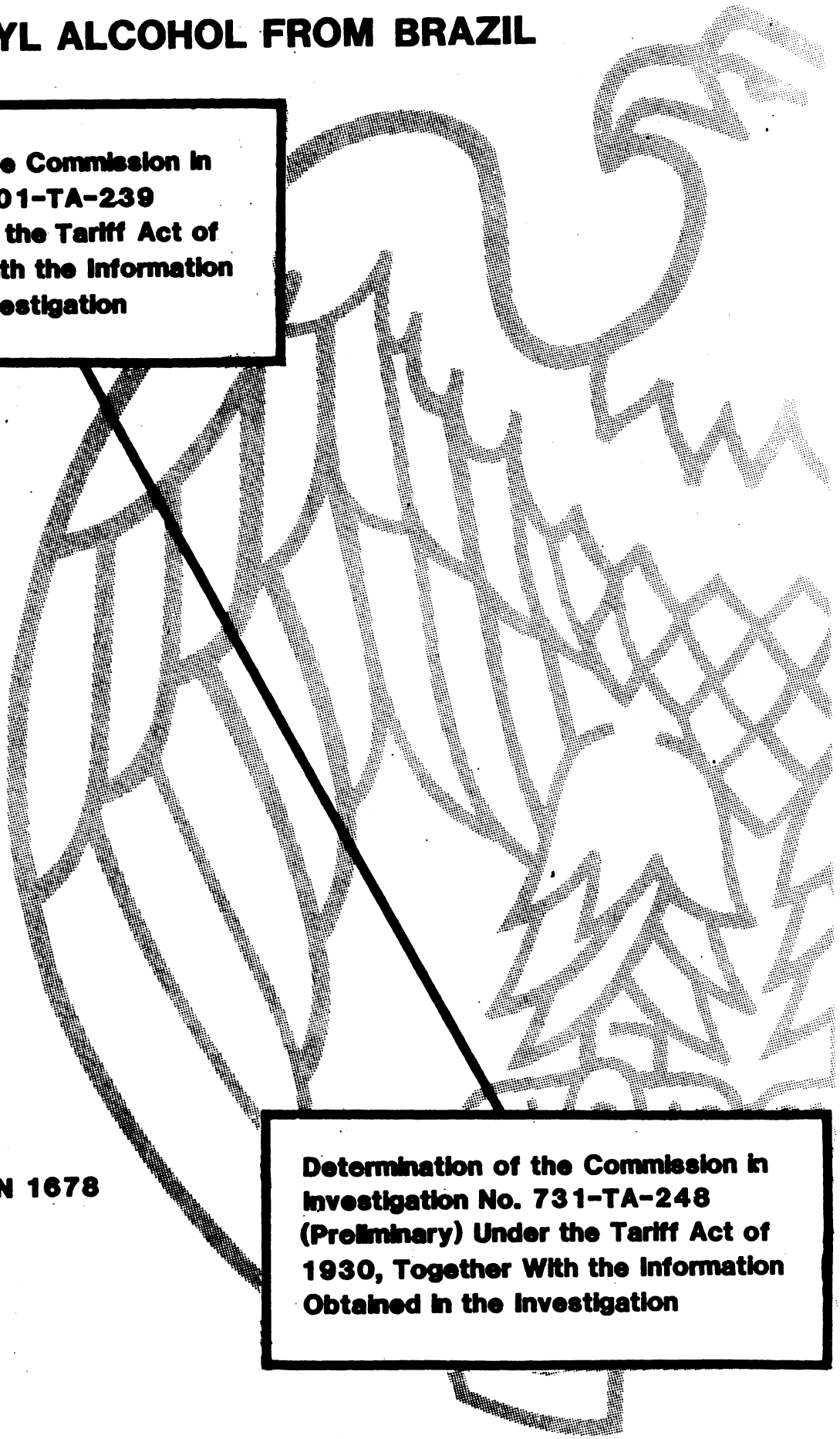
CERTAIN ETHYL ALCOHOL FROM BRAZIL

Determination of the Commission in Investigation No. 701-TA-239 (Preliminary) Under the Tariff Act of 1930, Together With the Information Obtained in the Investigation



