present after second year.

BARK: Grayish to reddish-brown, flaky, with prominent, more or less vertical ridges.

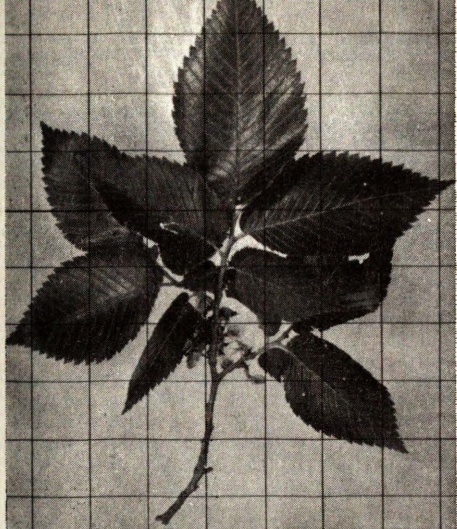
FRUIT: A large, almost round nut (acorn) with a large bur or moss-like cup having a fringed margin; cup encloses half or more of the nut.

NATIVE RANGE: Eastern United States except for the south Atlantic and Gulf Coastal Plains. Also South Dakota.



American Elm

Ulmus americana L.



COMMON USES: Lumber, slack cooperage, wheel hubs, crates, fuel, shelterbelts.

LANDSCAPE USES: Broad-headed, vase-shaped shade tree. Has been called the Queen of the American trees and used extensively. Should not be planted under wires or close to one-story, rambler type houses.

GROWTH HABITS: A large, long-lived tree. Fairly drought resistant and not especially demanding in soil requirements. Stands shade well. Open grown trees have a vase-shaped crown.

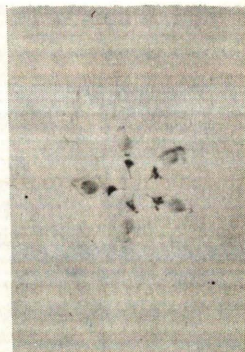
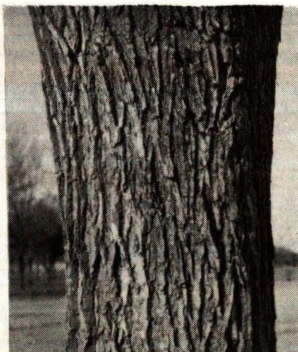
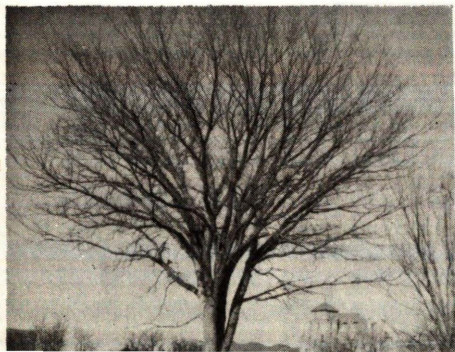
LEAVES: Alternate, simple, oval, coarsely doubly serrate, thick and firm, unequal at the base; dark green and more or less rough above, paler below.

TWIGS: Slender, brown in color, smooth or slightly pubescent. Lateral buds smooth or slightly downy, chestnut-brown. Terminal buds lacking.

BARK: Grayish, and separated into flat-topped ridges by roughly diamond-shaped fissures. A cross section of outer bark shows irregular, corky, buff-colored patches.

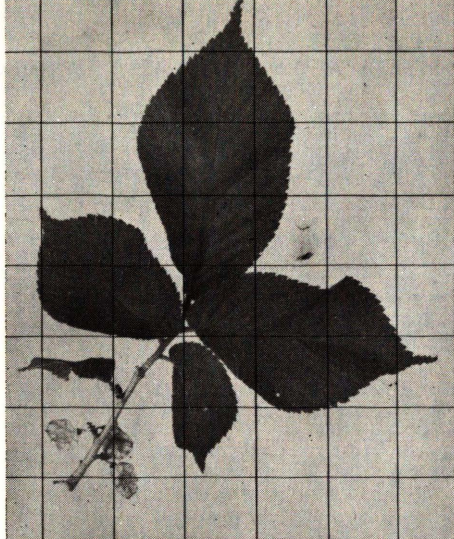
FRUIT: A smooth, oval-shaped samara, laterally winged, with the seed cavity in the center; wing margins fringed with hairs and deeply notched at the terminal end; samaras long-stalked; ripening late spring.

NATIVE RANGE: Eastern States and the Great Plains.



Slippery Elm

Ulmus rubra Muhl.



COMMON USES: Lumber, furniture, slack cooperate, veneer, vehicle parts, sporting goods, fuel, posts. Inner bark medicinal.

LANDSCAPE USES: Shade and lawn tree. Not as attractive as the American elm and apparently not handled by as many nurseries.

GROWTH HABITS: Medium size, with large spreading limbs which form a broad, open, flat-topped crown that is often irregular in outline. Prefers rich, well-drained soils.

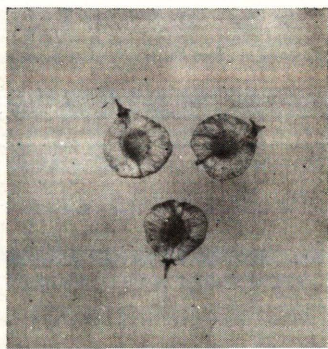
LEAVES: Alternate, simple, oval, coarsely doubly serrate, thick and firm, unequal at the base; dark green and rough (sandpapery) above, paler and rough below.

TWIGS: Stouter than American elm, ashy gray to brownish gray, covered with short, bristly hairs.

BARK: Dark reddish-brown. Cross section does not show buff-colored, corky patches as in American Elm. Ridges in bark more nearly parallel than American elm, often coarsely scaly or with vertical plates.

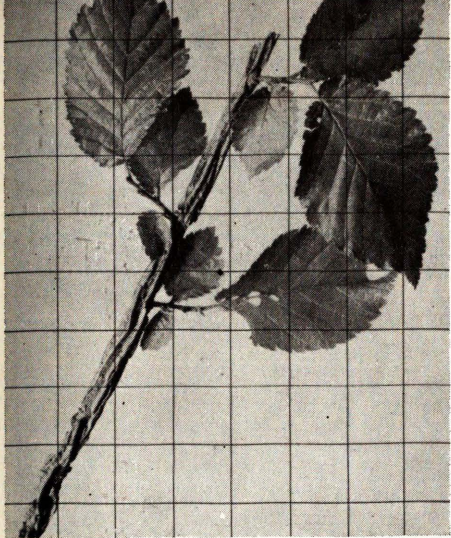
FRUIT: A rounded samara, laterally winged, glabrous except brown-wooly over seed cavity in the center; wings and margins entire and not markedly notched at end; samaras short stalked and clustered; ripening in late spring.

NATIVE RANGE: Eastern United States; also South Dakota.



Rock Elm (Cork Elm)

Ulmus thomasii Sarg.



COMMON USES: Parts of agricultural implements, wheel hubs, chair frames.

LANDSCAPE USES: A coarse textured tree which has not received much attention for landscape uses.

GROWTH HABITS: Medium size, with main trunk extending unbranched for some distance into the oblong shaped crown. Slow in growth and requires considerable light.

