GENERAL SCIENCE

More Export of Research

To meet the worldwide challenge of exploding populations and the needs of underdeveloped countries it is important to spread U.S. research and technology to other countries.

➤ MOST COUNTRIES of the world and low-income areas in this country need U.S. research and technology. They will continue to do so for the next 10 to 20 years.

To meet the worldwide challenge of exploding populations and rising aspirations of emerging and underdeveloped nations, a basically new "orientation and organization" of this country's research and development of natural resources is required.

In a report requested by President Kennedy, the National Academy of Sciences-National Research Council called for mobilizing the nation's scientific and technical skills to aid other countries.

The report recommends establishment of a Central Natural Resources Group within the Government to give "vigorous leadership."

Although the U.S. is now in good shape as far as use of its natural resources is concerned and will be for many years to come, research emphasis must be changed soon or the consequences will be "serious," the Academy committee reported.

Scientists have sufficient knowledge now to increase the amount of protein and the food value of native plants through breeding improved varieties. Such an increase would result in "dramatic improvement of conditions that often approach the intolerable in many countries."

The grave protein shortage among some two-thirds of the world's population could be greatly reduced through an increase in fish harvest. The Academy committee urged experiments to improve production in the fishing industry.

Abundant energy at the lowest possible cost should be an important goal for all countries. This can be accomplished by better technology and use of coal, nuclear power, and more efficient transmission of power and energy.

Water resources could be greatly increased by reducing evaporation—water lost to the atmosphere in the 17 western states is estimated to be more than twice the total amount of water used in the whole United States.

Overcrowding threatens recreation facilities. Land areas readily available for public purchase are disappearing so rapidly that action should be taken without waiting for research. Cities and counties should buy land now.

• Science News Letter, 83:39 January 19, 1963

DERMATOLOGY

Treated Cloth Harms Skin

➤ UNLESS MANUFACTURERS are careful to wash out the excess free formaldehyde used to make textiles crease-resistant, shrink-proof and water-repellant, sensitive skins may be inflamed by contact with the finished cloth.

Most reports of "contact dermatitis" due to free formaldehyde in textiles have come from Europe, especially from Scandinavian countries. Formaldehyde, a pungent disinfectant, is also used abroad to check perspiration, and many cases of eczema have been seen in the area around the armpits of European women.

Users of such antiperspirants may become sensitive to formaldehyde, researchers believe, so that later exposure to excess amounts left in textiles may result in eczema or other types of skin irritation.

American manufacturers communicating with Drs. Alexander A. Fisher and Norman B. Kanof, who with Ella M. Biondi reported the study in Archives of Dermatology, 86:753, 1962, in Chicago after tests at the New York University School of Medicine, stressed the fact that all their formaldehyde-treated fabrics were thoroughly washed before being shipped.

These manufacturers provided samples of various textiles and papers that had been treated with formaldehyde resins, consisting of ureaformaldehyde, melamine-formaldehyde and phenolformaldehyde. Although some free formaldehyde was left in these products, none of the 20 patients shown to be allergic to formaldehyde, through previous patch tests, showed allergic reaction to eight different textile samples, one facial tissue and one paper towel.

Although formaldehyde is used to impart "wet" strength to paper, including some facial tissues and paper towels, there is apparently not enough left in these products to affect many formaldehyde-allergic persons in the U.S.

There is no general agreement as to the permissible amount of free formaldehyde in the finished product, the investigators reported.

The fact that the odor of formaldehyde can be detected when a textile is stored or ironed is not necessarily significant. The chemical can be detected by most individuals at concentration of about one to two parts per million but in storage, without free circulation of air, the odor would be noticed even though the amount fell far below a dangerous concentration.

• Science News Letter, 83:39 January 19, 1963

G. T. Schejeldahl Company

LAMINATED BALLOON— Stretched along the 540-foot-long table at the G. T. Schejeldahl Co., is the super-strong Mylar and Dacron laminate only half a thousandth of an inch thick being fabricated for the Stargazer balloon. The balloon of 3.2 million cubic foot capacity is designed to carry a payload of 4,800 pounds.

TECHNOLOGY

Central Warning System To Show Airplane Failure

➤ A CENTRAL WARNING display system which indicates all types of plane failures in one spot on the instrument panel for the pilot to see at a glance can replace the many warning lights that are currently used.

The Rank Cintel Central Warning System, developed by a British firm, is a method of electronic wave form generation. It shows failure conditions in words, numerals, symbols or patterns on the face of a cathode-ray tube. A trace in three colors is produced by the tube to indicate the seriousness of the failure.

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TECHNOLOGY

Floating Nuclear Power Plant for Emergencies

➤ HELP FOR CITIES whose power sources are cut off by war or other disasters could come from a floating nuclear power plant to be built for the U. S. Army Corps of Engineers.

The floating plant will supply electricity for military units conducting land operations in or near a port area. It will generate 10,000 kilowatts in the hull of a modified World War II Liberty ship, which will be designed to operate at dockside or at anchor.

The plant will cost $16 million and will be built by Martin-Marietta Corporation.

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