



farthest, 251,300 miles away. **Friday, July 18**, 8:14 p.m., Moon passes Saturn. **Sunday, July 20**, 4:13 a.m., Moon passes Jupiter. **Tuesday, July 22**, 11:07 a.m., Moon passes Mercury. **Thursday, July 24**, 2:39 a.m., New moon. **Saturday, July 26**, 8:04 a.m.,

Moon passes Venus. **Monday, July 28**, Early a.m., Delta Aquarid meteor shower. **Thursday, July 31**, 4:19 a.m., Moon in first quarter.

Eastern standard time throughout.

AGRICULTURE—CHEMISTRY

More Tung Oil Production Needed in United States

Imports from China Supply Only Twelfth of Demand And Present Domestic Production Hardly Two Per Cent

RAPID increase in tung tree acreage in this country is urgently needed, W. M. Smith, Jr., technical adviser of the Reasor Tung Plantations, Inc., told the First Annual Southern Chemurgic Conference meeting in Nashville.

The normal annual requirements for tung oil in the United States amount to at least 150 million pounds, and the present imports from China, almost the only source, are supplying only a twelfth of that. Despite the extensive plantings that have been made in this country, present domestic production takes care of hardly 2% of our needs.

Tung trees, which are somewhat sensitive to frost, grow well only in a belt about 100 miles wide along the Gulf Coast, and across Florida to the Atlantic. Fortunately, they require an acid soil, which makes available for tung plantations vast stretches of land that are of little use for other crops. They require plenty of water (40 inches annual rainfall), yet they will not grow in wet soil. Tung planting is not a job for hit-or-miss amateur methods, Mr. Smith emphasized; it requires careful scientific investigation of ecological conditions before

the trees are set out, if the venture is to be a success.

Science News Letter, June 28, 1941

Farm Wealth in Weeds

FARMERS of the future may win wealth from wild plants that are now regarded only as weeds, Wheeler McMillen, president of the National Farm Chemurgic Conference, suggested to the Chemurgic Conference.

Reminding his hearers that there are about 250,000 known species of plants in the world, of which approximately 15,000 are native to the United States, the speaker called attention to the fact that the ones under cultivation number only a few scores, and those are mainly the same as our prehistoric ancestors chose because they could be used just as nature produced them. In modern times great changes have been made in cultivated plants by scientific breeding, yet we have not thought to pick up hitherto uncultivated plants and develop their good qualities in the same way. He urged the appropriation of funds for research in this direction, to

be conducted at state experiment stations.

Science News Letter, June 28, 1941

Farm to Forest

FELLING forests to create new farms, traditional practice in America since earliest times, isn't always the right thing to do, Dr. J. Alfred Hall of the U. S. Forest Service declared. Rather, the process should be reversed on much land which is now being unprofitably plowed year after year, with the farmers only sinking themselves and their families deeper and deeper into poverty.

Dr. Hall took the states of Tennessee and Kentucky as examples for his thesis. When the first settlers came, both states were practically continuous forest. The newcomers ravaged the woods with fire and ax, with no thought for the timber values but only for the soil they could plow and plant after the trees had been cleared.

The result, he said, is that in both states the cut of high-grade lumber is diminishing, with the proportion of lower grade lumber increasing. Men who used to have jobs in sawmills and other wood-using industries have been thrown out of work. Where oak, hickory, chestnut and gumwood used to be a source of pride as well as revenue, there is now a shortage so severe that hardwood lumber is even having to be brought in from the outside.

Science News Letter, June 28, 1941

RESOURCES

Fireworks for Defense Aids Safe and Sane Fourth

DEENSE production will tend to make this year's celebration of the Fourth of July more "safe and sane" than ever!

With the need for military fireworks, most manufacturing companies are loaded with government contracts. One large maker, producing big display pieces, reports that output for civilian use is now only a third of last year's while that for the Army and Navy has increased three-fold.

Another manufacturer, who makes the big three-inch firecrackers, or "salutes," says that their civil production thus far is only about a third off last year's, but it is falling rapidly, to enable them to take on more government orders. Thus, the 1942 Fourth of July may be almost completely fireworkless.

Magnesium and aluminum, the two

metals that are presenting such a bottleneck in the airplane industry, have much the same role in connection with fireworks. The rockets that you sent up last year, or saw in community displays, bursting to give a brilliant white light, had aluminum powder in them. For military flares magnesium, which is somewhat more expensive but gives a better light, is generally used. Both metals now are hard to get.

