

WILDLIFE

**21 Whooping Cranes  
Now in Texas Refuge**

➤ TWENTY-ONE WHOOPING cranes, rarest and tallest of American birds, have landed in their winter home at the Aransas National Wildlife Refuge, Texas. Officials have hopes that at least three stragglers, late leaving Canada, will swell the number.

The U. S. Fish and Wildlife Service is maintaining a daily check on the refuge. Last spring the same number of birds set out for Saskatchewan.

Each spring and fall, conservation groups in the United States and Canada join forces to protect the stately cranes, near extinction, from ignorant hunters. Their migration carries them over the Dakotas, Nebraska, Kansas, Oklahoma and much of Texas to their refuge in the marshes near Aransas.

Of the birds now in the refuge, 18 are adults and three are young birds. This loss of old adults and addition of a small number of young birds is normal, officials report.

Hopes for more birds were raised by observations of three cranes in Canada in November. It takes about three weeks for the cranes to make the long flight.

The number of cranes in recent years has stayed around 20, with 23 reported in 1952. American pioneers on the plains saw many of the magnificent birds, but civilization has almost brought them to extinction.

Science News Letter, December 5, 1953

AGRICULTURE

**Farm Implements Do Not  
Mix Soil Conditioners**

➤ ORDINARY FARM implements, such as disk harrows and moldboard plows, will not mix soil conditioners uniformly into the soil, W. C. Hulbert and R. G. Menzel of the U. S. Department of Agriculture have found.

Soil conditioners act only on the soil they actually contact. Ordinary tillage is a rolling and crumbling of soil within itself without changing the relative position of soil particles or mixing the soil.

Moldboard plows and disk harrows, the implements that are the basis of present tillage systems, are not effective in mixing the soil. In tests, plows tended to concentrate trace elements in strings or sloping sheets, and harrows, while effective in mixing vertically, did not mix horizontally.

The most effective implements found for mixing the soil were rotary tillers and spring-tooth implements. These heavy and costly machines mixed the soil to a depth of about six inches, but there is little prospect they will become common on farms.

One group of tests used radioactive phosphorus as the traceable element, and a second test used sorghum grain to represent soil conditioners. The land was tilled prior to the tests.

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