

National Flowers

► GOLDENROD is coming into bloom over many miles of prairie and in millions of fencerow thickets; its bright sprays will return greetings to the sky until first frosts signal the sun's retreat for another season. Sturdy, tough-stemmed, able to take care of itself in any kind of situation, it is a typically American plant.

So American is the goldenrod that many

people advance its claim to honors as the American national flower—a spot in the world's official flora that has not yet been filled. There is some reason in this claim. It belongs to a highly developed, widely adapted genus; its four-score or so species are found practically altogether on the North American continent, with only a couple of outliers in the Old World. Symbolically it would be a good choice: as a member of the composite family, in which many small flowers combine to form one federated bloom, it typifies very neatly the American national motto, "E Pluribus Unum."

Principal contender against the goldenrod, and as stoutly supported by its advocates, is the columbine. This lovely flower also has its unique symbolism, for its common name is an appeal to the dove of peace, whereas its botanical title, *Aquilegia*, is supposed to be an eagle-reference, inspired, perhaps, by the resemblance of its flower

spurs to the talon of our national emblem.

Goldenrod and columbine suffer from opposite but equal handicaps in their flowering time. The best-known of our several native columbine species, found in practically all Eastern and Midwestern woodlands, is out of bloom by July 4, except in the extreme northern part of this country. On the other hand, no goldenrod is showing its gold until several weeks after Independence Day. So neither of the two contenders is able to be present at the celebration of the nation's birthday.

Goldenrod is further handicapped by the widespread though erroneous belief that it is a prime cause of hay fever. Actually, almost no hay-fever cases can be traced to its pollen. However, its conspicuous blossoms reach their fullest development just when the ragweeds, the real hay-fever villains, are shedding their pollen. So the innocent goldenrod gets the blame.

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ENTOMOLOGY

Insects Destroy Wood

► THE modern army sometimes has to fight a human foe but it has to carry on a continuous fight against the insects that destroy wood in structures and in all sorts of military equipment. This was indicated by W. D. Reed of the Army Corps of Engineers and T. E. Snyder of the U. S. Department of Agriculture at a national symposium on wood held in Washington.

The symposium was sponsored by the National Research Council and the Office of Naval Research, and was attended by national experts on wood and its uses from the leading research laboratories of the country. At the same meeting, wood-rotting fungi were discussed by Marshall W. Jennison and Richard Henderson of Syracuse University.

The lowering of the quality and grade of wood due to holes and staining, together with the actual loss of material eaten by borers, is caused primarily by two types of insects, one requiring wet and the other dry wood, Messrs. Reed and Snyder stated. In some cases the injury is caused by adult beetles which fly to the log or lumber and bore directly into the wood. In other cases, damage is caused by young larvae hatching from eggs laid under the bark or in the wood.

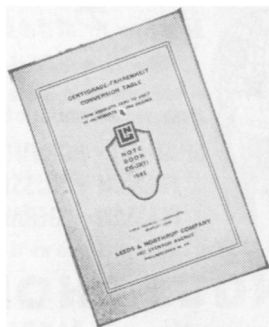
Particular attention was devoted to ambrosia beetles, or pinhole borers, that attack green wood, and to termites that attack both green and dry wood. Controls against both were discussed. Marine borers also came in for consideration.

The wood rots, of which some 2,000 species are known, are fungi of the class Basidiomycetes, the meeting was told by the Syracuse University bacteriologists. These rots typically grow on woody materials, living or dead trees, structural timbers, or woody decomposing deposits in

nature. These organisms are the chief fungi that can attack the cellulose-lignin complex which is characteristic of wood.

The undesirable activities of these fungi are their destructive effects on structural timber. However, the very fact that in the degradation of cellulosic materials they form new chemical compounds suggests the possibility that their activities can be turned into economically-useful channels.

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Words in Science— WEIGHT-MASS

► MASS is not the same thing as weight.

Weight can, however, be used as a measure of mass, because weight is proportional to mass. The weight of an object is a force. It depends on the attraction with which the earth pulls on it. This attraction (gravity), and hence the weight of the object, changes with distance from the center of the earth and also as the object is moved about on the surface of the earth. You would weigh more at the North Pole than at the Equator.

Mass is a quantity, not a force. The unit of mass is not a pound, but a geepound or slug, which corresponds approximately to the mass of matter which weighs 32.2 pounds at sea level.

Weight is measured by a spring balance which measures the force required to stretch the spring. Such a scale would show less weight for the same objects at sea level and at the top of a high mountain. A balance scale, on the other hand, measures mass. No matter where it is located, the reading is the same for the same object.

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