CHEMISTRY

Stock Feed From Sawdust

➤ THOSE THICK, juicy steaks you're going to get again some day may be fattened, not on the traditional diet of corn, but on sawdust.

Not that they will chew the dry stuff directly out of the manger; they will get quantities of highly nutritious dried yeast. Yeast requires sugar to grow on; sugar can be made from wood waste, Erwin M. Schaefer, anti-Nazi German industrialist now living in this country, told the meeting of the Tenth Annual Chemurgic Conference in St. Louis. Mr. Schaefer is the one responsible for the process of making alcohol from sawdust also. (*See SNL,* April 1)

The technique is not new and untried; it was conducted on a large scale at Mr. Schaefer's big plant at Tornesch, near Hamburg, before Nazi overlords cast covetous eyes on it and "acquired" it. Now he is preparing to supervise the erection of a large government-owned plant in the great timber region of the Pacific Northwest where the process will be put into operation primarily to produce alcohol for wartime purposes.

To convert the cellulose in wood into sugar by the Tornesch process, tall steel towers are packed with sawdust, shavings or other wood waste. Dilute sulfuric acid is trickled down from the top, while high temperature and pressure are maintained in the towers. The liquid that flows out at the bottom is a thin syrup—6% sugar in water. This can be fed directly to yeast cultures.

Certain mineral salts must of course be added. Most important is a source of nitrogen, for protein-building purposes; this is usually ammonium sulfate, but may be synthetic urea or some other compound.

On this sugar-plus-water-plus-mineral diet the yeast cells multiply at an enormous rate. Their frothy masses are first spun in centrifuges, then squeezed in presses, to get the water out. After drying, the yeast, very rich in protein, is ready for feeding to livestock. The protein content may run as high as 50% on a dry-weight basis, and competes successfully on a cost basis with such already-established high-protein feeds as soybean meal. It has the additional advantage, Mr. Schaefer pointed out, of total independence of the weather in its production.

Science News Letter, April 15, 1944

Alcohol From Potatoes

➤ SWEET POTATOES, specially bred to increase their starch content, were offered as a highly promising source of industrial alcohol for war purposes by Dr. Paul Kolachov, technical counselor of Joseph E. Seagram and Sons, Inc. Since sweet potatoes do not keep well in storage, they were first dehydrated, at a cost of from $5 to $8 a ton.

In this form they were put through the starch-inversion and fermentation processes. Yields were found to be in the neighborhood of five gallons per bushel of potatoes. This compares favorably with a similar yield from corn, and is better than that from small grains. Yields on a per-acre basis also show up favorably for the sweet potatoes.

Science News Letter, April 15, 1944

CHEMISTRY

Mexicans Are Interested In Cattle Feed From Wood

➤ REPORTS of the possibility of producing a high-protein stock feed from wood waste, by a slight modification of a process for using the same kind of waste in the production of alcohol for war industries in the United States, have aroused great interest on the part of Mexican cattlemen.

Dr. J. Alfred Hall, principal biochemist of the U. S. Forest Service, discussed the process at the meeting in Mexico City of Mexico's Second National Conference of Chemists.

Science News Letter, April 15, 1944

INVENTION

Safer Aerial Delivery Of Fragile Articles

➤ AIRPLANE delivery of more or less fragile articles, dropped from the aircraft by parachutes, will be made safer by a new aerial delivery container, on which patent 2,345,609 has been issued to William L. Lindsey and Harry Wilson, Fort Benning, Ga. It is relatively light in weight and rigid and strong when packed and ready to be dropped. It may be opened quickly and the articles removed in a minimum of time after landing. Releasing a single quick-opening fastener allows the entire container to assume a wide open position.

When packed the container is an elongated package with an octagonal cross section. The eight sides are plywood panels with bevelled edges, held together with webbing covered by separate sheet metal strips. On the inside of each plywood panel is a reinforcing bar of heavier wood. The octagonal covers are hinged to the central plywood strip and interlock when closed. A pair of straps with a single quick-opening fastener holds the covers in place.

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