Northern red oak is the most common oak species in Maine. It occurs state-wide but is most abundant in the southern half of the state. Best growth is attained on rich upland soils. It grows to a height of 60–80 feet and a diameter of 2–3 feet, forming either a narrow or broad head. The branches are stout, horizontal or upright.

The bark on the trunks of old trees is dark gray or nearly black, and is divided into rounded ridges. On younger trees and branches, it is smooth and greenish-brown or gray. The inner bark is reddish. The leaves vary in shape, are 5–8 inches long, alternate, are dull, dark green above...
and yellow-green below, and have bristle-tipped lobes. Some dead leaves may remained attached in winter.

The flowers appear in May, when the leaves are only partly grown. The fruit ripens the second year. The acorn is broad, large, 1–1¼ inches long, and up to four times longer than the shallow cup. Red oak acorns are a major source of food for many species of wildlife. The inside lining of the acorn is densely hairy. Its tannic acid content makes it bitter. The twigs are smooth, greenish to reddish-brown, and have a star-shaped pith.

The wood is hard, strong and relatively heavy. It is used for furniture, interior finish, planks and frames, lobster trap runners, flooring, piling, cross-ties, timbers, pallets, dowels and firewood. Historically, it was used for shipbuilding (ribs, beams and timbers), weir poles (some 60 feet long), as kiln wood and fence posts (when split).