PACIFIC SOUTHWEST
FOREST & RANGE EXPERIMENT STATION
1967
P.O. Box 245 Berkeley, California 94701

U. S. FOREST SERVICE
RESEARCH NOTE PSW- 134

California Black Oak . . .

a general bibliography on an increasingly valuable species

PHILIP M. McDONALD WILLIAM E. SUNDAHL

ABSTRACT: Lists 97 references. Includes most of the available citations on the species, with major emphasis on injurious agents, wood strength, and seasoning characteristics.

RETRIEVAL TERMS: species characteristics, species lists, bibliographic references. Line Project: 1201.

Recently, on the Plumas National Forest in Butte County, California, 200,000 board feet of California black oak (*Quercus kelloggii* Newb.) stumpage were sold at a record price of $4 per thousand board feet. A few years ago these same trees would have been ignored, poisoned, or cut for firewood; now they yield a return to the landowner.

Is the demand for black oak likely to increase? Several factors suggest that it will. The amount of hardwood stock used by woodworking industries in California is no small item--about 60 million board feet annually. More than 10 million feet of this volume is oak--practically all of this amount shipped from the Eastern United States.[1] The diminishing supply of quality eastern stock and the high cost of transporting it to the West Coast are two prime reasons for an increased demand.

Numerous trials by the U.S. Forest Service's Forest Products Laboratory, the University of California Forest Products Laboratory, and private industry have shown that California black oak compares favorably with eastern oaks. The wood has the hardness and finishing characteristics necessary for flooring. Its grain and figure characteristics make it attractive for paneling and furniture, and its strength properties make it suitable for pallets, industrial flooring, and other uses.

Seasoning used to be a problem, but reliable techniques are now readily available.

California black oak ranges from the basin of the Mckenzie River in western Oregon southward through the Coast Ranges and along the western slopes of the Sierra Nevada to the Cuyamaca Mountains in southern California. In a broad sense it is usually found where ponderosa pine (*Pinus ponderosa* Laws.) grows; there it obtains its best growth and form. The supply of merchantable black oak in California is about 1 billion board feet, according to a recent Forest Survey estimate. A 1965 survey listed about 2 million board feet of merchantable black oak in southwestern Oregon.

This note brings together most of the available references on California black oak.

[1] Malcolm, F. B. *California black oak--a utilization study.* U.S. Forest Serv. Forest Prod. Lab. Rep. 2237. 10 pp. 1962.

Index

Bibliography

Baker, Frederick S. (1)
1942. *Reproduction of ponderosa pine at low elevations in the Sierra Nevada.* J. Forestry 40: 401-404.

Barr, Percy M. (2)
1946. *The research program of Blodgett Forest of the University of California.* J.Forestry 44:738-741.

Biswell, H. H. (3)
1961. *Deer damage to pine seedlings and transplants at Hoberg's in the North Coast Range.* Calif. Forestry & Forest Prod. Lab. Rep. 27. 4 pp.

Brown, Leland R., and Eads, C. O. (4)
1965. *A technical study of insects affecting the oak tree in Southern California.* Calif.Agr.Exp.Sta.Bull. 810. 105 pp., illus.

Carson, H. L. (5)
1951. *Breeding sites of Drosophila pseudoobsoura and Drosophila persimilis in the transition zone of the Sierra Nevada.* Evolution 5: 91-96.

Cooper, W. S. (6)
1922. *The broad-sclerophyll vegetation of California--an ecological study of the chaparral and its related communities.* Carnegie Inst. Wash. Publ. 319. 124 pp., illus.

Dayton, W. A. (7)
1931. *Important western browse plants.* U.S. Dep. Agr. Misc. Publ. 101. 213 pp., illus.

Dickinson, F. E. (8)
1958. *Factors contributing to the increased use of West Coast hardwoods.* Proc. Soc. Amer. Foresters 1957: 3 pp.

Dixon, Dorothy. (9)
1961. *These are the champs.* Amer. Forests 67:40-50.

Dixon, J. S. (10)
1934. *A study of the life history and food habits of mule deer in California.* Part II. *Food habits.* Calif. Fish & Game 20(4):315-354.

Doane, R. W., Van Dyke, E. C., Chamberlin, W. J., and Burke, H. E. (11)
1936. *Forest insects.* Ed. 1. 463 pp., illus. New York:McGraw-Hill Book Co., Inc.

