

## PUBLIC HEALTH

## Sickness Will Keep 500,000 AWOL from Work

**A**PPROXIMATELY 500,000 workers will be AWOL this year from the industrial army behind the lines because of sick absenteeism, the trustees of the newly-christened Industrial Hygiene Foundation, formerly the Air Hygiene Foundation, predict.

This means about one billion man-hours lost in heavy industries alone. The average worker loses eight days a year because of illness. For every day that figure can be reduced there will be a gain of 120,000,000-man-hours a year or the services of 60,000 men full time.

The Foundation, which has changed its name to describe more clearly its expanding activities for protecting the health of workers, has sent a special bulletin to its member companies calling on the affiliated industrial concerns to take every possible precaution to combat the health hazards that increase with increased production.

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## FORESTRY

## Mahogany a Possible Timber Crop For Florida

**M**AHOGAN Y may some day be a money-making timber crop in southern Florida, Prof. Frank E. Egler of the New York State College of Forestry suggests. (*Journal of Forestry*, August)

The southern part of the peninsula, he points out, is similar in climate and other ecological conditions to the West Indian islands where one species of mahogany flourishes. Mahogany trees are planted along the streets in some Florida cities, and they are also found growing wild in the "hammocks" or hardwood groves that dot the flat Florida landscape.

West Indian mahogany trees grow fairly rapidly under Florida conditions, Prof. Egler states. Two-year-old saplings planted at Coral Gables in 1935 were 25 feet high in 1940. They are also more resistant to cold than might be expected of tropical trees, for they came through the severe freeze of the winter of 1940, that killed many other tropical plants in southern Florida.

Mahogany trees will grow in a wide variety of habitats, from dry and exposed to semi-shaded and wet. They do, however, need protection from fire, a

too common and tolerated woodland evil in Florida.

Prof. Egler indicates an increasing need to take thought for future mahogany supplies. The United States, with an annual utilization of about 24 million board feet, imports four-fifths to nine-tenths of the world's total cut. And since mahogany cutters in tropical lands naturally take the trees nearest available transportation routes (usually rivers) it is becoming increasingly difficult and expensive to bring mahogany logs to market.

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## PLANT PATHOLOGY

## Fungus Disease of Cotton Is Reported from China

**B**ELEAGUERED China has a new enemy that strikes from within. It is a fungus-caused disease of cotton, reported from Szechuan Province by two Chinese plant pathologists, Lee Ling and Johwa Y. Yang. (*Phytopathology*, July.) Chinese cotton farmers, who call the disease "dry scar" because of its characteristics marks on stems and twigs, realize its potential seriousness and eradicate affected plants as fast as they appear.

"Dry scar" breaks out generally in rainy seasons when humidity is persistently high and temperatures of 75 to 80 degrees prevail. Dry weather suppresses it.

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## PLANT PATHOLOGY

## Virus Diseases Carried By Parasitic Vine

**D**ODDER, the pale yellow, leafless, parasitic vine that preys on the stems of other plants by sinking root-like growths into them, has been proven guilty of carrying virus diseases from one plant to another, in experiments conducted at the Rockefeller Institute for Medical Research at Princeton, N. J. by Dr. Folke Johnson. (*Phytopathology*, July.)

Dodder shares with other, non-parasitic vines the habit of twining around one stem for a distance, then reaching over to a neighboring stem. The living bridge thus formed sufficed to carry the viruses from infected to uninfected plants, under controlled laboratory conditions. Among the virus diseases thus transmitted by dodder were aster yellows, bushy-stunt of tomatoes, tobacco mosaic, curly-top of sugar beets and cucumber mosaic.

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# IN SCIENCE

## ORNITHOLOGY

## National Museum Head Returns from Expedition

**B**RINGING with him specimens representing the bird life of a part of South America hitherto unvisited by naturalists, Dr. Alexander Wetmore, director of the U. S. National Museum, has just returned from a two-months' expedition into the Guajira peninsula of Colombia. The remainder of the collection will follow in a short time. It is in charge of another member of the expedition, M. A. Carriker, Jr., who remained behind to complete arrangements for shipping. Dr. Wetmore states that the collection probably contains a number of hitherto unknown bird species.

The Guajira peninsula, which the expedition penetrated, lies at the north-east corner of Colombia and constitutes the northernmost extension of continental South America. It is sparsely inhabited and without roads. The expedition traveled in a three-ton truck, using such trails as there were and following the stony beds of dry streams. Part of the necessary supplies consisted of two hundred-gallon drums of gasoline.

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## PHYSIOLOGY

## Natural "Muscle Oil" Is Found in Enzyme

**D**ISCOVERY of a natural "muscle oil" was announced by Dr. Sidney P. Colowick and Dr. Herman M. Kalckar, of Washington University School of Medicine.

The doctors did not call this substance a muscle oil, and it is not the kind of oil you rub on tired, aching muscles. It is, in fact, not an oil but an enzyme, or ferment. Enzymes act like lubricating oils in the body in that they help along certain vital chemical processes.

The enzyme Dr. Colowick reported is a protein enzyme which enables animals to combine sugar and phosphate, a necessary step in the operation of body muscles. The enzyme was obtained in pure form and its effects upon chemical reactions in the muscles were studied.

