

TECHNOLOGY

Chemical from Beef Tallow Aids Oil Well Production

► A CHEMICAL made from beef tallow by Armour and Company is being experimentally but successfully used to help get additional crude oil from petroleum wells after production by ordinary pumping becomes low. It is an animal oil that may help increase the world's oil supply.

When an oil well is near the end of its production by ordinary pumping, much oil still remains in the oil-bearing sand. Several methods have been developed to recover this remaining oil which may be up to one half of the original crude in the sands. One is by the use of natural gas or air introduced into the sands from the surface by compressors forcing the gas or air down a central bore. Another is by use of water pressure.

The water washes oil in the sands to the pumping wells for removal to the surface. Chemicals are used to make the water more effective. This new chemical, called Ethomid HT-60 by Armour, is said to be particularly effective and may increase the total amount of oil a well may produce as much as 10%.

Another chemical is used at the same time. It is what chemists call a quaternary ammonium compound. This is a derivative of ammonium hydroxide and is employed to prevent corrosion of the water pipe and equipment. What is called Arquad 2C is the quaternary found most effective.

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MEDICINE

Too Much Vitamin A Poisons Adult Patient

► YOU CAN get too much of a good thing, even a vitamin, it seems. A case of vitamin A poisoning has been reported by Drs. Marion B. Sulzberger and M. Paul Lazar of New York in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION (JUNE 30). It is believed the first such case in a grown person, though there have been a few cases of overdosage with this vitamin reported in children.

The patient was a 44-year-old woman who was losing the hair on her head when she consulted the doctors. She had already lost eyebrows and eyelashes, was having bone and joint pains, sores and cuts at the corners of her mouth and nostrils, and an itchy, dry, rough skin that peeled in many places and was a mottled brown on her forehead and cheeks.

Her trouble came from overdosing herself with vitamin A which she had been doing for a year and a half because she thought the vitamin would be good for relieving dry throat and preventing colds.

When she stopped taking the vitamin, her trouble cleared up. The New York doc-

tors point out that because there are more potent preparations of this vitamin now than formerly, doctors should be alert to symptoms of overdosage which may come when doses previously thought safe are taken.

Besides the loss of hair and the skin trouble, their patient had menstrual changes which presumably were not due to her age, because after she stopped taking the vitamin, the cycle returned to normal.

The symptoms of too much vitamin A are much like those of too little vitamin A and of too little thyroid hormone.

You can eat your vitamin A in butter, egg yolk, cheese, liver. Yellow and green vegetables, especially carrots, supply the chemical, carotene, from which the body makes the vitamin. But if you are going to take it in pills or fish liver oil, let your doctor prescribe the dose.

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CHEMISTRY

World-War-Developed Chemicals Repel Insects

► SUMMERTIME MISERY from chiggers, mosquitoes, biting flies and many other insects can be stopped by use of the new insect-repelling chemicals developed during World War II. Of the thousands that were tested, the following mixtures are recommended as effective against a wider range of insect species and on more persons than any one of the chemicals used alone:

FORMULA 1: Dimethyl phthalate—3 parts, Indalone—1 part, Rutgers 612—1 part. FORMULA 2: Dimethyl phthalate—1 part, Indalone—1 part, Rutgers 612—1 part. FORMULA 3: Dimethyl phthalate—3 parts, Indalone—1 part, Dimethyl carbate—1 part. In these formulas, from the U. S. Department of Agriculture Bureau of Entomology, all parts are by weight.

Some repellents now on the market under trade names contain only a small percentage of the active chemical and a large percentage of alcohol or other diluting material. They may be pleasanter to use but do not give protection for as long.

These chemicals are poisonous if taken internally but are safe to use on the skin. A few persons may get a slight rash, but the number so affected is small. Keep them away from mucous membranes, eyes, eyelids, the groin and any cut places, as they will cause smarting if put on such places.

Smear the repellent evenly over exposed surfaces of the skin and repeat when insects start biting again. These chemicals will not hurt wool or cotton cloth, but they will damage rayon, sharkskin and other synthetic cloth, finger nail polish, plastic watch crystals and articles painted, varnished or made of plastics.