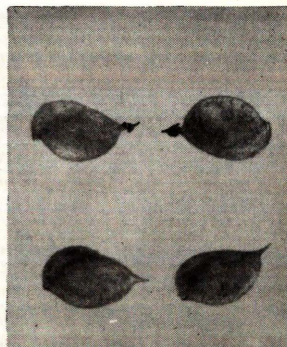
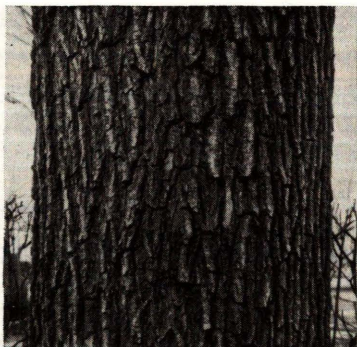
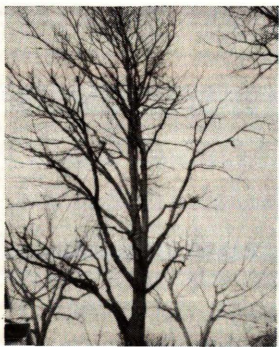
LEAVES: Alternate, simple, oval, coarsely doubly serrate, thick and firm, nearly equal at base; dark green and smooth above, paler and somewhat hairy below.

TWIGS: Light reddish-brown, smooth or slightly hairy. Conspicuous corky ridges usually appear after a year or two.

BARK: Similar to American elm, but often darker and more deeply and irregularly furrowed.

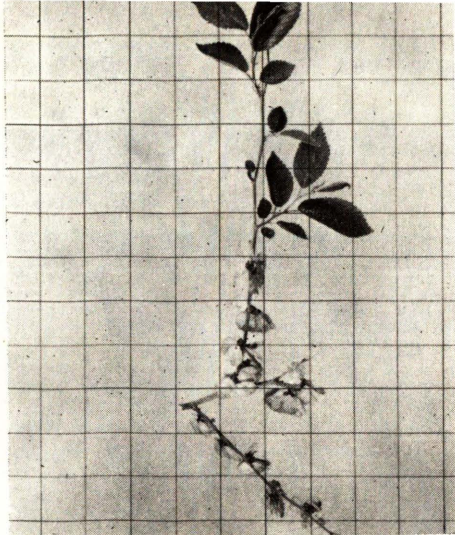
FRUIT: An oval to egg-shaped samara, laterally winged, pubescent on all surfaces, and wing margins hairy fringed; seed cavity not distinct; samaras on long slender stalks attached to a central stem; ripening in late spring.

NATIVE RANGE: Northern half of eastern United States.



Siberian Elm

Ulmus pumila L.



COMMON USES: Shelterbelts, game cover.

LANDSCAPE USES: The least attractive of the Elms. Might be used where quick, temporary shade or screen effects are needed. Plant a more desirable tree at the right location in the home grounds and remove the temporary tree in a few years.

GROWTH HABITS: Medium sized, fast growing, short-lived tree. Drought resistant and not demanding in soil requirements. Winter injury common in trees produced from southern seed. Stands shade well.

LEAVES: Alternate, simple, mostly oval, mostly singly serrate, firm, nearly equal at base; dark green and smooth above, glabrous beneath.

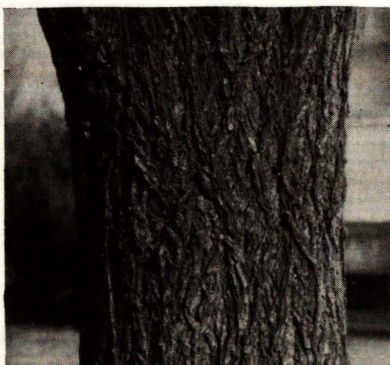
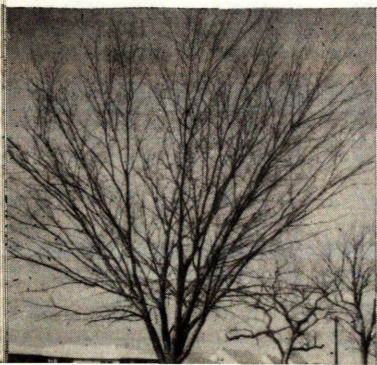
TWIGS: Slender, with branchlets feather shaped and fine textured. Buds alternate, round and small.

BARK: Grayish green and smooth on young trees; dark and furrowed on older trees.

FRUIT: A rounded and glabrous samara, laterally winged; seed cavity distinct and centrally located; samaras short-stalked and borne in clusters; ripening in late spring.

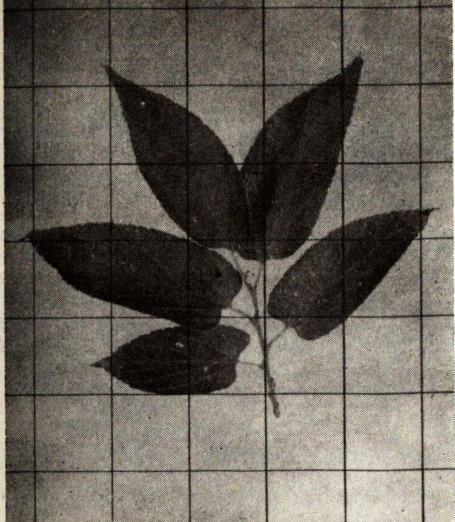
NATIVE RANGE: Turkestan, eastern Siberia, northern China.

NOTE: This tree is commonly called "Chinese Elm." The name Chinese elm is the accepted common name for *Ulmus parvifolia* which is not hardy in South Dakota.)



Hackberry

Celtis occidentalis L.



COMMON USES: Shelterbelts, bird food, fuel.

LANDSCAPE USES: A valuable ornamental tree for street and shade purposes. Insect damage to leaves and twigs might be objectionable; however, desirable features offset this weakness.

GROWTH HABITS: Medium sized, slow growing, long-lived tree. Adapted to a wide variety of soils and fairly drought resistant. Stands shade well. Young trees subject to winter injury but become more hardy with age.

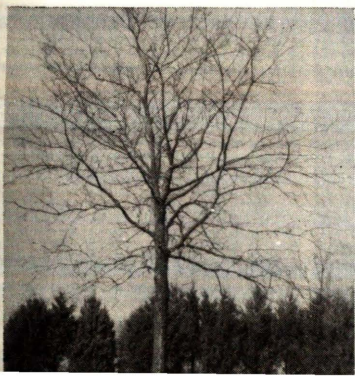
LEAVES: Alternate, simple, ovate to ovate-lance-shaped, coarsely serrate, rather thin; dull green above, paler below; lateral veins not distinctly parallel.

TWIGS: Slender, zigzag, reddish-brown, quite often hairy. Buds small, light brown, close to twig.

BARK: Grayish brown to silvery gray, with corky warts or ridges.

FRUIT: A spherical drupe, purplish in color; pit with a net-like surface.

NATIVE RANGE: Eastern United States; also South Dakota.



Russian Mulberry

Morus alba var. *tatarica* (L.) Ser.

White Mulberry

Morus alba L.

Red Mulberry

Morus rubra L.

COMMON USES: Russian Mulberry: Shelterbelts, fence posts, fuel, wildlife and silkworm food. White Mulberry: Human, wildlife and silkworm food; furniture, turnery, boats. Red Mulberry: Fence posts, boat building; human and wildlife food.

LANDSCAPE USES: No home ground landscape value. Could be used in parks where the fruit would attract birds and add to the interest of the area.

GROWTH HABITS: Small, shrubby fast growing, short-lived trees. Subject to winter injury. Stand shade well.

LEAVES: Alternate, simple, somewhat rounded, coarsely serrate, unlobed or 1 to 3 lobed, thin, with three prominent veins, with milky sap.

TWIGS: Brownish-yellow. Buds alternate, small, closely appressed to stem.