Dost, William A., and Maxey, Carl (12)
1964. *Gluing characteristics of some California hardwoods--black oak, chinkapin, madrone, and tanoak.* Calif. Forestry & Forest Prod. 36. 5 pp.

Duncan, C. D. (13)
1922. *North American species of Phylloxera infesting oak and chestnut.* Can. Entomol. 45:267-276.

Edwards, M. B. (14)
1957. *California black oak--its management and economic possibilities.* J. Forestry 55:506-510, illus.

Ellwood, E. L. (15)
1958. *Problems and prospects in drying California hardwoods for high-quality use.* Calif. Forestry & Forest Prod. 8. 5 pp.

Ellwood, E. L. (16)
1959a. *Drying stress patterns in California black oak.* Calif. Forestry & Forest Prod. 9. 6 pp.

Ellwood, E. L. (17)
1959b. *Kiln drying green 4/4 California black oak.* Calif. Forestry & Forest Prod. 17. 8 pp.

Ellwood, E. L., and Ecklund, B.A. (18)
1963a. *The effect of organic liquids on collapse and shrinkage of wood.* I. *Effect of degrees of replacement.* Forest Prod. J. 13(7):291-298.

Ellwood, E. L., and Ecklund, B.A. (19)
1963b. *The effect of organic liquids on collapse and shrinkage of wood.* II. *Effect of drying temperature.* Forest Prod. J. 13(8):350-354.

Ellwood, E. L., and Ecklund, B.A.,and Zavarin, E. (20)
1963. *The effect of organic liquids on collapse and shrinkage of wood.* III. *Chemical influences.* Forest Prod. J. 13(9):401-404.

Elwes, Henry J., and Augustine, Henry. (21)
1910. *The trees of Great Britain and Ireland.* Vol. 5, pp. 1001-1333. (Privately printed.) Edinburgh.

Espenas, L. D. (22)
1951. *The seasoning of Oregon hardwoods.* Oreg. Forest Prod. Lab. Inform. Circ. 6. 35 pp., illus.

Gratkowski, H. (23)
1961. *Brush problems in southwestern Oregon.* U.S. Forest Serv. Pacific NW. Forest & Range Exp. Sta. 53 pp., illus.

Hedgecock, G. G., and Long, W.H. (24)
1914. *Heart-rot of oaks and poplars caused by Polyporus dryophilus.* J. Agr. Res. III. pp. 65-77.

Hornibrook, E.M., Larson, R.W., Van Akkeren, J.J., and Hasel, A.A. (25)
1950. *Board-foot and cubic-foot volume tables for some California hardwoods.* U.S. Forest Serv. Res. Note 67. Calif. Forest & Range Exp. Sta. 31 pp., illus.

Horton, Jerome S. (26)
1960. *Vegetation types of the San Bernardino mountains.* U.S. Forest Serv. Tech. Paper 44. Pacific SW. Forest & Range Exp. Sta. 29 pp., illus.

Ikenberry, G. J., Bruce, H.D., and Curry, J.R. (27)
1938. *Experiments with chemicals in killing vegetation on firebreaks.* J. Forestry 36:507-515.

Jameson, E. W., Jr. (28)
1952. *Food of deer mice, Peromyscus maniculatus and P. boylei in the northern Sierra Nevada, California.* J. Mammalogy 38:50-60, illus.

Jenny, H., Gessel, S. P., and Bingham, F. T. (29)
1949. *Comparative study of decomposition rates of organic matter in temperate and tropical regions.* Soil Sci. 68:419-432.

Jepson, Willis Linn. (30)
1910. *The silva of California.* Mem. Univ. Calif. 2. 480 pp., illus.

Keen, F. P. (31)
1952. *Insect enemies of Western forests.* U.S. Dep. Agr. Misc. Publ. 273. 280 pp., illus.

Keen, F. P. (32)
1958. *Cone and seed insects of western forest trees.* U.S. Dep. Agr. Tech. Bull. 1169. 168 pp., illus.

Kellogg, Albert. (33)
1882. *Forest trees of California.* 148 pp. Sacramento: State Print. Off.

Kimmey, James W. (34)
1950. *Cull factors for forest tree species in northwestern California.* U.S. Forest Serv. Forest Surv. Release 7. Calif. Forest & Range Exp. Sta. 30 pp., illus.

Leach, H. R., and Hiehle, J.L. (35)
1957. *Food habits of the Tehama deer herd.* Calif. Fish & Game 43 (3):161-178.