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# CE FIELDS

## CHEMISTRY

### Soybean Protein to Replace Milk Casein

**S**OYBEAN protein is scheduled to replace milk casein as paper sizing, as an adhesive in making plywood, as an ingredient in water paint, and in many other industrial uses, chemists of the U. S. Department of Agriculture state. Freeing milk casein from industrial demands will aid national defense as well as the aid-to-Britain program, for casein is the raw material from which cheese is made, and more cheese is one of the prime needs of the food-export program.

Industrial uses for soybean protein were worked out at the Department's soybean research laboratory at Urbana, Ill., more than four years ago, before their possible importance to national defense was seriously thought of. Now the results of the research are ready for immediate, full-scale application.

It is estimated that 10,000 tons of soybean protein will be required annually, on the basis of present needs, to make up for casein shortage. This does not allow for probable increasing needs. Present production is only about 2,500 or 3,000 tons a year. Existing plant capacity will therefore have to be at least tripled.

Soybean protein is extracted by various chemical processes from the meal that is left after oil has been pressed from the beans.

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## NUTRITION

### Chestnut Leaves, Spinach High in Vitamin K

**S**PINACH, that much scorned, praised and debunked vegetable, is one of the richest sources of the anti-bleeding vitamin K, being outranked only by chestnut leaves, according to a list of sources of this vitamin which appears in a new book, *Vitamin K*, (Reviewed SNL, this issue.) This is a kind of biography of the vitamin written for doctors and other medical scientists by Dr. Hugh R. Butt and Dr. Albert M. Snell, of the Mayo Clinic, two men who pioneered in the use of vitamin K to save

dangerously sick jaundiced patients from bleeding to death.

Cauliflower and cabbage are other good sources of this vitamin, which is widely distributed in nature. Green leaves are the richest source of the anti-bleeding vitamin, but leaves that grow in the dark contain much less of it. It is found also in alfalfa and pine needles, in tomato plants, in certain bacteria, and in the dried tissues of the hog, dog, chicken and man, and it has been made synthetically in the chemists' laboratories.

You will not find vitamin K stressed with the other vitamins in advice on diets for good health. The healthy person, so far as present knowledge goes, can hardly fail to get enough of this vitamin from his ordinary diet. Those who need to be given the vitamin like a medicine are those who are not absorbing the vitamin from their food because of either a damaged liver or some mechanical obstruction to the flow of bile. As a result, they do not have enough of a substance called prothrombin which is necessary for normal blood clotting.

A person whose blood does not clot normally is in danger of bleeding to death from a small cut. In hemophilia, the hereditary bleeder's disease which used to be called the curse of the Hapsburgs because it ran in that family of European royalty, the failure of the blood to clot is not due to lack of prothrombin, so vitamin K does not help.

Newborn babies also lack prothrombin, and many of them bleed dangerously. Vitamin K has proved a life-saver for them, and in many hospitals is now being given to their mothers before the babies are born to make sure the babies will start life with an abundant supply.

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## ENGINEERING

### 4 Times Sun's Efficiency Claimed for New Sun Lamp

**F**OUR times the sun-tanning efficiency of natural July sunlight is claimed for a new ultraviolet lamp developed by engineers of the Westinghouse Lamp Division. The sun gives approximately 120 micro-watts of ultraviolet of suntan wavelengths per square inch, as measured on the beach with a titanium-cell photometer. The new lamp, which has a built-in reflector, produced 480 micro-watts per square inch. On the beach, a sunbather can give his bare back a light tan in about 20 minutes. With the new lamp, the process takes only five minutes.

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## GEOLOGY

### Washington Nickel Deposit Examined by U. S. Geologists

**A**BODY of nickel ore, containing also a little gold, located in the state of Washington, has just been examined by two field workers of the U. S. Geological Survey. The total quantity of workable ore in sight is estimated at 15,000 tons at a minimum, and possibly as much as 50,000 tons. Combined concentration of nickel and gold make the ore worth about \$2 a ton. There are two types of ore, of which the more abundant is not economically workable. If extraction of the second, paying type is undertaken, it will have to be worked on a relatively small-scale basis.

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## ASTRONOMY

### Van Gent Comet May Reach Naked Eye Visibility

**V**AN GENT's comet, discovered in May by a South African astronomer, may reach naked eye brilliance in spite of early calculations which indicated that it would remain too faint to be seen without a telescope.

This schedule called for a brightness of magnitude 8.7 on July 14. Instead, it is revealed by Dr. N. Y. Bobrovnikoff, director of the Perkins Observatory, the comet on that date had reached magnitude 6.98, which is about 4 1/3 times brighter than expected. About Sept. 3 when nearest the sun, the comet will reach its maximum brilliance. Should the present excess be maintained, it may well reach the sixth magnitude, which is considered to be the faintest value at which a star can be seen with the naked eye. A comet is more difficult to see than a star, because its light is more diffused. However, a sixth magnitude comet should be seen without much trouble, on a dark clear night, with the aid of binoculars. In fact, Dr. Bobrovnikoff's measures of brightness were made with the aid of binoculars, by comparing the comet with nearby stars of known brilliance.

The comet, during early August, is in the northwestern evening sky, to the right of the bright star Arcturus. It is moving through the constellation of Canes Venatici, the hunting dogs, towards Ursa Major, the great bear, of which the big dipper is part. During October it will pass just below the bowl of the dipper.

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