

THE OBSERVATION POST

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Farming for Feasts, Fuels, or Factories II

IN OUR PREVIOUS DISCUSSION the manufacture of power alcohol as a primary objective of agricultural production was discussed. This proposal cannot be supported on agronomic or economic grounds. A large segment of our farm population would either have to be impoverished or subsidized to make the scheme work.

Proposal No. 2

In recent weeks a more temperate view of the power alcohol problem, based on salvaging values out of surpluses was called to our attention by an advocate who has had a successful career in the fermentation industry. He views with great concern the constantly increasing trend toward production of synthetic ethanol and is distressed about the gradual withering of distillery operations for the production of industrial alcohol. He observes that the existing idle production facilities in the distilling industry in this country are estimated at 250 million gallons, which is the equivalent of 100 million bushels of corn (slightly over 3% of U. S. national production). Processing corn into alcohol yields about equal parts by weight of alcohol, carbon dioxide, and distillers grains which are rich in proteins and vitamins and which can be reinforced with antibiotics at the distillery. On the basis of fragmentary evidence, he contends that the feed value of such high potency feed is about 10 times that of corn and suggests the establishment of an exchange formula of 4 to 1. "The difference between the two ratios would be the corn farmers' profit." If such an exchange formula were adopted, the cost of alcohol would be equal to the manufacturing cost which he estimates at 25 cents per gallon. He suggests further that a two year transition period be established during which the Government would deliver 100 million bushels annually of surplus grain at 50 cents per bushel to the distilling industry for the production only of antiknock alcohol and alcohol for the synthetic rubber program.

Farmers Know Their Arithmetic

The distilling industry is fully aware of

the possibilities of making enriched, high-potency feeds economically practical to the farmer. A ton of corn at current prices is valued at \$50. The suggestion that farmers exchange four tons or \$200 worth of corn for one ton of feed is simply unrealistic. Fish meal (60% protein) costs about \$130 per ton, oilseed meals (40% protein) \$65, dark distilled grains (30% protein) \$68, while a high potency derivative would be worth from \$75 to \$85 per ton. It is doubtful that farmers would want to be regimented into such a scheme. There would be no merit therefore, in giving serious consideration to the proposed two-year transitional period which would cost the Government about \$200 million in subsidies.

Let's Be Realistic

There is unquestionable evidence that the addition of alcohol improves the antiknock properties of gasoline. This has been fully demonstrated by the Northern Regional Research Laboratory which was given federal responsibility for a broad program of research on power alcohol. It had the cooperation of interested governmental, farm, and industrial organizations. Petroleum refiners have followed this work and carried out additional studies of their own. Insofar as we are aware—and notwithstanding the contentions of power alcohol enthusiasts—the petroleum industry does not challenge the performance merits of alcohol-gasoline blends. They merely question its economic position compared with other antiknock formulations. Strange as it may appear, refiners have reason to be interested in the success of alcoholic fuels because they can be produced most economically in conjunction with the production of petroleum products.

It should be emphasized that methanol and isopropanol as well as ethyl alcohol can be used for improving the antiknock qualities of gasoline. These alcohols can be made at refineries. It is certainly logical therefore that petroleum refiners rather than distillers assume leadership in incorporating alcohols in gasoline so that: (a) problems of mixing, denaturing, and standardizing be handled efficiently,

(b) deliveries of motor fuel could be made economically through established transport systems, (c) sales could be effected over wide areas through existing filling stations, (d) federal and state governments would not lose revenues by tax exemptions, and (e) taxpayers would not be burdened with new subsidy programs.

Farm Products for Factories

The constructive work of chemurgists should not be confused with the contentions of power alcohol advocates. Chemurgy has played and will continue to play an important role in our agricultural economy. Notable progress has been made in developing nonfood uses for farm products and by-products. Each successful product or process has emerged and grown without the benefit of subsidy or special legislation. Some of the more important achievements are:

- Production of furfural and furfuryl alcohol from pentosans such as oat hulls, rice hulls, and cotton seed bran;
 - Production of nylon intermediates from furfural;
 - Use of fine grits from corn cobs and nut shells for metal cleaning and polishing;
 - Production of drying oils, lecithin, and bread softeners from soybeans;
 - Use of wheat proteins and proteins in sugar beet molasses for preparation of sodium glutamate;
 - Preparation of epoxy fatty acids for use as plasticizers;
 - Recovery and use of tall oil from sulfate pulp liquors;
 - Manufacture of ethyl cellulose and carboxymethyl cellulose for many industrial applications;
 - Production of fibers and bristles from the milk protein casein;
- Looking at the chemurgic picture broadly, it is found that the wholesale value of farm products (not including cotton and wool) used annually for non-food uses is about a billion dollars. This is to be compared with a net realized cash income to farmers of about \$12 billion. At first glance this may not be impressive but the fact is that the financial stability of important farm products (naval stores, wood pulp, inedible oils, and corn) are dependent on retention and expansion of chemurgic markets.