AGRICULTURE

Cornstalks Yield Sugar

Inbred corn, known as Connecticut 103, may open up a vast new source of sugar since its stalk has about 11% sugar in it and it produces good ears of corn.

➤ SUGAR from cornstalks may open up a vast new source of sugar in America's cornbelt if a corn plant developed at the Connecticut Agricultural Experiment Station is grown.

The new sugar-producing cornstalk is on a corn inbred known as Connecticut 103. It produces good ears of corn. The wood-like stalk has more than 11% sugar in it.

Stalks of 103 were found to be sweet by Dr. W. Ralph Singleton, geneticist at the station. He made chemical analyses which revealed 8.65% sucrose, or natural sugar, plus more than 2% of other sugars. The natural sugar content of sugar cane varies from 10% to 15%.

Scientists have known for a long time that cornstalks contain sugar, but stalks have never been considered a potential competitor to sugar cane. If the ears are removed before they mature, the stalk contains more sugar than normally. But this loses the ears of corn, main product of the corn plant.

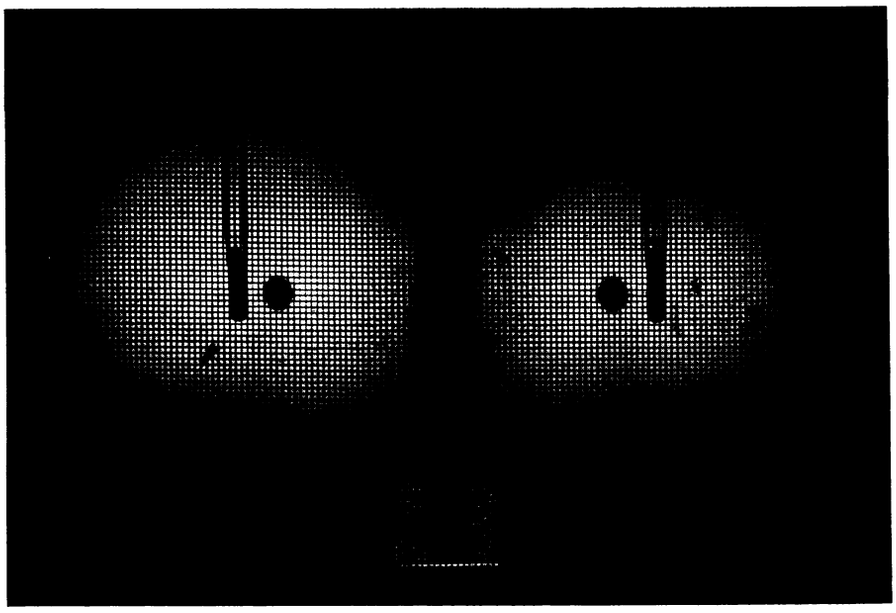
Now, Dr. Singleton believes that it may be possible for the farmer to have his ears of corn and get sugar from the stalks after the ears are picked.

Today's corn sugar and corn syrup are not natural sugar. They are made chemically by converting the starch in kernels of corn into sugar.

At Beltsville, Md., scientists of the U. S. Department of Agriculture said that they were not familiar with his work. They suggested that the increased sugar content of the cornstalks might make the stalks better feed for the animals which normally eat the fodder made from them.

Dr. Singleton plans to continue his corn study next season. He suggests that sweet-stalk corn might be introduced into commercial field-corn hybrids. If it is, harvesting and processing problems would have to be solved before a new supply of sugar from cornstalks would be available.

Science News Letter, November 8, 1947



***MOSQUITOES CAN SMELL**—Females of the yellow fever mosquito responding to the odor of a man's arm at the right of an insect olfactometer. In both sections the temperature, humidity, rate of air flow and extraneous odors were practically the same but the odor of a man's arm was added to the right side. This is the first of 10 pictures exposed at one minute intervals that comprise one test. Submitted by Dr. Edwin R. Willis, of the Ohio State University, it won first prize in the black and white section for scientific photography.*

METEOROLOGY

Supercooled Cloud Needed To Produce Rain or Snow

➤ "RAINMAKING" is not as simple as it sounds. "Producing snow or rain artificially constitutes something more than merely dropping dry-ice out of an airplane," cautions Vincent J. Schaefer, General Electric scientist who originated the cloud-seeding method.

First job in producing rain or snow is finding the right cloud. If you drop dry-ice on just any cloud, it may rain or snow. But more times than not, nothing will happen. The cloud must contain moisture which is liquid despite the fact that the temperature is below freezing.

These clouds, called "supercooled," can be spotted by the appearance of icing on the plane, by measuring the temperature or by other optical effects.

The scientist revealed that some earlier attempts at rain production over a forest fire area failed because the clouds were not supercooled.

When you have spotted a likely cloud, dumping dry-ice out of a plane will not make either rain or snow. Mr. Schaefer calls his method "seeding." This distributes small bits of dry-ice over the cloud. If you toss a big chunk of dry ice out of a plane into a cloud it will probably drop right through the cloud without so much as a light shower or snow flurry.

Recommended recipe for seeding a cloud is about one pound of dry-ice per mile and a half of cloud.

Even with the proper seeding of a supercooled cloud, no welcome precipitation may reach the earth. If the atmosphere is too dry below the cloud, rain or snow may evaporate before they hit the ground.

If nature is cooperative and you follow the directions, you may get rain. But don't expect a cloudburst. A cloud two miles thick with a minimum supercooled portion at least 500 feet thick will only produce .14 of an inch of rain or 1.5 inches snow.

Science News Letter, November 8, 1947