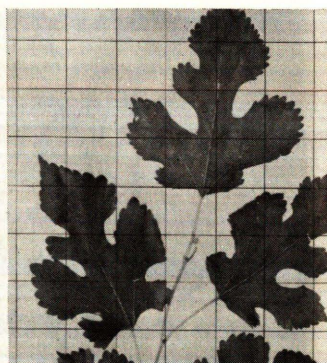
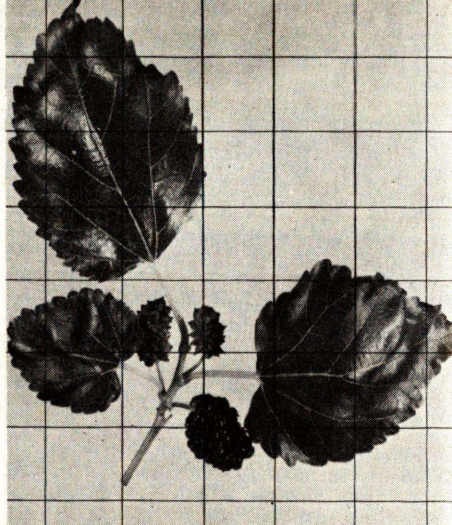
BARK: Light-brown to dark reddish-brown and furrowed into ridges.

FRUIT: A multiple, fleshy fruit (blackberry-like), made up of many individual drupes compacted together in an oblong-shaped fruit; color varies from white to red or purple, depending on species. Some trees have only male flowers and do not bear fruit.

NATIVE RANGE: Russian Mulberry—China (widely planted in Europe and United States).

White Mulberry—China (widely planted in Europe and United States).

Red Mulberry—Eastern United States including South Dakota.





American Sycamore

Platanus occidentalis L.

COMMON USES: Furniture, interior finishing, lumber, fuel, tobacco boxes, butchers blocks, bird food.

LANDSCAPE USES: Strong, attractive shade tree. Not many in South Dakota but is a highly prized specimen where it becomes established.

GROWTH HABITS: Large, moderately fast growing, long-lived tree. Prefers plenty of light and moisture.

LEAVES: Alternate, simple, broadly ovate to rounded, 3 to 5 lobed, maple-like, thin and firm; bright green above, paler below.

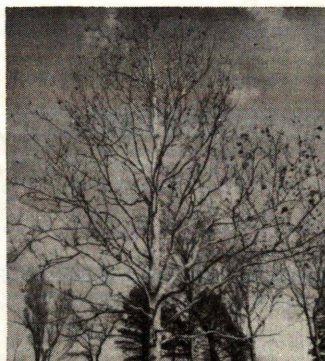
TWIGS: Conspicuously zigzag; slender,

dark orange-brown; leaf scars nearly surround the resinous buds.

BARK: Creamy white on young branches, soon turning brown. Bark on older trunks mottled (brown and white) by shedding of outer bark exposing the lighter layers beneath.

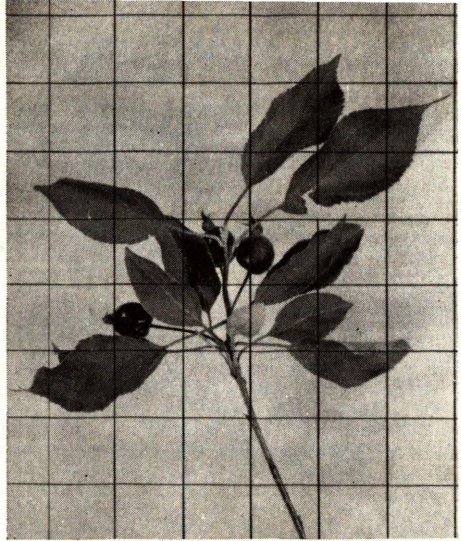
FRUIT: A multiple, spherical fruit, made up of many individual fruits (called achenes), closely compacted together, resembling a brown ball. This species has been named "buttonwood" and "buttonball" because of the shape of the fruit.

NATIVE RANGE: Eastern United States.



Crab Apple

Malus spp.



COMMON USES: Shelterbelts, wildlife food, human food.

LANDSCAPE USES: The different named types vary in shape and size, color of flower and foliage and size and color of fruit. Used as a street tree under wires, lawn and accent planting and often as a patio tree. Beautiful spring color and most attractive again in fall with small decorative fruit. One of the best small trees for South Dakota.

GROWTH HABITS: Generally small, round-headed trees adapted to a wide variety of soil and climatic conditions.

LEAVES: Alternate, simple, more or less

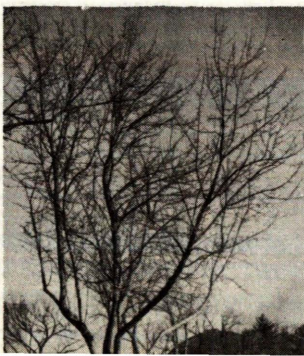
ovate to oval, finely serrate to irregularly toothed or lobed; usually dark or olive-green above, paler beneath.

TWIGS: Twigs and buds often covered with fine, soft, white hairs.

BARK: Ridged to scaly; dark gray or reddish gray.

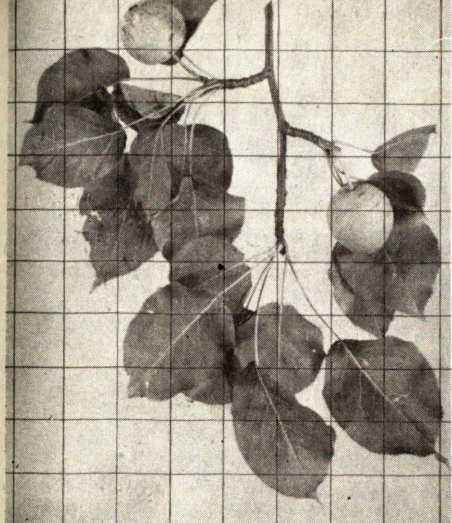
FRUIT: A small, spherical pome, usually not more than 1 inch in diameter and often smaller; varying in color when ripe from greenish to yellow or red.

NATIVE RANGE: Several species including two native to eastern United States and one species native to Siberia southward to northern China and the Himalayas.



Harbin Pear

Pyrus ussuriensis Maxim.



COMMON USES: Shelterbelts.

LANDSCAPE USES: Abundance of poor quality fruit in fall makes this a rather dirty tree; however it is attractive in spring and might be used in parks and public grounds or as an espalier.

GROWTH HABITS: Small bushy, slow-growing, hardy tree. Not demanding in soil or moisture requirements, but does not thrive on poorly drained sites.

LEAVES: Alternate, simple, broadly

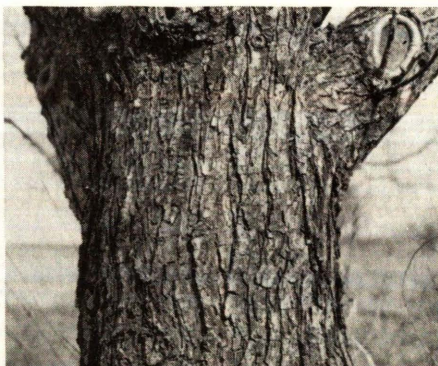
ovate, serrate with the teeth usually bristle-tipped; light green and glabrous on both surfaces.

TWIGS: Often armed with thorns. Smooth, yellow-gray to purple-brown.

BARK: Dark gray, rough, furrowed.

FRUIT: A small, rounded, greenish-yellow pome, usually gritty and not desirable for eating.

NATIVE RANGE: Northeast Asia.



European Mountain-ash

Sorbus aucuparia L.

American Mountain-ash

Sorbus americana Marsh.



COMMON USES: European Mountain-ash: Wildlife food, preserves, tool handles. American Mountain-ash: Wildlife food; bark and berries have some medicinal value.

LANDSCAPE USES: Graceful open-headed trees with numerous named varieties. Used as a lawn tree and for accent and specimen purposes. Birds are fond of the very attractive fruit.

GROWTH HABITS: European Mountain-ash: Small to medium fairly fast growing tree. American Mountain-ash: Tall shrub or small tree. Prefers cool slopes and plenty of moisture.