For further information on these newer insect repellents, write the Department of Agriculture for Bulletin E-698 (revised.)

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IN SCIENCE

ARCHITECTURE

Modular Designs Save Costs In Building Constructions

► ONE WAY to save costs in building a new house is by use of what is called the modular method of design, the U. S. Housing and Home Finance Agency points out.

The modular method uses building materials which are standardized in dimensions, usually in lengths and widths which are multiples of four inches. Much of the materials used in construction, including lumber, wallboards and window frames, are now factory-constructed on this basis of measurement. If buildings are designed by architects to use only these standardized products, much waste in material and time is eliminated on the job.

For the benefit of architects, and others who are designing houses for themselves, the Housing and Home Finance Agency has issued an illustrated booklet entitled THE MODULAR METHOD IN DWELLING DESIGN. Copies are available from the Superintendent of Documents, U. S. Government Printing Office, for 25 cents. (See page 40).

Substantial economies in house building can be achieved only by cooperative efforts of materials and equipment producers, architects and builders, Raymond M. Foley, head of this government agency, states. Modular coordination provides a basic approach to one form of cooperation needed. Sufficient modular materials are now available in masonry products, windows, kitchen and other equipment to fully warrant modular planning and detailing by all architects.

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INVENTION

Patent Anti-Collision Device To Lessen Plane Crashes

► DANGER OF collision in the air of two planes would be lessened by an airplane proximity indicator on which Charles Adler, Jr., Baltimore, received patent 2,560,265. Its use would require all planes to employ special transmitting and receiving equipment.

The transmitting device would send out continuously impulses of a predetermined high frequency, and they would be sent out in all directions. Receiver equipment would pick up only this frequency. By the use of a rectangular horn-type antenna, it would pick up signals only from planes flying at about the same altitude. By a device attached to the receiver, the positions of other airplanes are indicated.

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E FIELDS

PUBLIC HEALTH

5% Births in U. S. Without Doctor's Help

► A DOCTOR attends the birth of almost 95 out of every 100 babies born alive in the United States today.

The exact figure, for the year 1949, is 94.8%, the National Office of Vital Statistics reports. In 1935 the figure was 87.5%.

Biggest difference during the 15-year period came in the number of babies born in hospitals. In 1935 this was 36.5%. In 1949 it was 86.7%. This means almost three million babies were born in hospitals in 1949, which is more than twice the number of hospital births in 1940 and almost four times the number in 1935.

In recent years only one in 20 births has not been attended by a physician.

This change toward increased use of medical and hospital facilities in recent years, the Federal vital statisticians point out, has "without doubt been an important factor in the continuous decline in the infant and maternal mortality rates in the United States."

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NUTRITION

Nourishing Hot Weather Meals for Good Health

► HOT WEATHER may dull your appetite and make it hard to sleep at night. But your body needs nourishment and rest in summer as well as winter. If you are feeling tired and dragged out these warm summer days, it may be because you are eating only light snacks and staying up too late in an effort to keep cool. Regular bedtime hours for children and grown-ups will provide rest even if it is too hot to sleep soundly.

For hot weather meals, easy to prepare and eat, try nourishing, one-course salad dinners. Vegetables, including potatoes, and enough meat, fish, eggs or cheese can go into the salad to provide the protein needed. The U. S. Bureau of Human Nutrition and Home Economics suggests the following salads, but the imaginative cook will find many variations. A two-cup serving for each person provides a complete meal except for bread, beverage and perhaps dessert.

SUPER SUPPER SALAD—½ medium-sized head lettuce, 12-15 leaves chicory, 8 large leaves romaine, 1 medium-sized cucumber, 2 medium-sized tomatoes, 1 cup coarsely cut cooked chicken, 2 hard-cooked eggs, 1 cup diced cured luncheon meat, 5 pepper rings, and 4 small green onions.

Serve with a tart French dressing with crumbled blue cheese added.

HEARTY CHEF'S SALAD—2 cups shredded cabbage, 2 large romaine leaves, 20-24 chicory leaves, 2 medium-sized tomatoes, 6 radishes, 4 cooked frankfurters, 1 cup thinly sliced cooked chicken, and 4 deviled eggs.

