



11 TO 1937

Dr. A. E. Douglass, University of Arizona's noted astronomer, has reason to smile at his tree ring calendar, which stretches way down the wall to the right. After 36 years, he has obtained a continuous record of annual growth rings in Arizona pine trees from 11 A. D. to 1937. Evidence of weather cycles related to solar phenomena, revealed in the rings, should lead to long range weather prediction, he believes. Archaeologists use the tree ring calendar to establish dates for prehistoric Indian ruins—the earliest so far dated 348 A. D.

ENTOMOLOGY

Aerial Attacks By Hoppers Bring War Into New Areas

By **WATSON DAVIS**
Director of Science Service

DANGEROUS aerial attacks by flying grasshoppers are predicted for middle western states about now. (July 25). Out of the skies are likely to come great hordes of this insect pest, now in its flying or aviation phase, traveling with favorable winds hundreds of miles in a single day. This is likely to bring the grasshopper war into fields of farmers who thought they were safely remote from the battle front they had heard about miles away.

Despite this new phase of science's battle against the plagueful hoppers, Dr. W. R. Walton, senior entomologist of the U. S. Department of Agriculture's bureau of entomology, is feeling fairly well pleased with the defense being waged against these insects. As he checks

his insect war plans, consisting of tables showing allotments of poison purchased with the million dollars appropriated this spring by Congress, he finds that the most serious foe is aligned from Arizona to the Canadian border.

This kind of grasshopper—locusts to the entomologist—is the lesser migratory locust, technically known as *Melanoplus mexicanus*. Some entomologists think it is an evolution of the old Rocky Mountain locust of years ago. The present variety is very much the same except that its wings are shorter.

This pest is just now getting to be grown-up and with this adulthood comes its dangerous ability to fly.

Front line reports from Dr. J. R. Parker, Uncle Sam's representative in the Colorado grasshopper war area, bring Dr. Walton the pleasing news that the strenuous poison warfare against that in-

festation of another and larger kind of hopper is proving successful. Enough arsenic poisoned bran and sawdust has been mixed and spread to secure very good control in that general locality—which is justification of the strenuous fight whose beginnings I saw in the field several weeks ago. (See SNL, July 10.)

Just now the bottom of the war chest of a million dollars is being scraped to keep poison flowing to the fighters in the field and there is hope that Congress will further implement the grasshopper war with an additional appropriation of \$500,000 to \$1,000,000. The U.S.D.A. original estimate of \$2,000,000 needed for this year's war was halved by Congress when it appropriated this spring.

This money is spent for poison, sodium arsenite, which states and counties mix with sawdust and bran and spread thinly as bait in the path of the hoppers. Millions are killed in this way.

Grasshoppers are rated among the most destructive of insect pests, not only in America but throughout the world. They strip bare the fields upon which they light and they are partial to the juicy corn that is now swelling to bumper proportions in the fertile fields of our agricultural midwest. One peculiarity has the bug-hunters puzzled. The grasshopper does not like sorghum, although it is a near relative to corn. He will pass up a field of it and devastate all other crops nearby.

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ETHNOLOGY

Basque May Have Been Language of All Spain

BASQUES have figured prominently in the news of late, especially in their protracted defence of Bilbao and in the stubborn resistance they continue to offer the insurgent forces. The very fact that their unique language seems to set them apart from all the rest of the world casts glamor over their wars.

The Basques themselves have always insisted that their language marked them as a race apart from all other inhabitants of Spain. But a writer in the quarterly journal *Thought*, Dr. Owen B. McGuire, is not so sure about that.

Indeed, Dr. McGuire, who has had a seventeen-year resident in pre-revolutionary Spain says:

"Who the Basques are and where they originally came from is a problem 'in a state of well-ascertained and scientific ignorance.' But that is true of all the people of Spain."