

MEDICINE

Dicumarol Prevents Dangerous Blood Clotting

► USE of a drug that prevents the blood from clotting so readily gives promise of being a good routine way of keeping heart patients, suffering from rheumatic heart disease and auricular fibrillation, from attacks of dangerous blood-clots or emboli.

Dicumarol is the drug that was used for this purpose in 18 patients by Dr. Stuart W. Cosgriff of College of Physicians and Surgeons of Columbia University and Presbyterian Hospital, New York, who reports in the *JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION* (July 8).

Continuous dicumarol anti-coagulant therapy was used for as long as two years in some patients. This seemed to prevent recurrent attacks of the blood-clot difficulty.

Dr. Cosgriff believes that this treatment could be applied to those suffering from arteriosclerosis as well.

Science News Letter, July 15, 1950

AGRICULTURE

World Sweet Tooth: Record Sugar Production

► THE world's tooth is growing sweeter. A new all-time record of world sugar production is in the offing, reports the U. S. Department of Agriculture's Office of Foreign Agricultural Relations. Expected output for the 1949-50 growing season is 37,999,000 tons, two percent more than last year's record crop.

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ENTOMOLOGY

A Beetle, a Bad Little Bug, Produces Russian Bellows

► THE cold war is obsolete. Now it is the bad bug war. A squat, zebra-striped little beetle is producing bellows from behind the Iron Curtain.

On June 30 Russia handed the U. S. ambassador in Moscow a formal charge that American planes have been dropping Colorado potato beetles over Eastern Germany.

The State Department replied that Russia's charge was "one of the most fantastic fabrications that has ever been invented by one government against another." Russia is trying to cover up its own failure to control the ravenous, destructive potato pest, the U. S. said in blunt terms.

There is little doubt that the potato beetle emigrated from this country to Europe—but it made the voyage in 1918, traveling with the A. E. F. in World War I.

By 1924 it was a serious enemy in French potato fields, and stood at the Rhine with its feelers toward Germany. By 1939, the Germans had been at war with the striped

potato beetle for years. Hitler was the first to scream at the Allies, "Stop dropping potato bugs," the U. S. pointed out to Russia.

Actually, if this country were so minded, it could get into the bug propaganda business itself, with as little justification as the Soviets.

The codling moth that eats our apples came from southeastern Europe. From across the Atlantic came the gipsy moth, and the ox warbles which attack steer hides. We pick up a \$350,000,000 bill for damages each year because of the European corn borer. The boll weevil, ruinous cotton pest, came from Mexico. We have a tenacious parasite called the Japanese beetle.

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MEDICINE

Female Sex Hormone Relieves Advanced Cancer

► A NEW method of using female sex hormone to relieve men and women patients with far-advanced cancers was reported by Dr. Roy Hertz of the U. S. National Cancer Institute and George Washington University Cancer Research Service, Washington, D. C., at the meeting of the American Medical Association in San Francisco.

"Significant" results in five prostate cancer patients and five breast cancer patients have been obtained. In the prostate cancer patients these good results included a rapid reduction in the size of the cancer, relief of severe bone pain, and general improvement in weight, appetite and feeling of well being.

In the breast cancer patients the good results included prompt and marked shrinking of the visible breast cancer, marked suppression of the fluid in the chest, decisive relief of pain from cancer spread to bones, reduction in the size of the cancerous lymph nodes, and general rehabilitation of the patient.

The good results, Dr. Hertz and associates believe, come from the size of the dose of hormone given. A big dose in itself, however, is not enough, Dr. Hertz emphasized. The important factor is the amount of hormone that stays in the patient's blood. And the hormone disappears from the blood rather fast after an injection of even a big dose.

With this in mind, Dr. Hertz and associates worked out the new method of giving the hormone. This consists in continuous dripping of hormone solution into the veins or under the skin, using a special plastic tube for the purpose. The infusion, or continuous dripping, of hormone into the patient goes on for hours. In one patient this infusion was given continuously for 72 hours. Others have been for 12-hour periods.