Potassium chlorate and potassium perchlorate are two of the most important chemicals used in the pyrotechnic art. They supply the necessary oxygen for rapid burning. Pretty nearly all that is available from the manufacturing chemists is now being employed in the making of government fireworks.

Surprisingly enough, despite the war in China, Chinese firecrackers are still being imported in rather large quantities. Such firecrackers, in bunches, are not made in the United States. However, there is enough of a shortage to make prices, in states where they are still allowed to be sold, considerably higher than in other years.

In the meantime, while defense priorities help to impose a safe-and-sane Fourth on the nation, other efforts toward the same end are continuing. For the fifth year, the American Medical Association has asked hospitals to furnish full data on fireworks injuries.

Largely due to their summaries, it was said in a recent issue of the Association's Journal, "several states have adopted effective anti-fireworks legislation. The number of deaths from this cause has been reduced therefore in 1940 to 8, as compared with 20 in 1937. The total number of injuries has been reduced from 7,205 in 1937 to 4,462 in 1940."

Science News Letter, June 28, 1941

About 10,000 Army Air Corps officers are to be taught *Spanish*, the vocabulary being adapted to air corps needs.

One result of Britain's campaign to grow more *food* has been an addition of a million tons of cereals produced in 1940.

● Earth Trembles

Information collected by Science Service from seismological observatories resulted in the location by the U. S. Coast and Geodetic Survey of the following preliminary epicenter:

Wednesday, June 18, 6:09 a.m., EST

In the ocean centered between Iceland, Greenland and Newfoundland. Latitude, 52 degrees north. Longitude, 32 degrees west. Strong shock.

For stations cooperating with Science Service, the Coast and Geodetic Survey, and the Jesuit Seismological Association in reporting earthquakes recorded on their seismographs, see SNL, Feb. 22.

PSYCHOLOGY

Here's Recipe for Cocktail Served by Fifth Columnists

British Physician Also Furnishes Prescription as Antidote for Its Mental Poison—Friendliness

AMERICANS who patriotically want to remain sober during the present unlimited emergency will avoid imbibing a cocktail which is the favorite concoction of fifth columnists.

The recipe for this Mickey Finn is exposed by a British psychologist and physician, Dr. Edward Glover, director of the Institute for the Treatment of Delinquency, in a new book, *The Psychology of Fear and Courage*. (Reviewed, SNL, this issue.) It is:

"Take first of all a few hard facts, the news of some reverse or other, if necessary doctored to make it more impressive. (This is to shake our general confidence and make us more receptive to suggestion.)

"Mix it well with a few equally hard facts about class distinction or grievance or hardship. (This is to set one group against another.)

"Add some aspersions on the motives and personal character of the nation's leaders. (This obviously to weaken the leading strings of national feeling.)

"Flavor as required with some good journalistic touches (to make a plausible story).

"Spice with a few threats.

"Serve hot and strong over the radio."

Dr. Glover also offers a beneficial prescription as antidote for the poison in the propaganda cocktail. Anxiety, he says, is essentially a reaction to inner loneliness. The man or the woman or the child who feels that he has no part in an affectionate family or social group falls easy prey to fears and suspicions.

It is to be hoped that America will not have to face the panic-producing situations that have been the almost daily fare in London. But we will undoubtedly have to be alert if we are not to swallow the poison potions of the propagandist and become hysterical victims of the spy mania, the alien antagonism, the fifth-column fever.

Dr. Glover's first remedy is friendliness and neighborliness. Men and women should band together in close groups,

cheered by kindness and mutual association.

If psychological first-aid should be needed for a neighbor actually jittery from too much frightful war news, offer a soothing cup of weak tea, a cigaret. Or if he is of the type who reacts to anxiety as he would to physical shock and needs stimulant, sugar in candy or cake is an excellent restorative as is strong coffee or brandy.

You will find, Dr. Glover assures, that many will be glad to become your patients if you offer this sort of psychological first-aid flavored with pleasant conversation.

Science News Letter, June 28, 1941

AERONAUTICS

Airplane Manipulation Taught with New Device

PATENTED recently was a device for practicing airplane manipulation. It remains in a fixed position, but as the control stick is operated, and the rudder pedals as well, the pointers on instrument dials connected with them move in a realistic manner. The inventor says that it can be used to develop coordination between the hands and the feet. (*Patent 2,243,973, Edward K. Mills, Jr.*)

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