Determination of the Commission in Investigation No. 731-TA-248 (Preliminary) Under the Tariff Act of 1930, Together With the Information Obtained in the Investigation

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UNITED STATES INTERNATIONAL TRADE COMMISSION

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UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, DC

Investigations Nos. 701-TA-239 (Preliminary) and
731-TA-248 (Preliminary)

CERTAIN ETHYL ALCOHOL FROM BRAZIL

Determination

On the basis of the record 1/ developed in the subject investigations, the Commission determines, pursuant to sections 703(a) and 733(a) of the Tariff Act of 1930 (19 U.S.C. §§ 1671b(a) and 1673b(a)), that there is a reasonable indication that an industry in the United States is threatened with material injury by reason of imports from Brazil of certain ethyl alcohol, 2/ provided for in item 427.88 of the Tariff Schedules of the United States, which are alleged to be subsidized by the Government of Brazil (investigation No. 701-TA-239 (Preliminary)) and which are alleged to be sold in the United States at less than fair value (LTFV) (investigation No. 731-TA-248 (Preliminary)).

Background

On February 25, 1985, petitions were filed with the Commission and the Department of Commerce by counsel on behalf of the Ad Hoc Committee of Domestic Fuel Ethanol Producers, alleging that an industry in the United States is materially injured or threatened with material injury by reason of subsidized and LTFV imports of certain ethyl alcohol from Brazil. Accordingly, effective February 25, 1985, the Commission instituted preliminary countervailing duty investigation No. 701-TA-239 (Preliminary) and preliminary antidumping investigation No. 731-TA-248 (Preliminary).

1/ The record is defined in sec. 207.2(i) of the Commission's Rules of Practice and Procedure (19 CFR § 207.2(i)).

2/ The ethyl alcohol (ethanol) included in these investigations is fuel ethanol (fuel-grade ethanol) imported under item 427.88 of the Tariff Schedules of the United States (TSUS) and subject to additional duties under TSUS item 901.50.

Notice of the institution of the Commission's investigations and of a public conference to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the Federal Register of March 6, 1985 (50 FR 9136). The conference was held in Washington, DC, on March 19, 1985, and all persons who requested the opportunity were permitted to appear in person or by counsel.

VIEWS OF THE COMMISSION

On the basis of the record in investigations Nos. 701-TA-239 and 731-TA-248 (Preliminary), we determine that there is a reasonable indication that an industry is threatened with material injury by reason of imports of fuel grade ethanol (fuel ethanol) from Brazil which are allegedly subsidized and allegedly sold at less than fair value (LTFV).

In making this determination, we find that the domestic industry consists of the U.S. producers of fuel ethanol. Our determinations are based upon indications that imports from Brazil have increased steadily and rapidly, particularly during the last quarter of 1984, that price underselling by these imports is contributing to the decline in domestic ethanol prices.

Domestic industry and like product

The term "industry" is defined in § 771(4)(A) of the Tariff Act of 1930 as "[t]he domestic producers as a whole of the like product, or those producers whose collective output of the like product constitutes a major proportion of the total domestic production of that product." 1/ The term "like product," in turn, is defined in § 771(10) as "[a] product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation . . . ." 2/

The imported product which is the subject of these investigations is fuel ethanol. Ethanol is a monohydric alcohol with the chemical formula C_2H_5OH. Chemically pure ethanol is a colorless and flammable liquid that

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1/ 19 U.S.C. § 1677(4)(A).
2/ 19 U.S.C. § 1677(10).

looks like water but has a mild odor. 3/ Ethanol can be derived by fermentation from any material in which carbohydrate is present in the form of sugar. The sugar can be derived from products such as sugar cane, corn, and even wood. In the United States, virtually all fermentation ethanol is made from grain, predominately corn, while in Brazil most of the fermentation ethanol is made from sugar cane.