The work is still in the experimental stage.

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MEDICINE

Metrazol for Sleeping Tablet Suicide Attempts

► IN case of attempted suicide by sleeping tablets containing barbiturates, use of metrazol (pentyletetrizole) in large quantities can save many lives, Drs. John R. Murphy, James Dooley and A. Warren Jones of Knickerbocker Hospital recommend in a report to the *JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION* (July 8).

A quadrupling of suicide attempts with barbituric acid derivatives in New York City justifies physicians being alert to use of metrazol treatment anywhere for immediate relief until the patient can be transported to a hospital, the doctors report.

More vigorous enforcement of the laws controlling distribution of the barbiturate drugs is urged by the report.

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RADIO-ASTRONOMY

Sunspot Color Filter To Aid Radio Predictions

► FASTER, more accurate prediction of when radio storms may upset short wave communications will come from the use of a color filter for observing sun spots now being installed at the U. S. Naval Observatory in Washington.

Short wave radio is important for both military and commercial communication. There is usually little trouble with communication between the Far East and the United States. If there is difficulty, messages can be relayed via Honolulu to San Francisco.

In the North Atlantic region, however, the huge magnetic storms kicked up by sun spots can completely black out short wave communications.

With this new solar color filter, scientists will be able to take pictures of the sun at frequent intervals or continuously if desired. They will take these pictures in the narrow band of red light radiated by incandescent hydrogen gas. All other light is eliminated by the filter.

The filter contains ammonium dihydrogen phosphate crystals that have been grown artificially. These crystals are also used in underwater sound apparatus.

The sun spots that snarl short wave radio are sometimes large enough to be seen by the naked eye. The prominences, flamelike whirlwinds of solar fire, can be seen only by the light radiated by the gases within them. The new filter accomplishes this.

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CIE FIELDS

PUBLIC HEALTH

Urge That India's People Eat Peanuts for Health

► IF INDIA'S 400,000,000 people can be taught to eat peanuts, many of the diseases which plague that country could be wiped out.

This is the conclusion of Dr. P. K. Vijayaraghavan, biochemist from India's Nutrition Research Laboratory, who is doing special protein research at the University of California at Los Angeles.

He points out that India is starved for proteins of good nutritional value because of her traditional cattle worship. While modern Indians do not today hold rigidly to the religious beliefs which deify the animals, age-old customs have made vegetarians of them.

India's protein starvation is the basic cause of many diseases which afflict her teeming millions. Indians do not get enough proteins in their diets, either in meat or vegetables. As a result, malnutrition and dietary deficiencies are widespread.

Dr. Vijayaraghavan believes it would be easier to introduce a vegetable high in protein value—such as peanuts—into the Indian diet than to try to make meat-eaters out of his countrymen. This is the line his research at U. C. L. A. is following.

At the present time, peanuts are one of India's biggest crops. However, most of the crop is fed to cattle. Dr. Vijayaraghavan is convinced that if Indians can be induced to eat peanuts instead of feeding them to cattle, a major battle in the war against malnutrition will have been won.

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METEOROLOGY

Scientists Disagree on Whether Rain Calms Sea

► RAIN falling upon an angry ocean either helps calm the waves or it does not. British scientists—armed with tanks of water and apparatus to make measured drops fall into the tanks—are arguing out this point and coming up with varying answers.

Latest blow in the battle of the raindrops was delivered by G. L. Sainsbury and I. C. Cheeseman of Andover, Hants. They say raindrops have little, if any, effect on waves, despite what British scientists Osborne Reynolds and C. F. Barnaby say to the contrary.

Supporting the earlier conclusions of E. W. S. Ashton and J. K. O'Sullivan of the University of Manchester, Messrs. Sainsbury and Cheeseman cite their experiments in

dropping measured particles of liquid dye from varying heights into a tank of water. They claim that the greater the height from which a drop falls, the more likely is its energy to be dissipated on the surface of the water, therefore having little effect on the wave movement.