LEAVES: Alternate, pinnately com-

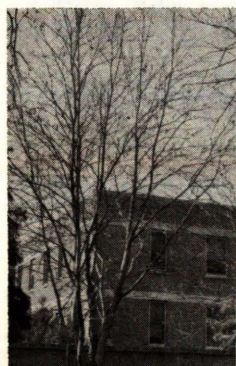
pound, with 9 to 17 leaflets; the leaflets oblong to oblong-lance-shaped, serrate, light to dull green above, paler beneath.

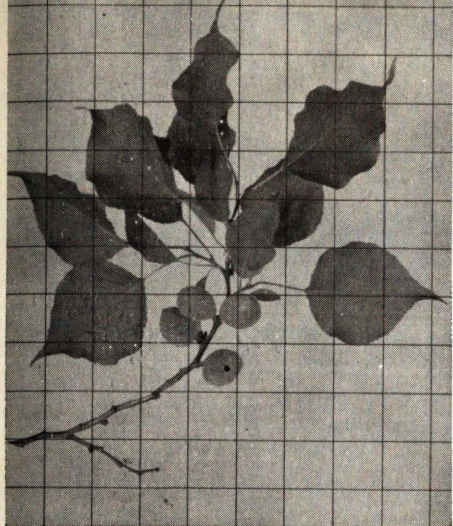
TWIGS: Grayish brown, pubescent.

BARK: Smooth, gray.

FRUIT: A small, rounded, berry-like pome, $\frac{1}{4}$ to $\frac{1}{2}$ inch in diameter, bright orange-red; borne in large, dense clusters at the terminal ends of the branches; often persistent into winter.

NATIVE RANGE: European Mountain-ash—Europe to western Asia and Siberia. American Mountain-ash (and varieties)—Canada, northern half of the United States.





Apricot

Prunus armeniaca var.
mandshurica Maxim.

COMMON USES: Shelterbelts, human food, wildlife food.

LANDSCAPE USES: With proper care they become handsome specimens and may be used as a novelty or for accent. Bloom early in spring and the blossoms are frequently damaged by frost. Fruit might become an attraction for flies in fall if not used or cleaned up.

GROWTH HABITS: Small, drought resistant tree. Not demanding in soil requirements, but susceptible to alkali. Blooms early and frost often destroys fruit crop.

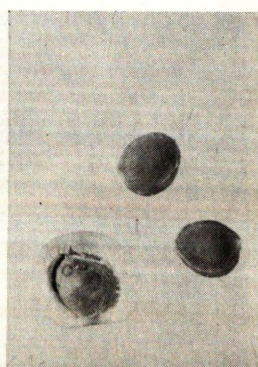
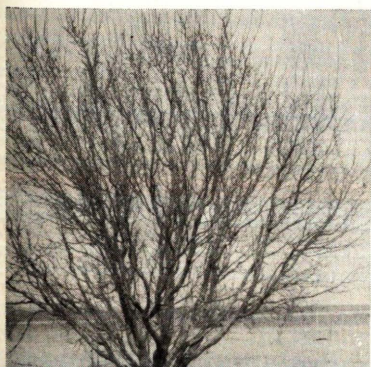
LEAVES: Alternate, simple, oval to ovate, serrate; light green on both surfaces.

TWIGS: Brownish, smooth.

BARK: Reddish.

FRUIT: A small, rounded, peach-like drupe, yellowish with a pubescent skin; the fleshy portion variable in thickness and sometimes leathery and scarcely edible.

NATIVE RANGE: Eastern Siberia, Manchuria, Korea and North China.



Black Cherry

Prunus serotina Ehrh.



COMMON USES: Shelterbelts, wildlife food, furniture, finishing material, backing for electro typing.

LANDSCAPE USES: No particular landscape uses.

GROWTH HABITS: Small to medium size. Prefers moist, well drained, rich soils and makes rapid growth under such conditions. Not completely hardy except in southeastern South Dakota. Endures moderate shade.

LEAVES: Alternate, simple, oval to oblong-lance shaped, finely serrate with incurved teeth; dark green and shiny above, paler and with reddish-brown

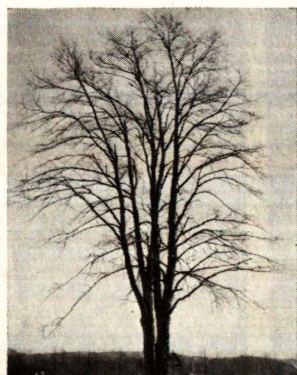
hairs along midrib below; usually two glands on petiole.

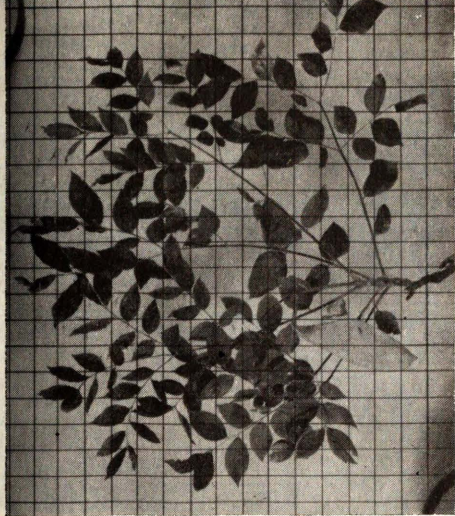
TWIGS: Reddish-brown smooth, thickly spotted with round white dots. Buds conical, pointed, with smooth, shining, reddish brown scales.

BARK: Smooth, dark red-brown, with conspicuous horizontal, pale lenticils or breathing pores on young trees. Broken into irregular, easily peeled, scaly plates on older trees.

FRUIT: A small, spherical drupe, nearly black when ripe, borne in elongated clusters similar to chokecherry; fruit is edible.

NATIVE RANGE: Eastern United States.





Kentucky Coffeetree

Gymnocladus dioica (L.) Koch

COMMON USES: Timber, fence posts, game food. Seeds once used as a coffee substitute by early settlers in Kentucky.

LANDSCAPE USES: In limited use as a shade tree. The small leaflets give a medium texture appearance during the summer but the stout, twigless branches and the ridged scaly bark are very coarse textured in appearance in winter.

GROWTH HABITS: Medium to large tree. Heavy, ascending branches form a narrow, irregularly rounded crown. Tolerant of shade and quite drought resistant. Hardy in southeastern South Dakota.

LEAVES: Alternate, doubly pinnately compound, with 40 or more leaflets and

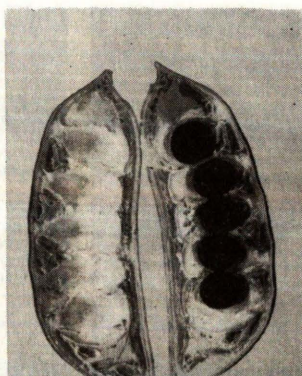
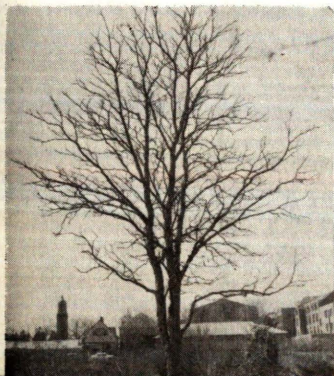
1 to 3 feet long; leaflets ovate, entire, dark green above, paler below.

TWIGS: Thick, blunt-tipped, with conspicuous leaf scars. Large orange colored pith.

BARK: Dark gray to brown, rough and deeply fissured.

FRUIT: A large, broad, stubby, somewhat woody, red-brown pod containing sugary pulp between the 5 to 9 seeds; seeds are large, brown, rounded and have a very hard seed coat. Some trees have only male flowers and bear no fruit.