Ethanol is used as a constituent in alcoholic beverages, such as beer, wine, and whiskey. It also has a number of industrial uses in such products as organic chemicals, drugs, and plastics, and it can be used in fuel.

In order to use ethanol for industrial and fuel use, the government requires that various chemicals or denaturants be added to the ethanol to make it unsuitable for use in beverages. 4/ The denaturant used will depend on the final use of the ethanol. With regard to fuel ethanol, the denaturant is gasoline.

Although ethanol is a fungible chemical, fuel ethanol and ethanol for industrial use (industrial ethanol) have distinct characteristics. To be suitable for blending with gasoline, ethanol must be virtually anhydrous, that is the water content cannot be greater than about 0.5 percent. The concentration of fuel ethanol is 100 percent ethanol or 200 proof. Industrial ethanol can be 200 proof or less. The presence of water is acceptable for many, if not most, industrial applications. Fuel ethanol also need not be as chemically pure as that for most industrial applications. Fuel ethanol has

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3/ Report of the Commission (Report) at A-2. Ethanol can be produced in commercial quantities by fermentation or by chemical synthesis. Report at A-3. Most ethanol produced in the United States and all the fuel ethanol is produced by the fermentation process.

4/ There are over 60 different formulations used to denature ethanol, all subject to approval by the Bureau of Alcohol, Tobacco, and Firearms within the Department of the Treasury. Id. at A-2.

trace impurities of chemicals and substances called fusel oils which will burn in an internal combustion engine and need not be removed for fuel use. These contaminants, some of which are toxic and odoriferous, must be removed by further purification for most industrial applications.

The imported product is anhydrous fuel ethanol without the denaturant. The denaturant is added to the imported ethanol in the United States. 5/ Although the denaturant is added in the United States, the imported fuel ethanol is separate and distinct from the imported industrial ethanol because of its concentration and the chemical impurities in the fuel ethanol.

Domestically produced fuel ethanol without the denaturent is the same as, and therefore "like" the fuel ethanol imported from Brazil. Industrial ethanol, however, differs from fuel ethanol in that it has less chemical impurities and has a different end use. Therefore, we find that domestically produced industrial ethanol is not sufficiently similar in characteristics and uses with the imported fuel ethanol under investigation to be included in the definition of like product. 6/ Thus, for purposes of this preliminary investigation, we find that only the domestically produced fuel ethanol is "like" the imports under investigation. Accordingly, the domestic industry is composed of U.S. producers of fuel ethanol. 7/

5/ An importer, once it has imported the ethanol, has up to three years to declare its actual use.

6/ There is information on the record of the investigation, however, suggesting that the 200 proof ethanol imported from Brazil could have industrial uses. This issue will be examined further in the event of a final investigation.

7/ Certain domestic producers have imported and are importing fuel ethanol from Brazil. During the period of investigation, domestic producers accounted for a significant share of imports. In fact, one domestic producer's imports of fuel ethanol from Brazil constitutes a significant portion of its total sales. Report at A-15. In the event of a final investigation, the Commission will examine whether these domestic producers should be excluded from the domestic industry under the related parties provision.

Condition of the domestic industry 8/

Three critical considerations in assessing the condition of the domestic fuel ethanol industry are: (1) that the U.S. market is comparatively young and consumption is growing rapidly; (2) the development of the market and, in particular the geographic distribution of consumption, is heavily dependent on tax incentives; and (3) the price of fuel ethanol is heavily dependent upon the price of gasoline. As a consequence, even when consumption is growing rapidly, industry operations could still be unprofitable and the domestic firms could be losing ground to foreign competition. Tax incentives can largely determine both the potential size of the market and who can be competitive in it. Tax incentives may lead to increased industry sales and profitability, but these increases may be limited to only certain producers of the industry that can take advantage of these incentives.