Lemmon, R. S. (36)
1951. *The best loved trees of America: California black oak.* Home Gard. 18:47-54.

Leonard, O.A., and Harvey, W.A. (37)
1965. *Chemical control of woody plants.* Calif. Agr. Exp. Sta. Bull. 812. 25 pp., illus.

Leonard, O.A., and Murphy, A.H. (38)
1965. *Relationship between herbicide movement and stump sprouting.* Weeds 13(1):26-30.

Leopold, A. Starker, Riney, T., McCain, R., and Tevis, Lloyd, Jr. (39)
1951. *The Jawbone deer herd.* Calif. Div. Fish & Game Bull. 4. 139 pp., illus.

Long, W. H. (40)
1913. *Polyporus dryadeus, a root parasite on the oak.* J. Agr. Res. 1:239-250.

Longhurst, William M. (41)
1956. *Stump sprouts of oaks in response to seasonal cutting.* J. Range Manage. 9:194-196.

Mackie, W. W. (42)
1903. *The value of oak leaves for forage.* Calif. Agr. Exp. Sta. Bull. 150. 21 pp., illus.

Malcolm, F. B. (43)
1962. *California black oak--a utilization study.* U.S. Forest Serv. Forest Prod. Lab. Rep. 2237. 17 pp.

May, Richard H. (44)
1957. *Wood charcoal in California.* U.S. Forest Serv. Forest Surv. Rel. 28. Calif. Forest & Range Exp. Sta. 12 pp., illus.

May, Richard H. (45)
1958. *Development of the veneer and plywood industry in California.* U.S. Forest Serv. Forest Surv. Rel. 34. Calif. Forest & Range Exp. Sta. 26 pp., illus.

McMinn, Howard E. (46)
1951. *An illustrated manual of California shrubs.* 663 pp., illus. Berkeley: Univ.Calif. Press.

Meinecke, E. P. (47)
1914. *Forest tree diseases common in California and Nevada--a manual for field use.* U.S. Dep. Agr. Forest Serv. 67 pp., illus.

Metcalf, Melvin E. (48)
1965. *Hardwood timber resources of the Douglas-fir subregion.* U.S. Forest Serv. Resource Bull. PNW-11. Pacific NW. Forest & Range Exp. Sta., Portland, Oreg. 12 pp.

Mielke, J.L., and Kimmey, J.W. (49)
1942. *Heat injury to the leaves of California black oak and some other broad leaves.* Plant Disease Rep. 26:116-119.

Mirov, N. T., and Cumming, W.C. (50)
1945. *Propagation of cork oak by grafting.* J. Forestry 43:589-591.

Mirov, N.T., and Kraebel, C.J. (51)
1937. *Collecting and handling of the seeds of California wild plants.* U.S. Forest Serv. Res. Note 18. Calif. Forest & Range Exp. Sta. 27 pp.

Mitchell, Harry O. (52)
1958. *Pacific coast hardwoods and their uses.* Nat. Hardwood Mag. 32 (11):110-114.

Munz, Philip A. (53)
1959. *A California flora.* 1,681 pp., illus. Berkeley: Univ. Calif. Press.

Oswald, Daniel D., and Hornibrook, E.M. (54)
1966. *Commercial forest area and timber volume in California, 1963.* U.S. Forest Serv. Resource Bull. PSW-4. Pacific SW. Forest & Range Exp. Sta., Berkeley, Calif. 16 pp.

Otter, Floyd L. (55)
1960. *Timber stand improvement by poisoning black oak on Mountain Home State Forest.* Calif. Dep. Nat. Resources, Div. Forestry State Forest Note 2. 4 pp.

Palmer, R. C. (56)
1917. *Yields from the destructive distillation of certain hardwoods.* Second Progress Report. U.S. Dep. Agr. Bull. 508. 8 pp., illus.

Paul, Benson H. (57)
1962. *Choose the right wood. Properties and uses of some western hardwoods.* Woodworking Dig. 64: 47-49.

Peattie, Donald C. (58)
1953. *A natural history of western trees.* 751 pp., illus. Boston: Houghton Mifflin Co.

Pfeiffer, J. R. (59)
1953a. *Western hardwoods--a promising industry.* Nat. Hardwood Mag. 27:43-45, 51.

Pfeiffer, J. R. (60)
1953b. *Basic data for Oregon hardwoods.* Oreg. Forest Prod. Lab. Rep. G-2. 40 pp., illus.