NATIVE RANGE: Central midwest states from Pennsylvania to eastern Kansas; also southeastern South Dakota.



Honeylocust

Gleditsia triacanthos L.



COMMON USES: Game and livestock food, posts, poles, ties, honey plant, fuel, lumber, rubber processing, shelterbelts.

LANDSCAPE USES: Very good shade, street or lawn tree of medium size and symmetrical pattern. Grass grows better under the Honeylocust than under some with coarser leaves. Varieties selected for special coloring and thornless and podless characteristics are available and much in demand.

GROWTH HABITS: Medium-sized, fast-growing, drought-resistant tree. Adapted to a wide variety of soils and tolerates alkali well. Needs plenty of light. Young trees subject to winter injury in northern South Dakota.

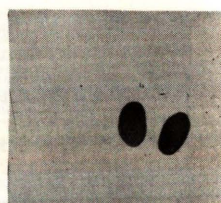
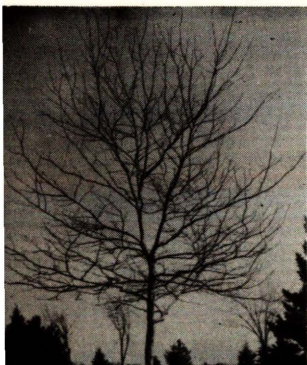
LEAVES: Alternate, singly or doubly pinnately compound, 6 to 12 inches long; leaflets small, oblong-lance-shaped, very slightly toothed; shiny dark-green above, yellow-green below.

TWIGS: Zigzag, stout to slender, greenish-brown to reddish-brown, shiny. Thorns 3-branched (rarely simple or 1-branched), 2" to 3" long or thornless.

BARK: Smooth and grayish-brown on young trunks. Grayish-brown to nearly black and divided into narrow ridges on older trunks. Relatively large, light colored, lenticels are conspicuous on the smoother portions.

FRUIT: A large, long, strap-shaped, reddish-brown pod, usually twisted; containing up to 14 dark brown, oval and flattened seeds. The honey-like fluid in green pods gives this tree its name. Some trees have only male flowers and bear no fruit.

NATIVE RANGE: Eastern United States except for New England and the south Atlantic and Gulf Coastal Plains. Also South Dakota.



Black Locust

Robinia pseudoacacia L.



COMMON USES: Posts, poles, erosion-control, soil improvement, shelterbelts.

LANDSCAPE USES: Can be used as a shade or street tree and is especially good for erosion control because of wide-spreading fibrous roots. The flowers are very fragrant and attractive.

GROWTH HABITS: Medium tall, fast growing. Adapted to a wide variety of soils, but sensitive to alkali. Stands shade well; suckers profusely. Subject to winter injury in South Dakota.

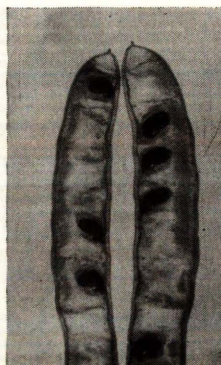
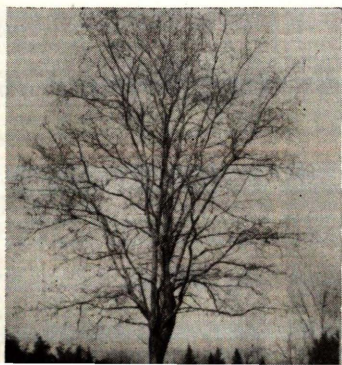
LEAVES: Alternate, pinnately compound, 8 to 14 inches long with 7 to 21 leaflets; the leaflets ovate-oblong, entire; dark blue-green above, paler below.

TWIGS: Somewhat zigzag, moderately stout, reddish-brown, usually with a pair of spines at base of petiole. Terminal buds lacking; lateral buds naked.

BARK: Dark, reddish-brown to nearly black; deeply furrowed and rounded into scaly ridges.

FRUIT: A flat, smooth, dark brown, oblong-linear pod, containing small, reddish-brown seeds.

NATIVE RANGE: Middle eastern states southwestward to Oklahoma and Texas (widely planted in eastern United States).

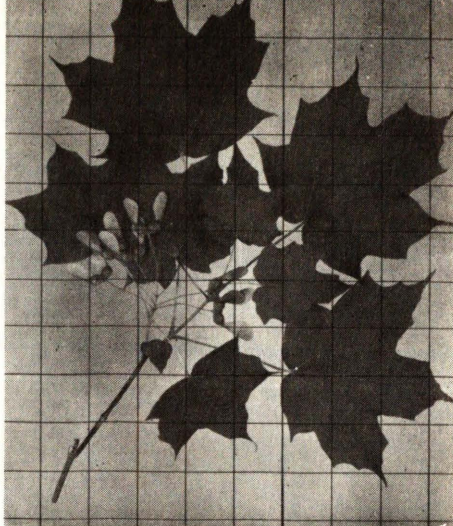


Sugar Maple

Acer saccharum Marsh.

Black Maple

Acer nigrum Michx.



Common uses: Lumber, veneer furniture, and specialty products; cooperage and handle stock; maple sirup.

LANDSCAPE USES: Dense regular habit and handsome autumn foliage make these popular shade trees where they can be grown. Grow to large size and should be used only where there is sufficient room for proper development. Do not plant under power lines.

GROWTH HABITS: Large shade enduring trees which prefer fertile, moist, well-drained soils. Open grown trees have a short trunk and a compact, globular crown.

LEAVES: Simple, opposite, rounded in outline, palmately 3 to 5 lobed, lobe margins entire; bright green above, paler below.

TWIGS: Sugar maple: slender, shiny.

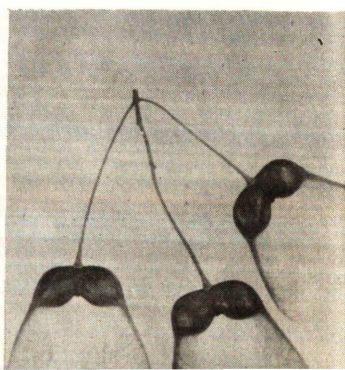
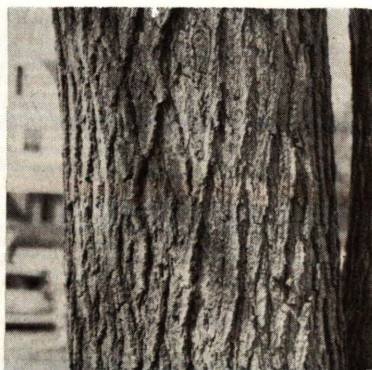
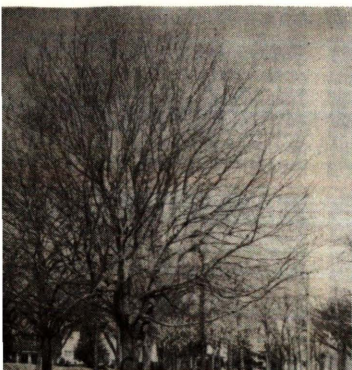
and brownish with light-colored lenticels; terminal buds $\frac{1}{4}$ to $\frac{3}{8}$ inches long, sharp pointed; lateral buds smaller and opposite one another. Black Maple: Twigs commonly stouter than Sugar maple and with conspicuous warty lenticels, and larger more hairy buds.

BARK: Smooth and silvery on young trees, becoming darker, more broken and deeply grooved on older trees. Conspicuous shreddy scales often develop.

FRUIT: A U-shaped, double samara, with the wings nearly parallel; red-brown, glabrous; ripening in the autumn.

