

## MEDICINE

## Safer Compounds For Relaxing Muscles

► DOCTORS MAY soon have some new and safer drugs for relieving bronchial spasms, biliary colic and spasms of stomach and intestinal tract.

The new compounds are analogues of opium's anti-spasm drug, papaverine. In laboratory tests they showed promise of relieving intestinal spasm. When injected into the veins of mice, they proved two to three times safer than papaverine in toxic quality.

Effects of the compounds, synthesized and studied by Drs. J. Cymerman-Craig, K. V. Martin, P. C. Wailes, R. H. Thorp, R. Ladd and G. Thorburn of the University of Sydney, Australia, are discussed in *Nature* (July 31).

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## Questions

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GEOLOGY—Why does Niagara Falls have rock falls? p. 100.

HORTICULTURE—What are beardtongues? p. 104.

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## MATH IS FUN

By Joseph Degrazia, Ph.D.

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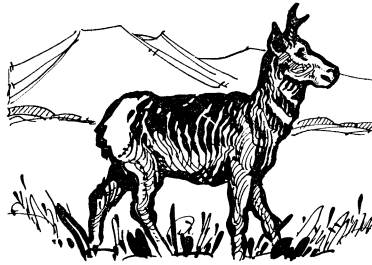
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Pronghorn

► FOR LONG distances the pronghorn antelope, fastest of all four-footed animals in America, can cover the countryside at 45 miles an hour. In sprints they can put up the pace to close to a mile a minute.

Since the early days of the West, when pronghorns roamed in herds as large as those of the bison, the sharp, snorting whistle of this fleet antelope has sounded over the wide, flat prairies from Texas to Oregon.

Almost hunted to extinction in the early 1900's, the pronghorn under strict game laws has increased to better than 150,000 animals. Today, on the great, privately owned rangelands of western Texas, annual antelope hunts are held under game-warden

## ANIMAL NUTRITION

## Corn Cobs Edible

► EDIBLE CORNCOBS may be among the cattle feeds of the future. Improved corn is already trending in this direction.

Corncoobs today have more pentosan, a substance somewhat akin to sugar, and less woody lignin than they did some years ago. There is evidence that this tendency has been built into corn evolution.

Watching the development of improved varieties of corn from the U. S. Department of Agriculture's Northern Regional Research Laboratory, Peoria Ill., Dr. R. T. Milner, the director, foresees this development in the records the laboratory has built up over a number of years.

Along with the sugar of sweet corn and the starch of the mature grain, the corn plant builds pentosans into the ear of corn, concentrating it in the cob. Each chemical unit of pentosan contains five carbon atoms, instead of the six found in both starch and sugars. A slight rearrangement of the structure would result in pentose sugars, which would help feed and fatten cattle.

Cud-chewing animals, including cattle, are equipped with special micro-organisms

supervision. For each antelope killed, the hunter must pay the ranch owner \$40.

The horns of the prongbuck are unique. They are hollow and braced by bony spikes like other horns, but each horn has a short, dagger-guard offshoot like the antlers of deer. Like deer but unlike any other antelope, the prongbuck's horns are shed each year.

The horns are made of hairs, glued together by a strong cement exuded by the skin on the prongbuck's head. At maturity these horns can measure as long as 20 inches. The prongbuck puts them to good use, for upon his fighting efficiency depends his ability to acquire a mate. He parries and thrusts with them in the finest swordplay of the animal world.

A pronghorn can see a coyote and keep tabs on him so far away that a man must use binoculars to find out what the antelope is looking at. This trait of looking long and hard at a suspicious object gives the American antelope a reputation for curiosity. Actually, it is his best defense.

Once startled, the prongbuck breaks and runs like the wind. His pure-white rump serves as a warning to others at a great distance, as well as providing a guide-flag for fawns to follow.

Often the pronghorn will run for the pure competition offered by a passing train or car. In the early days of the West, the antelope could win consistently over the wood-burning, clanking old locomotives. Whole herds would run parallel to the train, edging closer and closer. Then in a terrific burst of speed they would cross in front of the engine, waving their white flags in derision at the engineer.

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in their multiple stomachs that can break down cellulose and related chemicals so the animals can digest them.

Pentosans are among the chemical types that these micro-organisms can use. If the percentage of pentosans keeps increasing, bossy may be contentedly chewing up her corn, cobs and all, in only a few years' time.

Chemists at the present time rearrange the pentosan molecule in a somewhat different way to produce furfural, a useful material from which they concoct, among other things, nylon. However, there is plenty of organic material going to waste from which furfural could be produced, so there is no immediate rivalry between cattle feed and ladies' hosiery.

Plant geneticists are constantly developing new kinds of hybrid corn to increase one or another of the useful by-products of this important food crop. A little more attention to selecting new varieties for the pentosan yield of their cobs may result in still more useful tonnage from the corn crop, and less waste of a major agricultural resource.

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