

GENERAL SCIENCE

Water Shortage Problem

► MAN himself is mostly to blame for the water shortage problems he now faces in the Southwest.

Man, in all innocence, moved into the Southwest and upset the natural balance, H. G. Thomasson told the U. S. Geological Society of Washington in Washington, D. C.

As a result he now is plagued with a ground water shortage.

Some of the problems created by upsetting the balance are being faced now, Mr. Thomasson said, but still others will have to be faced in the future. Whether or not the Southwest can be saved from a slow death by water starvation can not now be predicted, the hydraulic engineer stated.

There are still avenues open to water experts, trying to find a means to quench the thirst of the parched Southwest, Mr. Thomasson reported.

One, currently being attempted, is moving large quantities of surplus water from areas rich in water to areas in need. On the grandest scale, this is what is happening with water-rich northern California to water-poor southern California. But this is a long term problem, Mr. Thomasson cautioned, and highly complicated. It involves storage and transportation difficulties, which are magnified in the California situation, where the northern country is subject

to long, unpredictable dry spells. This is characteristic of the entire Southwest.

Storage itself may prove to be one of the keys to bolstering the nation's dwindling water supply, Mr. Thomasson said.

There is, he stated, the hope that a means can be found for man to replace much of the water that he uses. An optimistic project, now drawing the attention of water experts, is the utilization of underground reservoirs. At present, Mr. Thomasson reported, above ground space for reservoirs is almost as short as water to fill them.

Underground storage space seems unlimited, Mr. Thomasson stated. Water could be stored in much the same manner that it is held behind dams. In some areas in the country underground reservoirs, which once held water, have been pumped out and could possibly be turned from a natural reservoir into a man-usable reservoir.

By using underground reservoirs, Mr. Thomasson pointed out, water could be stored during wet years and withdrawn during dry years. But, here again, there are many complications and it cannot be done overnight. However, Mr. Thomasson said, "we should be hearing more and more about underground water storage and see its use in the foreseeable future."

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MEDICINE

Treatment for Sclerosis

► TREATING multiple sclerosis cases with fatty acids extracted from the spinal cords of beef cattle appears to stop new attacks of the disease, Drs. R. L. Noble, K. K. Carroll and A. S. Douglas, London, Ontario, reported in the *Canadian Medical Association Journal* (Jan.).

The scientists warn that their experiments are only preliminary and that no conclusions have been drawn from them. They do believe, however, that the results warrant further investigation at treatment centers where large numbers of multiple sclerosis patients are available.

Multiple sclerosis may be caused by a nutritional deficiency of certain unsaturated fatty acids in the body, the researchers believe. When these are not present, there may be a breakdown in the maintenance and functioning of the myelin nerve sheath, a fat-like substance around nerves that keeps them from short circuiting, much like rubber insulation protects electric wires.

From the spinal cords of cattle, the scientists have extracted a yellowish oil composed of long chain fatty acids believed to take part in myelin formation. Six drops of this tasteless oil are taken daily by ten multiple sclerosis patients who are being treated with it. Treatment of the first case

began in May, 1955, and the last within the past six months.

Since then, the patients have had no other treatment, except for "symptomatic therapy," and none have shown signs of any new nerve lesions.

There has been no spectacular improvement observed, the scientists reported, but this is to be expected if the nutritional deficiency theory is correct. Only a prevention of increased severity would be expected, they said.

"All that can be said about these patients at the present time is that during the period that they have received F.A.F. (fatty acid fraction), none of them has experienced a major exacerbation (increase) of the process," they reported.

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MEDICINE

Best TB Drug Shown by Radioactive Tracing

► TWO of modern medicine's most powerful anti-tuberculosis drugs have been made radioactive to show how they are absorbed in the body.

Scientists at the University of Chicago re-

port that the two drugs, PAS (para-aminosalicylic acid) and isoniazid, were labeled with radioactive carbon 14 and traced throughout the bodies of infected animals to determine which one did the best job of destroying TB germs.

Isoniazid, generally considered to be the best anti-TB drug now in use, was found to be retained in tubercular lesions while the other drug, PAS, penetrated the lesions but left them just as quickly, the researchers reported.

Infected tissues such as spleen and lung seemed to store up the available isoniazid. The more infected the tissue, the greater was this storing up. The distribution of the PAS drug, on the other hand, was not affected.

Drs. Alfred Heller, Dieter Koch-Weser and Lloyd J. Roth, University of Chicago, and Dr. Robert H. Ebert, now at Western Reserve University, Cleveland, Ohio, reported on the research in the *American Review of Tuberculosis and Pulmonary Diseases* (Jan.).

Science News Letter, January 19, 1957

AGRICULTURE

Pigs Found to Stand Up To Jet Plane Noise

► PIGS appear to hold up better under the strain of screaming jet airplanes than do their owners.

Farmers are worried, the U. S. Department of Agriculture reports, that prolonged noise from jet aircraft will affect their livestock. To allay the farmers' fears and find out just how and to what extent jet noise bothers farm animals, USDA is currently running a series of experiments with noise and pigs.

In preliminary studies, meat-type hogs show no ill effects from being penned up with a record machine that blares "flyovers" by both jets and conventional propeller-driven planes.

The animals listen to the noise from 6 a.m. to 6 p.m. at predetermined irregular intervals that range from a few seconds to 12 minutes. Some of the pigs, the USDA scientists said, were born right into the jet-noise pen.

Maximum intensity of sound one mile from a jet airfield, the scientists have determined, is about 120 decibels. This is approximately 20 to 25 decibels more than the intensity beside a large farm tractor.

Although the hogs show no outward or inward signs of adverse effect to date, researchers eventually hope to find if prolonged jet noise causes a drop in egg, meat or milk production, or a change in feeding habits. They also hope to discover whether or not a tolerance for the noise develops with a life-long exposure to it.

Pigs are being used first because they grow rapidly and have shorter life-cycles than larger farm animals. The work is being conducted by C. F. Winchester, James Bond, L. E. Campbell, J. G. Hartsock and J. C. Webb at USDA's Agricultural Research Center, Beltsville, Md.

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