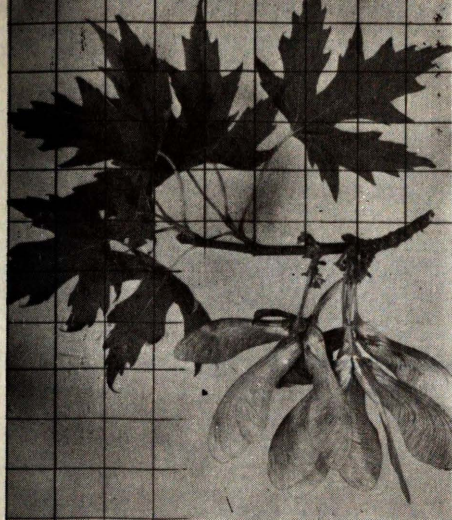
NATIVE RANGE: Sugar Maple—Eastern United States except for the south Atlantic and Gulf Coastal Plains.

Black Maple — Northeastern United States, Ohio and upper Mississippi River Valleys; also South Dakota.



Silver Maple

Acer saccharinum L.



COMMON USES: Shelterbelts; stream-bank protection; sometimes for lumber and furniture.

LANDSCAPE USES: Oval-topped shade or lawn tree which is also good at water edge. The foliage has a delicate, sparkling quality and turns yellow in fall. The branches are brittle and break rather easily.

GROWTH HABITS: Large, fast growing. Shallow, spreading root system which requires plenty of moisture. Subject to winter injury under dryland conditions. Endures moderate shade.

LEAVES: Opposite, simple, rounded in outline, deeply five lobed, the lobe mar-

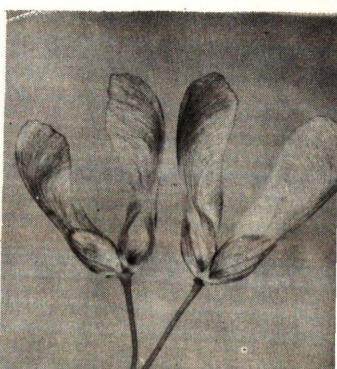
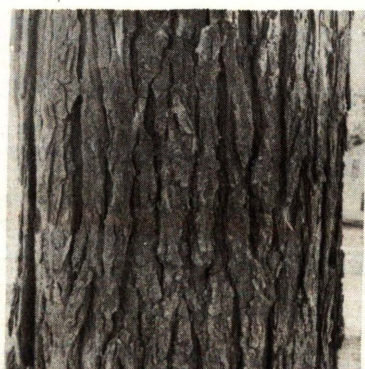
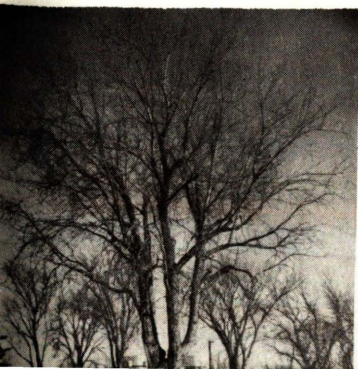
gins sharply serrate; light green above, silvery white below.

TWIGS: Green or reddish-brown shiny, giving off a rank odor when broken. Terminal buds blunt with 2 to 4 pairs of reddish-brown scales.

BARK: Thin, gray and broken into broad, flaky scales on old trees. Smooth, gray or reddish-gray on young trees.

FRUIT: A double samara, with the wings widely divergent; greenish, glabrous; ripening in late spring and germinating immediately.

NATIVE RANGE: Eastern United States except for Florida peninsula. Also South Dakota.



Boxelder

Acer negundo L.



COMMON USES: Shelterbelts, erosion control.

LANDSCAPE USES: Best used for temporary, quick effects. The brittle branches, the abundant seed crops and the Boxelder bug nuisance are notable faults of the tree.

GROWTH HABITS: Small to medium sized fast growing tree. Prefers moist bottomlands but is able to survive on difficult soils. Stands shade well. Bushy, spreading crown; shallow root system.

LEAVES: Opposite, compound, with 3 (rarely 5 to 7) leaflets; the leaflets notched or lobed, ovate to lance-shaped;

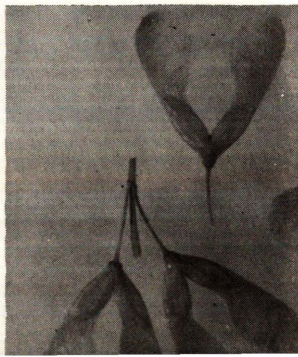
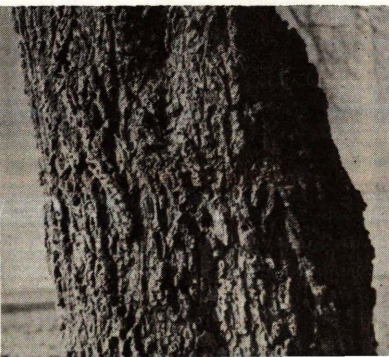
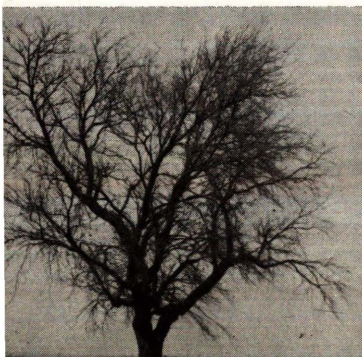
dark green above and lighter green below.

TWIGS: Stout, green to purplish green. Terminal buds egg-shaped; leaf scars V-shaped.

BARK: Dark gray or brown, deeply divided into broad, rounded ridges.

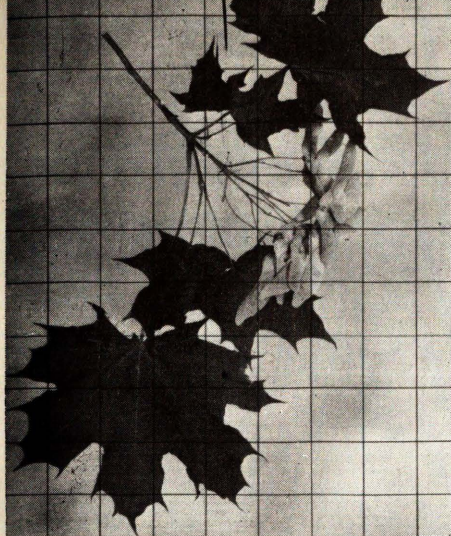
FRUIT: A double samara, with widely divergent wings; straw colored; borne in drooping clusters which mature in the autumn. Male and female trees, only the latter bear fruit.

NATIVE RANGE: United States except for Pacific States.



Norway Maple

Acer platanoides L.



COMMON USES: Ornamental planting.

LANDSCAPE USES: Used for shade, lawn and specimen planting. The group is especially noted for brilliant foliage displays. Trunk should be protected from the direct rays of the sun for the first few years after planting; corrective pruning is necessary.

GROWTH HABITS: Small to medium sized, roundheaded trees.

LEAVES: Opposite, simple, 5 (rarely 7) lobed, the lobes somewhat indented; dark green tinged with red (to red

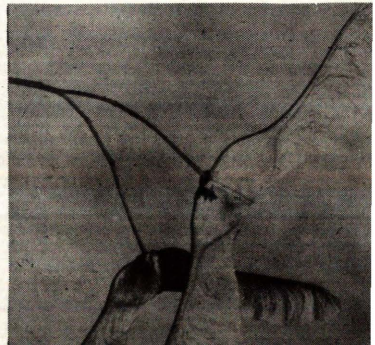
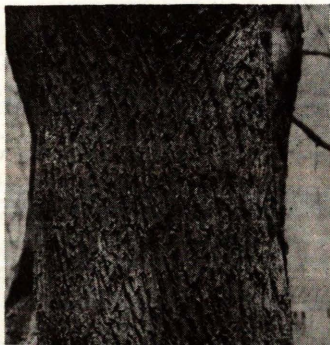
or crimson in some varieties) above, bright green below; petiole with milky juice.