Serve with a tart French dressing with chopped onion and green pepper added.

TROPICAL CHEF'S SALAD—20-24 chicory leaves, 8-10 romaine leaves, 1 cup shredded cabbage, 2/3 cup small pineapple pieces, 1 cup chopped celery, 1 medium-sized cucumber, 1 medium-sized carrot, 1 cup coarsely cut cooked chicken, ½ cup diced sharp cheese, ½ cup finely shredded salami.

Serve with a clear, tart oil dressing.

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DENTISTRY

Tooth Brushing Helps To Prevent Decay

► IF YOU want to keep your teeth free from decay, do your toothbrushing after each meal and each between-meals snack. Do this particularly if with the meal or snack you ate cake, candy, very sweet drinks or foods. And you might ask your dentist or doctor or both about a penicillin dentifrice.

All this is the advice implied in research just reported to the American Dental Association by Dr. Leonard S. Fosdick of Northwestern University Dental School, Chicago, and Comdr. William E. Ludwick and Capt. C. W. Schantz of the Navy Dental Corps at Great Lakes, Ill.

Brushing teeth in the morning on arising and in the evening before retiring, which is the common practice of most of us, has little effect in fighting off tooth decay, they find. This is true even when the tooth brushing is done with pastes or powders containing chemicals which can prevent acid formation from fermentable sugars such as would be left in the mouth after eating sweet and other refined carbohydrate foods. This includes the ammoniated dentifrices.

What is needed, the dental researchers state, is a substance that will have a prolonged effect in preventing acid formation. Of 10 substances they tested, including ammonia, only penicillin has a lasting effect. Used in a dentifrice or as a lozenge or mouth wash, its effect in keeping down acidophilus bacilli and acid formation lasts as long as 24 hours. A penicillin dentifrice used morning and night actually will reduce tooth decay, it has been reported.

Reason why penicillin has this lasting effect, the researchers found, is that it clings to the film on teeth. The other substances tested did not. Whether routine daily use of penicillin in tooth cleansers will result in penicillin sensitization and adverse reactions is not stated in the dental report.

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PSYCHOLOGY

Drop Leaflets from Sky In Psycho-War Test

► A CLOUD of leaflets dropping from the sky one of these days around Seattle, Wash., will not necessarily be a new advertising stunt. Rather, it will probably be a scientific experiment.

Psychologists at the University of Washington's Public Opinion Laboratory are going to test, for the Air Force's psychological warfare research, the effects of various kinds of leaflets dropped from planes. Guinea pigs in the experiments will be the people of the Pacific Northwest.

Air Force officials in Washington's Pentagon said that the strategic, rather than the tactical effects of leaflets will primarily be studied in Seattle. They said that leaflets and messages delivered by airborne loudspeakers had already proven tactically useful in Korea.

The University of Washington will carry out the research under a \$100,000-a-year contract, proposed to go for three years. Called "Project Revere," the research will be under the supervision of Dr. Stuart C. Dodd, University of Washington.

Studies will be made to determine how fast messages disseminated by air-dropped leaflets spread, what per cent of the civilian population target will get the messages and how wide an area they may be expected to cover.

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TECHNOLOGY

Nearby Explosions Can Not Blow in New-Type Window

► HEAVY NEARBY explosions will be unable to blow entire windows, frame and all, into a room, if they are the new-type "bomb window" developed by the Pittsburgh Plate Glass Company of Pittsburgh, Pa. This bomb-proof window contains a glass-plastic laminate which opens by folding about its edges.

The window pane consists of three layers laminated into a single unit, Dr. J. Hervey Sherts of the company states. The outer layer is a sheet of glass, the middle layer a partially segmented sheet of polyvinyl butyral plastic, and the inner layer consists of four triangularly shaped pieces of glass with apexes meeting at the center of the window pane.

The plastic layer extends beyond the glass edges and is bolted to the window frame to serve as a hinge. This permits the inner glass segments to open like doors if the outer plate of glass is broken. The plastic is elastic and returns to near original size when the pressure is removed. The segments can then be stuck closed with tape or chewing gum until such time as the outer glass may be replaced without inconvenience.

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