

The new U. S. research center being planned for Prudence Island off Rhode Island will be the first of its kind for this country. Because there is no foot and mouth disease in this country, the law authorizing the laboratory required that it be located on an island not connected with the mainland.

Funds for the purchase of the site are available, but a new appropriation will be requested from Congress for construction of the laboratory, which is expected to cost more than \$25,000,000.

Meanwhile American scientists are continuing to help Mexico in beating back the disease which is now estimated to be some 300 miles south of the Rio Grande at its closest occurrence to the U. S.

Science News Letter, June 5, 1948

CHEMISTRY

2,4-D More Potent When Combined With Latex

➤ 2,4-D kills plants more quickly and surely when it has the help of a synthetic-plastic latex known by the trade name of Geon 31X.

This has been discovered in experiments at Michigan State College reported by Drs. C. L. Hamner and Kiang Chi-Kien.

Kidney-bean seedlings were treated with the sodium salt of 2,4-D by dipping leaves into solutions of various strengths, from five to five hundred parts per million. Some of the plants were subsequently sprayed with the latex, while the rest were left unsprayed, as controls.

All the plants treated with the strongest solution of 2,4-D died, but those treated with weaker solutions and left unsprayed with the latex recovered and continued growth, after greater or less evidence of poisoning. But mortality in the plants treated with both 2,4-D solution and the latex spray was very high.

Then the treatment was tried on oat seedlings, which normally are not affected by 2,4-D, since they belong to the grass family. However, while those that received only 2,4-D showed no ill effects, those that were afterwards sprayed with the latex died as the bean seedlings had done.

The two experimenters do not know what the latex spray does to make the 2,4-D more effective, but suggest that by forming a covering film it may insure greater penetration of the tissues.

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DECLINE OF THE BISON—In front is shown the skull of half-million-year-old *Superbison latifrons*, 80 inches from tip to tip of the horn cores, while at the left is an intermediate form, *Bison antiquus barbouri*, in the hands of Dr. C. Bertrand Schultz. The dwarfed specimen at the right is a modern bull bison's skull, held by W. D. Frankforter.

PALEONTOLOGY

Early Bison Were Giants

➤ IF BUFFALO BILL had gone a-hunting in the Wild West of a half-million years ago he would have had to carry an anti-tank gun for a rifle. He would have had to take along Paul Bunyan to be his skinner, using a bulldozer blade for a knife. That's how big the bison were in those days.

The first of these great shaggy beasts that roamed the Plains had a spread of 80 inches—nearly seven feet—from tip to tip of his horn cores. Those are the measurements of fossil skulls of that age, found in river gravels of early Ice Age date, as measured by Dr. C. Bertrand Schultz and W. D. Frankforter of the University of Nebraska State Museum.

Horn cores are the bone supports over which the hollow horns of animals of the cattle family fit. The horn substance has disappeared from all fossil skulls thus far collected, so the actual horn-spread of these ancient giants can only be inferred; but a ten-foot spread would not seem excessive. If the rest of the animal was built in proportion, this earliest "thundering herd" must have been of near-elephantine size. No wonder that zoologists have suggested a new name for the ancient genus: *Superbison*, instead of merely *Bison*.

This particular species has been given the full name of *Superbison latifrons*, which means "broad-faced super-bison"

—an eminently justified title.

This earliest of known bison was also the biggest. All later species (and there were some giants in later Ice Age times) were smaller than this great-granddaddy of the herd. This seems to be contrary to the evolutionary history of other large animals: horses, camels, elephants, rhinoceroses, all started small and became larger in the course of their development, as fossil records show.

This seeming contradiction may be due to the fact that we do not have nearly as complete a fossil history of the bison as we have of some of the other animals, notably horses and elephants. Despite their distinctively American character, bison did not originate on this continent. The giants studied by the Nebraska paleontologists were immigrants from Asia, arriving via the land bridge that existed across Bering Strait in Ice Age times and never blocked by the ice which had its greatest development farther towards the east. So the earlier, and possibly humbler, ancestors of the bison may still be buried deep beneath Siberia's perpetually frozen soil.

Be that as it may, the various species of bison that have existed between Old Broadface with his seven-foot horn cores and the present-day bull bison with a mere two-foot spread became smaller and smaller as time went on.

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