strain placed on certain parts of the steel disks carrying the vanes or buckets by vibrational waves set up as an effect of rapid rotation. Just as a slow wind fans a flag into flapping waves, so the surface of rapidly rotating disk, even though made of steel, can be thrown into slight troughs and furrows, and when these travel around the disk at a speed too near the rate of rotation of the disk itself, they set up strains too great for the material to bear, and the break occurs. The experiments here point the way for the elimination of many present difficulties with turbines, for by finding the natural rate of wave-vibration in a disk, and then seeing that the rotation is enough slower to neutralize it, the accumulation of strains to a potential breaking point can be avoided.

FOOD PALM RECOMMENDED FOR AMERICAN TROPICS

What the date is to Arabia and Egypt and the coconut to the Pacific islands, the Pejibaye palm is to thousands of Central and South Americans. This Costa Rican fruit with the strange-sounding name is being put forward by the Office of Foreign Seed and Plant Introduction of the Department of Agriculture, as a new and distinct possibility in tropical agricultnre.

The fruit of the tree is borne in large clusters near the top. The individual fruits are somewhat topshaped, about the size of an apricot, and bright orange-yellow in color. Each has a single stony seed surrounded by a quantity of mealy pulp. This latter, when boiled, has the flavor and consistency of roasted chestnuts and is an excellent food. At the time of the Conquest, the Indians of Costa Rica subsisted almost exclusively upon pejibayes during a certain part of each year. The fruit has become very popular among Costa Ricans of European blood, and brings a high price in the markets.

Government scientists are recommending the use of this fruit in the West Indies, Hawaii, the Philippines, and other possessions of the United States, as well as in tropical lands of other nations.

A closely related species from the Amazon Valley is called the "peach palm", and this name might well be extended to apply as a common English title to the Costa Rican tree as well.

GAS MILEAGE WASTED BY BAD ADJUSTMENTS

The average motor vehicle wastes about 30 per cent. of the heat value of the fuel through improper carburetor adjustment.

Such is the conclusion reached by scientists of the United States Bureau of Mines as the result of a study of the efficient utilization of gasoline. The figures were obtained largely by measuring and analyzing the exhaust gases. The waste was found in the production of incomplete combustion products - carbon monoxide, hydrogen, and methane.

Loss of heat value, the Bureau officials point out, means also loss of mileage. By properly adjusting the carburetors for maximum power and efficiency a large part of this heat loss can be eliminated. The experiments were carried on with a number of different fuels.