

ness, in color or in material. Such casts give us images of the external shape of bone, scale, horn—sometimes even skin and feather.

The finer the clay the finer the detail in the cast. Probably the most perfect fossil cast, certainly the best known one, is the famous cast of *Archaeopteryx*, the toothed, long-tailed primitive bird found, complete even to prints of its feathers, in a slab of lithographic stone from Central Europe.

The ooze into which that dying bird fell, millions of years ago, was so fine-grained that the stone into which it has hardened will register and reproduce

the thinnest of lines that can be drawn upon it with a lithographer's pen. This extreme fineness of grain has made it possible for scientists to study the skeleton and feathers of this long-gone bird species almost as though they had before them the bones and feathers of a crow killed a few days ago.

Good enough for the dinosaurs were the coarse shales and sandstones of our rude west, of the wild plains of Mongolia. *Archaeopteryx*, writing his own epitaph with his own plumes, demanded—and received—a much daintier entombment.

*Science News Letter, May 26, 1934*

#### AGRICULTURE

## United States Need Not Fear Famine Even With Drought

**D**ROUGHT or no drought, Americans will not have to face famine this winter. The "carry-over" of wheat, corn and other basic foodstuffs, added to even a short crop, insures ample supplies. And should the worst imaginable befall, and no food whatever be raised in this country this year—something quite impossible, short of a veritable Devil's miracle—there is already sufficient in the pantry to live on.

A survey of the situation, based on latest data available at the U. S. Department of Agriculture, piles up some impressive figures.

The quarterly report of stocks of wheat on farms, together with private figures, leads to an estimate of 386,000,000 bushels for total wheat stocks

as of April 1 this year, compared to 528,000,000 bushels last year and 521,000,000 bushels average for the past three years.

Estimating and deducting the amount to be used at home and set aside for export until July 1 suggests that the carry-over at that time will be 250,000,000 to 275,000,000 bushels. This compares with 397,000,000 bushels a year ago and a five-year average of 285,000,000 bushels.

The new winter wheat crop is estimated at May 1 at 461,000,000 bushels. No estimate can be made as yet for spring wheat, because it is not all planted. Last year the spring wheat crop was 176,000,000 bushels. Assuming that the crop is the same size this

year (which is doubtful if the present drought continues) that would give a total supply for next year as follows: Carry-over 266,000,000 bushels, winter 461,000,000 bushels, spring 176,000,000 bushels, or a total of 903,000,000 bushels.

The total disappearance of wheat for food, feed, etc., was estimated at 620,000,000 bushels last year, 666,000,000 bushels in 1932, and 684,000,000 bushels in 1931, assuming 625,000,000 bushels for next year would leave 278,000,000 bushels for export and carry-over. The total exports during the years 1929-32 averaged less than 150,000,000 bushels per year, in 1933 they were 44,000,000 bushels and declined still more in 1933-34.

This would leave us with a carry-over next year about as large as this year.

The stocks of corn on farms on April 1 amounted to 834,000,000 bushels, compared with 1,123,000,000 bushels in 1933 and 913,000,000 bushels in 1932.

Stocks of oats on farms on April 1 were 271,000,000 bushels, compared to 468,000,000 in 1933 and 365,000,000 in 1932. Oats are, therefore, relatively considerably below recent years.

*Science News Letter, May 26, 1934*

#### ENGINEERING

## Hair Not Good Material For Test of Razor Blades

**T**HE TIME-honored morning rite of plucking out a hair and testing a razor blade on it has been investigated by science, and found wanting.

Hair is too irregular to be good test material. So T. S. Fuller and Dr. W. R. Whitney of the General Electric Company's Research Laboratory discovered, in seeking a thread or fiber for razor blade tests.

An eight-inch hair varies as much as 340 per cent. in its cross-sectional area. While even poets rarely wear hair this long, the figure gives an idea of how inexact the hair test is.

The laboratory investigators made a standard fiber of raw silk strands twisted in a certain way, for their tests. The "sharpness tester" apparatus which they have devised is described as purely a developmental and not a commercial device, to check up on the performance of blades.

*Science News Letter, May 26, 1934*

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