Pfeiffer, J. R. (61)
1956. *The case of northwest hardwoods.* Pacific Coast Hardwoods, March. pp. 10-11.

Pfeiffer, J. R. (62)
1960. *Northwest hardwood industry.* The Lumberman 87(3):44-45.

Pritchard, A.E., and Beer, R.E. (63)
1950. *Biology and control of Asterolecanium scales on oaks in California.* J. Econ. Entomol. 43:494-497.

Rasmussen, Edmund F. (64)
1961. *Dry kiln operators manual.* U.S. Dep. Agr. Handb. 188. 197 pp., illus.

Resch, Helmuth. (65)
1964. *Steam bending characteristics of five California hardwoods.* Calif. Forestry & Forest Prod. 37. 7 pp., illus.

Robinson, Cyril S. (66)
1937. *Plants eaten by California mule deer on the Los Padres National Forest.* J. Forestry 35:285-292.

Robinson, Dan. D. (67)
1948. *Utilization of Oregon Hardwoods*. Oreg. State Univ. Sch. Forestry Inform. Circ. 2. 22 pp.

Ross, Charles R., and Hayes, Hugh. (68)
1950. *Trees to know in Oregon*. Oreg. State Board Forestry. Oreg. State Coll. Ext. Serv. Bull. 697. 80 pp., illus.

Roy, Douglass F. (69)
1962. *California hardwoods: management practices and problems*. J. Forestry 60:184-186.

Sampson, Arthur W., and Jespersen, Beryl S. (70)
1963. *California range brushlands and browse plants*. Calif. Agr. Exp. Sta. Manual 33. 162 pp., illus.

Schniewind, A. P. (71)
1958. *The strength and related properties of California black oak. I. General description and strength properties in the green condition*. Calif. Forestry & Forest Prod. 6. 4 pp.

Schniewind, A. P. (72)
1959. *Transverse anisotropy of wood: a function of gross anatomic structure*. Forest Prod. J. 9:350-359.

Schniewind, A. P. (73)
1960. *The strength and related properties of California black oak. II. Shrinkage and strength properties in the air-dry condition*. Calif. Forestry & Forest Prod. 21. 3 pp.

Schniewind, A. P. (74)
1962. *Tensile strength perpendicular to grain as a function of moisture content in California black oak*. Forest Prod. J. 12:249-252.

Schniewind, A.P., and Kersavage, P.C. (75)
1961. *A quantative evaluation of second order drying stresses*. Forest Prod. J. 11:523-530.

Schniewind, A.P., and Kersavage, P.C. (76)
1962. *Influence of rate of drying and rewetting on the dimensional changes of California black oak*. Forest Prod. J. 12:29-33.

Smith, H. H. (77)
1949. *Seasoning California black oak*. U.S. Forest Serv. Res. Note 62. Calif. Forest & Range Exp. Sta. 8 pp.

Smith, H. H. (78)
1950. *Further experiments in seasoning California black oak*. U.S. Forest Serv. Res. Note 75. Calif. Forest & Range Exp. Sta. 8 pp.

Smith, H. H. (79)
1952. *Utilization of Western hardwoods*. J. Forest Prod. Res. Soc. 2:52-54.

Smith, H. H. (80)
1956. *Improved utilization of Western hardwoods by modern drying*. Forest Prod. J. 6:121-124.

Smith, H. H. (81)
1961. *Recommendations for drying California black oak*. U.S. Forest Serv. Tech. Paper 62. Pacific SW. Forest & Range Exp. Sta. 19 pp., illus.

Society of American Foresters (82)
1954. *Forest cover types of North America*. 67 pp., illus. Wash., D.C.: Soc. Amer. Foresters.

Sudworth, George B. (83)
1908. *Forest trees of the Pacific slope*. U.S. Dep. Agr. Forest Serv. 441 pp., illus.

Sundahl, William E. (84)
1966. *Crown and tree weights of madrone, black oak and tanoak*. U.S. Forest Serv. Res. Note PSW-101. Pacific SW. Forest & Range Exp. Sta., Berkeley, Calif. 4 pp., illus.

Sweet, Muriel. (85)
1962. *Common edible and useful plants of the West*. 64 pp., illus. Healdsburg, Calif.: Naturegraph Co.

U.S. Forest Service. (86)
1937. *Range plant handbook; California black oak*. B 123-124, illus.

U.S. Forest Service. (87)
1948. *Woody-plant seed manual*. U.S. Dep. Agr. Misc. Publ. 654. 416 pp., illus.