TWIGS: Gray, grayish brown or dull red-brown, slightly fissured.

BARK: Greenish to light brown, shiny.

FRUIT: A double samara with very widely divergent wings; greenish-yellow; seed cavities at basal end are much flattened; matures in autumn.

NATIVE RANGE: Europe and the Caucasus.



Amur Maple

Acer ginnala Maxim.



COMMON USES: Shelterbelts.

LANDSCAPE USES: Valued for its neat habit and attractive appearance. Useful as a specimen, accent or patio planting. Has red foliage in fall.

GROWTH HABITS: Tall shrub to small tree. Not well adapted to dry land.

LEAVES: Opposite, simple, mostly 3 lobed, longer than wide, the middle lobe much longer than the lateral ones;

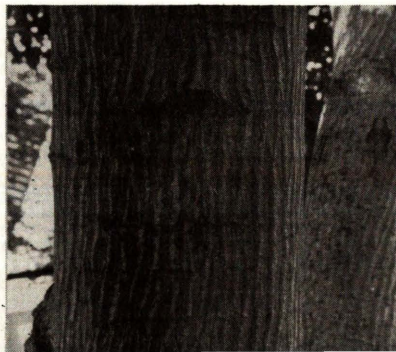
doubly serrate; dark green and shiny above, light green beneath.

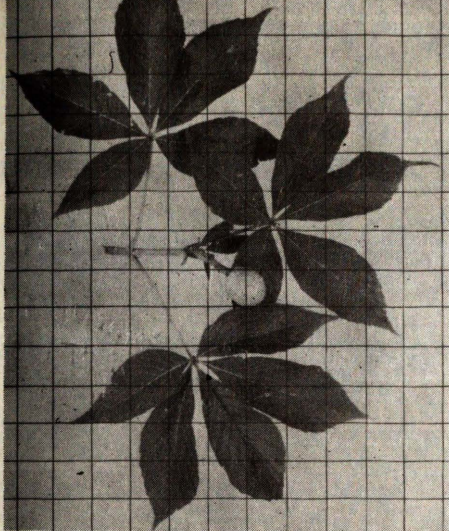
TWIGS: Slender, yellowish-brown to red-brown, somewhat angled, smooth.

BARK: Brownish-gray.

FRUIT: A small, double samara with slightly divergent wings; somewhat reddish tinged; matures in autumn.

NATIVE RANGE: Central and northern China, Manchuria and Japan.





Ohio Buckeye

Aesculus glabra Willd.

Horsechestnut

Aesculus hippocastanum L.

COMMON USES: Artificial limbs, wood-
enware, wood pulp, lumber, game, food.

LANDSCAPE USES: Characteristics rated
from good to objectionable by different
appraisers. Good for shade, street and
lawn uses in South Dakota, but lose
their foliage early and the large flowers
and fruit might be considered messy.

GROWTH HABITS: Small to medium size
with a broad rounded crown. Prefers
moist, rich soil. Fairly rapid growth.

LEAVES: Opposite, palmately com-
pound with 5 to 7 (rarely 9) serrated
leaflets, sharp pointed, ovate with the
broader end opposite the end attached
to the petiole.

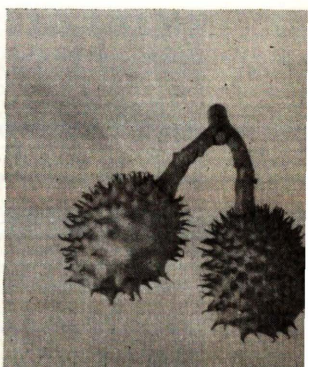
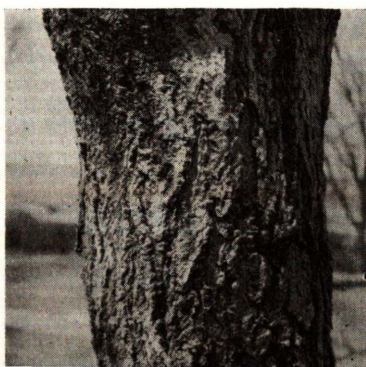
TWIGS: Stout, with large shiny brown
buds.

BARK: Ashy gray, densely furrowed and
broken into large, scaly flakes.

FRUIT: A large, leathery capsule, with a
spiny or warty covered, light gray to
tan husk, that divides into two or three
parts to expose the large, rounded, shiny
brown seeds within; the prominent
light-colored spot or eye on the seed
gives the name to these trees.

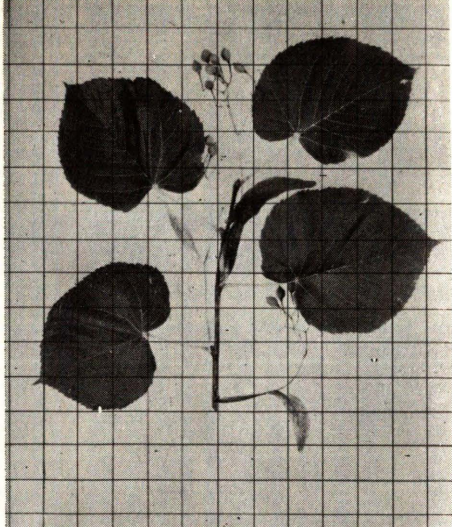
NATIVE RANGE: Ohio Buckeye: East cen-
tral United States west to Nebraska and
Oklahoma.

Horsechestnut: Balkan peninsula.



American Basswood

Tilia americana L.



COMMON USES: Lumber, wildlife food and cover, bee pasture.

LANDSCAPE USES: A compact symmetrical tree for shade, street or specimen planting.

GROWTH HABITS: Large, fairly fast growing tree, with a long cylindrical trunk. Deep, wide-spreading root system. Prefers moist, rich soil. Not completely hardy in northern and western South Dakota.

LEAVES: Alternate, simple, rounded or heart-shaped, unequal at the base,

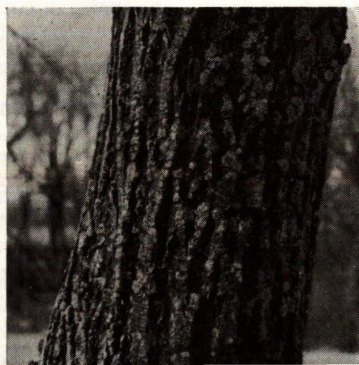
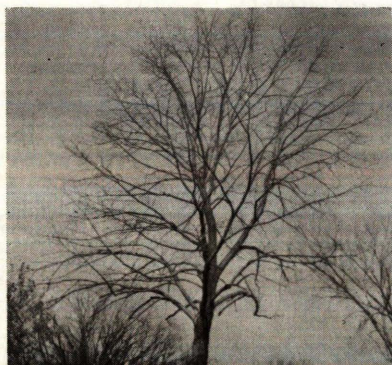
coarsely serrate; dull dark green above, light green beneath.

TWIGS: Green to red; terminal buds lacking; leaf scars half elliptical.

BARK: Green to grayish-green on young trees, later breaking up into narrow ridges, somewhat scaly on the surface.

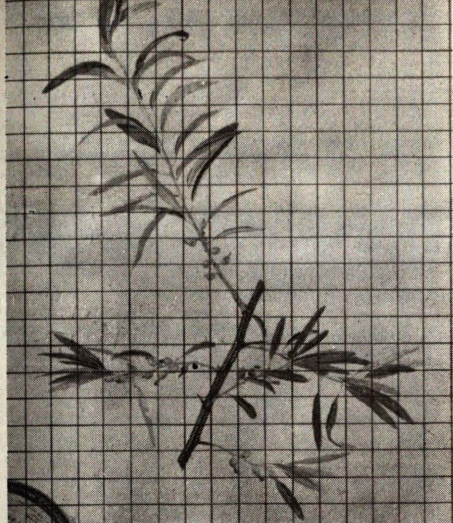
FRUIT: A small, gray, spherical, wooly, nutlike drupe; borne in clusters attached to a long stalk which has a characteristic, basal, leaf-like, membranous bract.

