

NEW MEXICO A & M'S INTEREST IN THE STATE WATER PROBLEMS

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Figuratively speaking, water is the symbol of purification and regeneration. We cannot live without water; we could live better if we knew more about it. Each year we become increasingly aware of its value. In essence, water is life. It is well that we consider its sources in order that we might become more aware of our need to use it more efficiently. Ninety-seven per cent of the available water exists in 300 million cubic miles of sea. This is salt water, and as yet no cheap means for its utilization has been devised. This leaves three per cent of the water which could be classified as fresh. Two per cent of the total water, or two-thirds of the fresh water, is locked up in the polar cap, which leaves only one per cent of the total water which can be used for human consumption, for livestock, and crops. Simply stated, it means that only one gallon out of every hundred gallons is usable. This usable water goes into many activities. Today each American uses more than 12 hundred gallons daily for human consumption, growing crops, cooking, sewage, manufacturing, air conditioning, etc. Our population has reached 170 million people who use more than 200 billion gallons of water daily. It has been estimated that this need will be doubled by 1975.

Much must be done to increase the efficiency of water usage. At the present time we retain and use only about one gallon out of every twenty three gallons of rain. Thomas Fuller once said, "We never miss the water 'till the well runs dry." It is wise for us to take stock of our available water sources and do everything within our power to use it wisely. It is amazing to consider the amounts of water that may be used in manufacturing processes. In a recent report, it was stated that 5 million pounds of water are needed to make a ton of synthetic rubber; 2 million pounds of water are necessary to make a ton of rayon; 40 million pounds of water are necessary to make a ton of bromine.

Irrigation is one of the largest users of water and a very important one for the production of food and fiber. A fourth of a ton of water is needed to grow a pound of grain; one-half ton of water is needed to grow a pound of cotton. Irrigation is highly important to the agriculture of New Mexico. Therefore, New Mexico A & M College has taken a strong interest in the State's water problems. In 1955 in the United States, some 91 million-acre feet of water was used to irrigate 34 million acres of crops. Seventy per cent of this water was surface water, while 30 per cent of it was ground water. The number of wells in New Mexico have increased considerably, and by 1955 there were already more than 75 hundred wells in this State.

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The Experiment Station at New Mexico A & M is carrying on research with crops and water. There are a variety of studies being carried on at the present time. Our Agricultural Engineering Department has two projects--one, cotton irrigation on sandy land, and another, studying alfalfa irrigation. Our Department in Agricultural Economics is pursuing research dealing with the economics of water laws, economic uses of San Juan water, costs of irrigation production, and pump-irrigation economics. Our Agronomy Department is studying the practices of irrigating pastures. The Dairy Department is conducting an experiment on water hardness and its use in cleaning dairy equipment. At our Middle Rio Grande Substation at Los Lunas, we are carrying on research on the irrigation and nutrition of chile. Our Northeastern Substation at Tucumcari is doing research on fertilization of cotton and irrigation. We are cooperating with the Great Plains Program to assist in every way possible to encourage more surveys of the available water and to encourage its efficient usage.

Water is vital for irrigation, industry, manufacturing, municipalities, rural homes and livestock, power, recreation, wildlife, and we could name many many more. This conference should move us another step closer to an understanding of our water problems in New Mexico. We welcome you to the campus of the New Mexico College of Agriculture and Mechanic Arts. This is your landgrant college. We sincerely hope that your stay is a pleasant and profitable one. If we can be of service to you, either during your stay on the campus or later, we are pleased to offer our assistance.