INVENTION

Sugar From Sorghum

Yield would be comparable with that from sugarcane by method developed in Department of Agriculture. Over 50 other inventions announced.

➤ SUGAR FROM sorghum, fireproofing, better insecticides and over 50 other inventions have been developed by workers in the U. S. Department of Agriculture in the past year, it is announced in Washington.

Most of the devices were developed to increase farm efficiency, officials stated, but many will have direct importance to everyone in meeting wartime needs.

Sugar yield from sorghum comparable with that obtained from sugarcane, for example, will now be possible for the first time. The process was patented by Emil K. Ventre and Howard B. Paine of the Agricultural Research Administration.

Establishment of an industry to relieve the sugar shortage will result, it is hoped, from research to develop improved sorghum varieties. Some varieties of high sugar content mature early enough, it is pointed out, so that sugar factories could process the sorghum before the sugarcane harvest, using the same equipment.

Attacking the Japs on all fronts includes an improved insecticide for combating the Japanese beetle, a destructive insect in many areas. The new insecticide, developed by Samson R. Dutky of the Agricultural Research Administration, consists of an inert powder mixed with large numbers of germ spores which produce a milky disease fatal to the larvae.

A trap for moths of the tobacco and tomato worms, developed by Lincoln B. Scott and Joe Milam of the Bureau of Entomology and Plant Quarantine, is another device for insect control.

A method for checking the development of rancidity in oils and fats, a process which increases the resistance of nails to withdrawal from wood, and a chemical preparation for fireproofing fabrics, are covered by other patents.

Of the inventions listed by the Department of Agriculture, about half were dedicated to the public and the remainder were assigned to concerns for development, with control retained in the Department.

Science News Letter, November 21, 1942

NUTRITION

Will Not Produce Coffee

Coffee and tea are similar in caffeine content; neither will be grown here commercially. Chocolate does not have same physiological action.

➤ COFFEE and tea production in this country or a satisfactory substitute is not in the offing despite recent rosy rumors born of war shortages.

Glistening white clusters of bitter crystals are dissolved in every cup of either coffee or tea—caffeine upon which Americans have depended for a physical and mental boost. This stimulating chemical has been found in at least six different families of plants in many parts of the globe. But none can be imported any more easily than coffee; none can be quickly grown here.

When you can't get coffee, however, you might be able to brew a cup of tea. Scientists tell us that a strong cup of tea contains about the same amount of caffeine as a cup of coffee and is just as stimulating.

Tests show that caffeine actually causes a quicker, clearer flow of thought and permits more sustained intellectual effort. As its action creeps down the spinal cord, ease of muscular action increases and we are less easily fatigued. Heart muscle is even affected and the beat is speeded. Hitting the vasomotor nerves, caffeine causes the blood vessels to dilate. This, together with the heart action, increases blood flow. Indirectly, this speeds elimination of kidney secretions.

These actions are antagonistic to alcohol and explain why inebriates like a nightcap of coffee.

All in all, coffee has earned its reputation as the American "pick-me-up". And science has now pretty well exploded the theory that moderate use of coffee is harmful in any way to the average normal person.

Kola, ingredient of many soft drinks, also owes its stimulating properties to caffeine. It comes from the Gooroo nuts of trees in far-off Africa and the West Indies.

The change to hot chocolate, planned by many, will not have the same action as that mug of Java or spot of tea. The active ingredient, theobromine, has little central stimulation or effect on the brain, but has an even more powerful effect on blood flow and muscle. There is a relatively small dose in a cup of chocolate, however, and the quantity consumed is not likely to be as great as that of coffee or tea.

Although the African Gold Coast has sent us about 60% of the supply of chocolate-laden seeds from cacao trees, it is also being successfully grown in Central America and Mexico. Natives break open the big red melon-like fruits, remove the seeds and place them in the ground. After a fermentation process, the seeds are roasted and the inner seeds ground into chocolate.

Our coffee is also grown in foreign countries, most of it in Brazil. Formerly the United States drank 50% of the entire world supply. Now consumption is drastically curtailed.

Yarns about coffee being grown in this country need cause no optimism. Even if we had suitable soil and climate (we haven't) and a supply of skilled coffee plantation labor, we couldn't do it. Coffee trees take nearly three years to start to produce, and often it is five years before a good crop is obtained.

Scarcities of tea and coffee will undoubtedly encourage the unscrupulous to adulterate them with other substances. In the past, drug experts have found ground coffee cheapened with materials ranging through dandelion root, cereals, peas, beans, and narcissus bulbs. Tea has been mixed with leaves of mulberry, willow, strawberry, wisteria and many others.

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The most common chronic disease in the U. S. is *rheumatism,* attacking an estimated 6,850,000 people, or about double the number of chronic heart-disease sufferers.