NATIVE RANGE: Northern half of eastern United States. Also South Dakota.



Russian-olive

Elaeagnus angustifolia L.



COMMON USES: Shelterbelts, winter bird food.

LANDSCAPE USES: Can be used in the landscape as a specimen or patio planting or as a background for darker shrubs. Has a rapid rate of growth, fragrant small flowers and interesting bark and leaf color.

GROWTH HABITS: Small tree, usually much branched near the ground. Prefers plenty of light. Tolerant of alkali and not demanding in soil or moisture requirements.

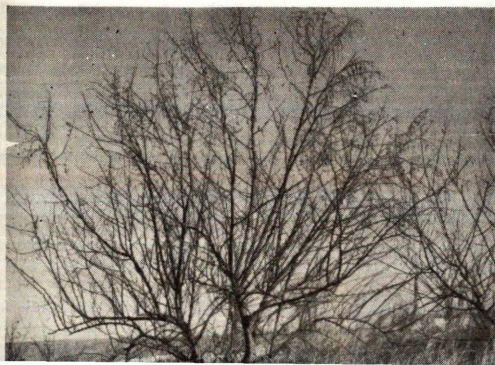
LEAVES: Alternate, simple, lance-shaped to linear; dull green above, silvery beneath.

TWIGS: Smooth and olive-colored; young shoots silvery-gray and densely covered with hairs. Often thorny.

BARK: Furrowed, gray.

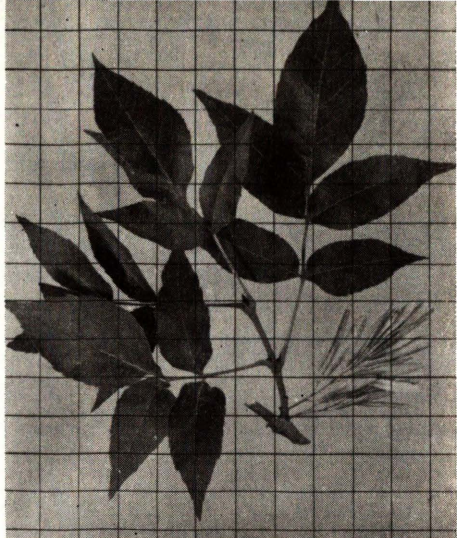
FRUIT: A yellow, scaly-covered, drupe-like fruit; the outer layer fleshy or mealy; the oval seed enclosed within being marked by fine longitudinal lines.

NATIVE RANGE: Southern Europe to western Asia and western Himalayas.



Green Ash

Fraxinus pennsylvanica Marsh.



COMMON USES: Handle stock, furniture, finishing, cooperage, shelterbelts.

LANDSCAPE USES: Valuable lawn and street tree for South Dakota. Maintains good shape without much pruning, and transplants readily.

GROWTH HABITS: Medium tall, slow growing, long-lived tree. Winter hardy and drouth resistant. Needs plenty of light for best development. Alkali resistant.

LEAVES: Opposite, pinnately compound, with 5 to 9 leaflets; the leaflets oblong-lance-shaped to oval, sharply serrate to finely toothed; bright green

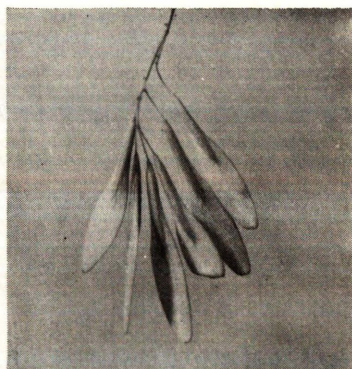
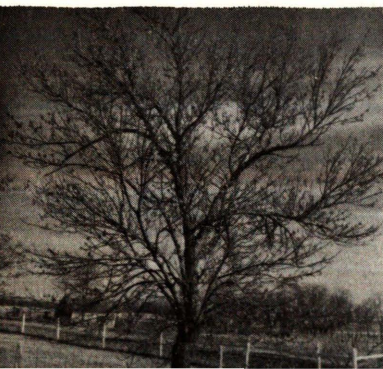
on both surfaces or sometimes paler beneath.

TWIGS: Stout; terminal buds pointed.

BARK: Ashy gray furrowed into close diamond shaped areas separated by narrow interlacing ridges.

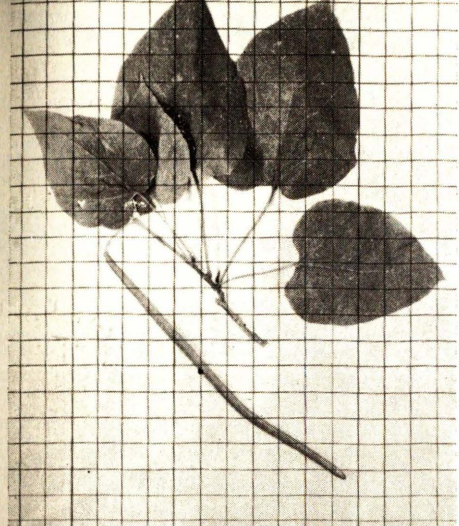
FRUIT: A narrow, terminally winged samara, with the wing extending along the side of the rounded seed cavity about halfway; straw colored and often persistent over winter. Male and female trees, only the latter produce fruit.

NATIVE RANGE: Eastern United States and Great Plains.



Northern Catalpa

Catalpa speciosa Warder



COMMON USES: Fence posts and rails, poles; occasionally furniture and interior trim; shelterbelts.

LANDSCAPE USES: Coarse textured and messy. Plant only where ample space is available.

GROWTH HABITS: Medium to large tree. Prefers deep, moist, fertile soil. Stands shade fairly well. Sometimes freezes back.

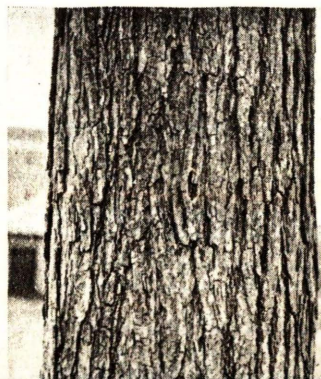
LEAVES: Opposite or whorled, simple, large, heart-shaped, entire and thick; dark green above and paler and hairy below; petioles long.


TWIGS: Usually stout; terminal bud lacking. Large conspicuous lenticels and large leaf scars.

BARK: Light grayish-brown, broken into longitudinal, scaly, flat ridges.

FRUIT: A thin, very long, rounded 2-celled, thick-walled capsule, closely resembling a pod; containing many, flattened seeds, each having a pair of fringed wings.

NATIVE RANGE: Illinois and Indiana south to northern Arkansas and Mississippi (naturalized throughout eastern United States).





The Keep South Dakota Green Association (KSDGA) presented the Nation with National Christmas trees in 1955 and 1970. The trees grew in the Black Hills of South Dakota. Through the efforts of members of the KSDGA, the Nation was made aware of the beautiful trees that can be grown in a prairie state.

At a pre-determined time, the President of the United States pushes a button that lights the decorations on the National tree in Washington, D.C., and it becomes the center of the annual Pageant of Peace ceremonies.

KSDGA also took part in the Centennial Observance of Arbor Day in 1972. Hundreds of spruce were planted through the efforts of the Centennial Observance.

KEEP SOUTH DAKOTA GREEN

*prevent range
and forest fires*