Their opponents say drops of rain produce a vortex which goes down under the surface, thus tending to calm down the waves.

The controversy is being carried on in the letter column of the British scientific journal, NATURE (July 8).

Other scientists, including Americans, say that the effect of a calming of the sea when it rains is due either to a change in the direction or the lessening of the force of the wind.

Oceanographer Boyd Olson with the U. S. Navy's Hydrographic Office says he does not think experiments with laboratory tanks of water can be conclusive because in the tanks the Britishers cannot demonstrate the effect of the momentum of the waves and the velocity of the particles of water in the ocean. His conclusion is that rain, by itself, would have little effect on the waves.

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AGRICULTURE

Farms Still Need Muscle Even with Weed-Killers

► THE harrow and the hoe will still be necessary down on the farm, even with effective weed-killing chemicals such as 2,4-D.

Ever since 2,4-D was introduced to U. S. cornfields after World War II, there have been predictions that cultivators and other weed-control implements would soon be obsolete. Spectacular results with the new chemical, such as eliminating weeds for the entire summer with a single application in the spring, were reported from various parts of the country.

But, say researchers at Rhode Island State College, lack of cultivation may cut corn yields as much as weeds, depending upon weather conditions. Without stirring and aerating, soil can be compacted by rain and sun almost to the consistency of brick. And some weeds can come back after a 2,4-D treatment.

A series of carefully-controlled experiments using 2,4-D with and without cultivation were carried on in Kingston, R. I. In the plots which were not touched with a cultivator, yields were less than half the normal amount.

"It seems that 2,4-D by itself is not the complete answer," says Dr. Francis B. Muller. He points out that with chemical weed control, a certain amount of cultivation will still be needed, depending upon soil and weather conditions and the stubbornness of the weeds being fought.

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RADIO

Attention Radio Tinkerers: Leave Ignitron Alone

► HUSBANDS who blithely unscrew the back of home radio sets, boasting "I can change any tube the engineers turn out," haven't heard of the new ignitron.

An electron tube which sometimes comes four feet in height, the ignitron is now being used to supply massive bursts of electricity to power modern atom-smashers. Hooked together, these tubes can serve up split-second jolts of electricity measured in thousands of volts and amperes.

Application of the new ignitrons to million- and billion-volt atom smashers was revealed in Pasadena, Calif., at the American Institute of Electrical Engineers. General Electric engineers M. J. Mulhern, C. C. Herskind and J. E. Hudson, together with J. L. Boyer and C. R. Marcum of Westinghouse, described installations of ignitrons at the University of California Radiation Laboratory, Brookhaven National Laboratory, University of Illinois, and in other units still under construction.

The tubes are used to convert high-voltage alternating current to direct current voltages needed for the bevatron and synchrotron, new types of atom smashers. Already widely used in industry at lower voltages, these new ignitrons take the place of huge direct-current generators normally needed to rectify AC power.

Pools of mercury give the surges of needed energy in high-voltage arcs. So much heat is generated by the tubes that they must be cooled by continuously-circulating water.

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PHYSIOLOGY

Calves Carry Own Vitamin Factories

► YOUNG calves carry their own vitamin factories around with them. E. M. Kesler of Pennsylvania State College reported to the American Dairy Science Association meeting at Ithaca, N. Y.

Samples of partially digested feed were taken from a calf's stomach. More thiamine, riboflavin and nicotinic acid (B-complex vitamins) were found than had originally been contained in the feed.

The exact mechanism by which the young calf turns out vitamins needed for better health is not yet known, Mr. Kesler indicated.

Calves inoculated with extracts from the cud of older cows were found to digest more food. These experiments were described by Drs. H. R. Conrad, J. W. Hibbs and T. S. Sutton of Ohio State University. Presumably, the scientists said, bacteria found in the stomachs of mature cattle are not present in young calves.

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