A Science Service Feature

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? WHY THE WEATHER ? Mailed Dec. 19, 1935

ICE WELLS

By Charles Fitzhugh Talman
Authority on Meteorology

The natural "ice cave," which, with hot midsummer weather prevailing outdoors, is cold enough to contain ice formed during the previous winter, is imitated in the "ice wells" constructed in recent years on the Great Plains as an inexpensive means of preserving dairy products. The details of their construction are set forth in Circular 155, issued by the U. S. Bureau of Dairy Industry in Washington. Their mode of operation, as pointed out in a recent note by Dr. C. F. Brooks, demonstrates two facts well known to meteorologists.

"One, he says, "is that at a very moderate depth the soil reaches its minimum temperature in summer, so slow is the conduction of heat. The other is that the cold air surrounding the ice is so much denser than the warm air above that virtually no access of heat by mixing is possible. The cold air stays in the ice well almost as if it were water. Thus a relatively moderate amount of ice is sufficient to cool the contents of the well and still last all summer. The Plains are cold enough in winter to make any amount of ice for the ice well."

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