

PHYSICAL PROPERTIES AND COMMERCIAL USES OF WESTERN JUNIPER

John R. Herbst, Area Extension Forester
Union County Extension Service
La Grande, Oregon

ABSTRACT

Western juniper (Juniperus occidentalis Hook.) has several properties which could be commercially marketed. Historically, western juniper has been used for fenceposts, decorative boughs, and firewood. Volatile and essential oils can be extracted from foliage and terminal branches as well as from the wood of western juniper. These oils are valued as flavoring and scenting agents. Presently the wood is being used for making furniture as well as paneling. The wood can be successfully dried, cured and made into products. The wood of juniper has a very attractive smooth finish with pleasing coloration and aroma. Veneer, hardboard and particleboard have all been successfully manufactured from juniper.

Keywords: Juniper, properties, oils, wood, lumber, utilization.

INTRODUCTION

The intent of this paper is to present information on the physical properties of western juniper (Juniperus occidentalis Hook.) as well as some of its properties which limit its commercial usefulness. The paper was going to be fashioned around future potential commercial uses of western juniper. However, the crystal ball is out of order and "future" implies that there are no present commercial uses of juniper. Presently, there are no large concentrated markets for western juniper. Like any other material or product which is marginal, these markets need to be developed. Will there be markets for windfall gains for those whose lands are overtaken by western juniper? Not likely! There are many costs involved with harvest and manufacture of juniper which negate the likelihood that it will be a valuable species on the stump in the near future.

HISTORIC PRODUCTS

Some of the historic products for which western juniper has been used are: fenceposts, decorative boughs, and firewood. Within western juniper's range it is touted as a fencepost. According to results from Oregon State University's post farm (Miller and Graham 1971), western juniper posts have lasted as long as 40 years in western Oregon's damp climate. The average life of posts which had decayed by that time was 22 years. This indicates an exceptionally good service life, especially when compared to lodgepole and ponderosa pine in the same area which have an untreated service life of between 3 to 6 years. It should be noted however, that the post farm was set up in 1927 and the posts used contained a high percentage of heartwood. Today, many juniper posts are being used that are largely sapwood. Untreated, these have no more decay resistance than lodgepole pine.

Western juniper is a good fuel wood, burning clean with little smoke and ash. One complaint is that in windy desert areas the shaggy bark tends to pick up wind blown sand and debris, therefore dulling chainsaws more rapidly than other fuel woods. In protected areas this is no problem. Decorative boughs are marketed every year around Christmas time.

INSECTS AND DISEASE OF WESTERN JUNIPER

Western juniper is commonly host to two mistletoes. They are dense mistletoe (Phoradendron densum Torr.), and constricted mistletoe (P. ligatum Trel.). While the mistletoe may sometimes cause witches'-broom, there are at least two rusts attacking western juniper that also commonly cause witches'-broom. These are Gymnosporangium kernidium (Bethel) and G. betheli (Kern).

There are at least two rots which commonly attack western juniper, sometimes rendering the wood unsuitable for any product. These are juniper pocket rot (Fomes juniperinus V. Schr.), a white pocket rot, and a brown cubicle rot usually found in the basal portions of the trunk. The pocket rot generally will extend farther up the tree than will the brown cubicle rot. A few feet of "long butting" will often get rid of the brown cubicle rot. Some trees which have been affected for long periods of time are hollow for most of their length. In some trees both rots occur and other times they appear singularly.

A longhorned wood borer (Callidium californicum Casey) attacks western juniper; the larvae bore into wood, both wet and dry. Kiln drying kills the larvae of this roundheaded borer, but if material is air dried, the insect will eventually work its way out. There are also some flatheaded borers which occasionally attack western juniper.

