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RED HICKORY AS STRONG AS WHITE HICKORY

Usually only a small outer portion of a mature hickory tree is sapwood or white wood; the inner part, or heartwood, is red. Many people think that this red wood is not so strong or tough as the white sapwood. Actual strength tests made at the Forest Products Laboratory upon more than seven thousand specimens of red and white hickory show conclusively that, weight for weight, sound hickory has the same strength, toughness, and resistance to shock, regardless of whether it is red, white, or mixed red and white.

A reliable indication of the strength of hickory is its density. That is to say, of two pieces of the same size and dryness, the heavier will be found to have the better strength properties. This fact makes it possible for large manufacturers or purchasers of hickory handles or wheel spokes to inspect the pieces by weight very rapidly and at small expense with automatic machinery.

The man who is buying only one handle will usually find a visual method of judging hickory more convenient and practical than weighing. A fairly reliable visual guide to strength is found in the proportion of summerwood appearing on the end of the piece. The summerwood is the solid-looking or less porous portion of each yearly growth ring. It is quite easy to distinguish from the springwood portion of the ring, which is full of pores or small holes. The summerwood has much greater strength than the springwood, because it contains more wood substance per unit volume. Wide bands of summerwood and relatively narrow bands of springwood, there-

fore, indicate a stronger piece of hickory than bands of summerwood and springwood of nearly the same width. The greater the proportion of summerwood in a tool handle or other piece of hickory, the greater will be its strength.

The number of growth rings per inch also affords some means of grading hickory. Few growth rings per inch, as shown on the end of a handle, indicate a stronger and tougher piece than many rings, provided, of course, that it is straight-grained and free from defects at important points. Acceptable handles commonly show not more than 20 rings per inch, although much good hickory will be found with as many as 40 rings per inch. More careful inspection, however, by weight, is recommended for this very slow growth material.

As a further guide in choosing a good tool handle, it is worthy of note that the best hickory shows an oily or glossy side-grain surface when smoothly finished; also, when it is dropped on end on a hard surface, such as a concrete floor, it emits a clear, ringing tone, in comparison with the dull sound produced by hickory of inferior quality.

The adoption by the general public of these methods of grading hickory, in place of the worthless prejudice with respect to color, would put an end to the wasteful practice of culling red hickory stock. When hickory was plentiful, this was a matter of seemingly little importance; but now every means should be taken to conserve the waning supply of an important wood, for which no satisfactory substitute has been found.