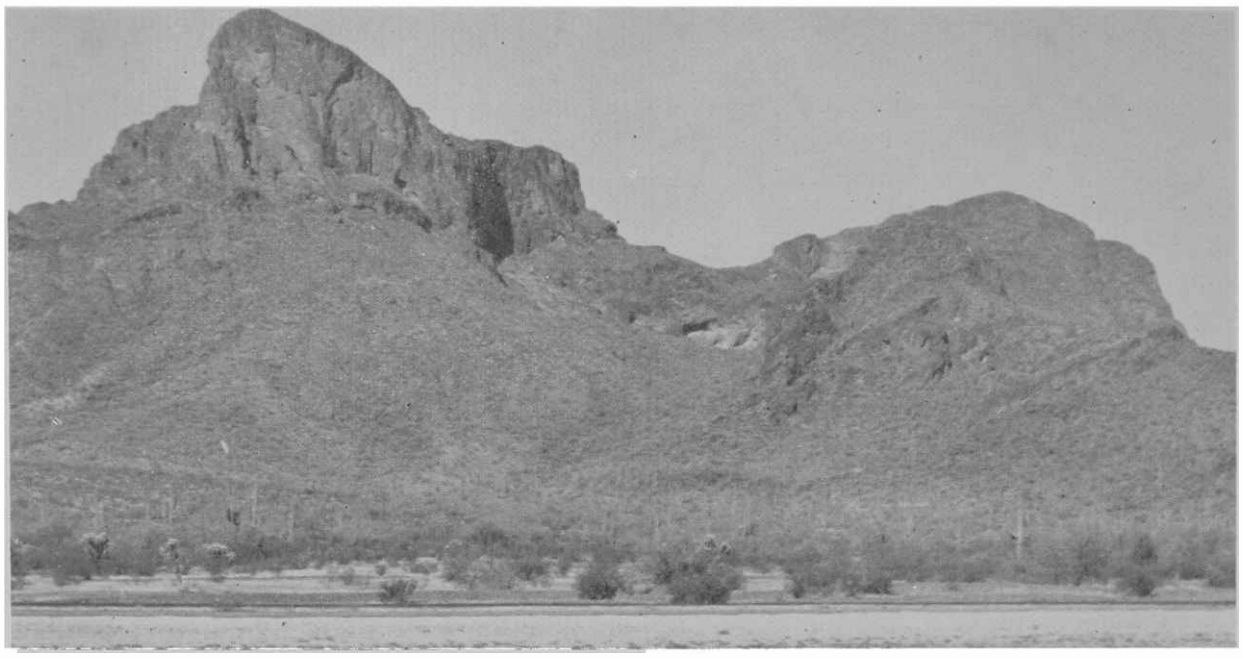
## Site of a Non-Agricultural Centennial



**In previous issues we've dwelt so strongly on the agricultural importance of 1862 — date of the Homestead Act, the Land-Grant College Act, the birth of the U. S. Department of Agriculture — that we've now been reminded that those very important pieces of legislation 100 years ago were almost unnoticed at the time because of something of greater public attention, the Civil War.**

**To show awareness of that dreadful war, we are here printing a photo of Picacho Peak, some 40 miles northwest of Tucson, beside the main highway to Phoenix. This odd outcropping, which viewed from the distance looks like a plucked chicken wing, is site of the farthest west engagement of that war.**

**A contingent of mounted Union forces coming from Yuma, and Confederates from Tucson, clashed briefly at Picacho one day in 1862.**

**Ironically, the half dozen fatalities that day are fewer than the annual carnage from automobiles on the paved highway which now passes nearby.**

# BIG VEIN

## *Hits Quality, Quantity of Lettuce*

**Robert B. Marlatt**

Until four years ago, plant pathologists assumed that the big vein disease of lettuce was simply caused by a virus which occurred in the soil.

Dr. Marlatt is an Associate Plant Pathologist at the Mesa Branch Experiment Station.

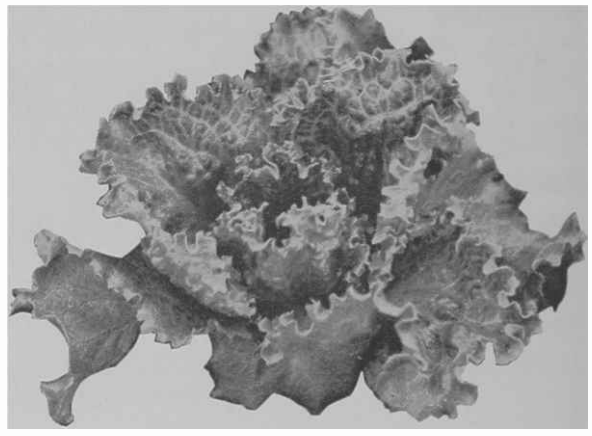
In 1958 plant scientists in California found a fungus in roots of lettuce with big vein. If the fungus wasn't there, there was no big vein; somehow it was responsible for the disease. Since then there has been evidence that this fungus helps a virus get into lettuce, and the symptoms of the disease are the result of the virus infection.

Most lettuce growers are familiar with big vein symptoms, the frilly edges of the leaves and the apparently enlarged, white leaf veins. Although big vein has been blamed for poor quality, no actual measurement of its effect on the crop has been made. Therefore during the past two years at the Branch Experiment Station in Mesa, lettuce plants with and without big-vein symptoms were compared throughout their growing season.

### Are Smaller, Lighter

About 10 days before harvest, lettuce with big-vein symptoms was quite a bit smaller than normal. The diameter of the diseased plants was an inch or two less, they weighed about one-tenth of a pound lighter and had fewer leaves.

During the first harvest, five times as many normal heads were ready to be cut, indicating delayed maturity of big-vein diseased plants. Despite this delay, most of the big vein affected heads eventually



**BIG VEIN SYMPTOMS include frilly leaf margins and wide, white leaf veins. The plant is also stunted.**

matured and the total number of heads harvested by the end of the season was about the same as for normal heads. However, the average weight of mature diseased heads was more than one-tenth of a pound lighter than normal.

### Seed Set Was Normal

Some of the plants were allowed to set seed. Later the seed was collected from individual diseased and normal plants and it was cleaned and weighed. Big vein did not significantly affect seed yield. Over 7000 seeds were then germinated to see if big vein affected seed germination. Seed from diseased plants germinated as quickly as normal seed and there was no significant decrease of germination percentage.

According to the results of the experiment, a grower need not worry about the effects of big vein on his lettuce seed crop. However, if he is planning to market head lettuce, he can plan on smaller heads, poorer quality and probably a later harvest. Attempts to control the disease by soil treatments are nearing completion. Results of that research will be reported soon.