In the current investigation, for instance, domestic production, capacity, 9/ 10/ shipments, employment, wages and net sales all increased

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8/ Much of the information in this investigation is confidential and, therefore, must be discussed in general terms.

9/ Because of plant shutdowns during the period of the investigation, the Commission's questionnaire data may overstate the domestic industry's capacity and understate its capacity utilization. We intend to develop more complete capacity data in any final investigation.

10/ Chairwoman Stern notes that petitioners allege that total domestic capacity for fuel ethanol totals 840 million gallons and that the capacity utilization rate is down to 51 percent. Importers argue that petitioners' capacity utilization figure is grossly understated because it reflects the capacity of many small plants that stopped operations for reasons not related to imports and it includes boilerplate capacity figures for certain large producers whose operations were shut down in 1984 due to operational problems or for renovation or expansion. In fact, they argue that domestic production in 1984 is at or very close to maximum capacity utilization.

The Commission's data, which reflects the responses of producers that accounted for approximately 90 percent of domestic production in 1984, indicates that capacity is substantially smaller than petitioners' estimate,

(Footnote continued)

substantially from 1982 to 1984. The primary indicator of possible industry weakness is financial performance. Operating income for the fuel ethanol industry decreased substantially from 1982 to 1983 and showed a loss in 1984. 11/ Moreover, the cost of goods sold for domestic producers, has risen substantially during the period of investigation. 12/

Reasonable indication of threat of material injury

When considering threat of material injury under the Tariff Act of 1930 as amended by the Trade and Tariff Act of 1984, the Commission is to consider, among other factors, whether there is an increase in the rate and market penetration of the subsidized and/or LTFV imports and the likelihood that these imports will be directed towards the United States, capacity and capacity utilization rates in the exporting country, the quantity of imports in inventory in the United States, and the effect of the imports on domestic prices.

(Footnote continued)
but somewhat larger than the trade estimate of 625 million gallons relied upon by the other parties. Accordingly, the capacity utilization rate for 1984 is significantly higher than petitioner's estimate, but lower than importers'. However, the capacity data supplied by ADM, the major domestic producer, does not appear to reflect the fact that its Peoria plant, which reportedly accounts for at least 80 million gallons of capacity, was closed for approximately one year for renovation work. Thus, the aggregate capacity utilization figure may be significantly understated. In any final investigation, we need to examine these issues in analyzing the condition of the industry, the causation issue, and the issue of projected shortfalls in domestic capacity.

11/ Report at A-18. Petitioners Archer Daniel Midland and A.E. Staley Manufacturing Co., have refused to provide sufficient profit and loss data for their overall operations. In the event of a final investigation, the Commission expects that this data will be supplied.

12/ Because ethanol is one of several co-products, in any final investigation we will carefully examine cost information.

Imports increased steadily and rapidly from 1982 to 1984. 13/ Official import statistics of the U.S. Department of Commerce show rapid increases in market penetration of fuel ethanol from Brazil, from about 6 percent in 1982 to approximately 15 percent in 1984. 14/ Much of the increase in imports also took place in the last quarter of 1984. U.S. importers' inventories of fuel ethanol from Brazil increased sharply from 1982-1984. 15/

The Commission requested data on the capacity to produce fuel ethanol in Brazil and capacity utilization rates during 1982-84. The Brazilian producers have not, however, provided the data requested. 16/ According to the data currently in the record, the percentage of Brazilian production that has been exported is relatively small, but has risen from 5 percent in 1981 to 11 percent in 1984. Of that amount, a substantial portion has been exported to

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13/ Petitioners allege and questionnaire data confirm that the Commerce Department statistics for imports of fuel ethanol from Brazil are understated. Petitioners argue that importers are importing from Brazil almost exclusively fuel ethanol but labeling it as industrial ethanol.

14/ Since market penetration figures based upon data submitted in response to the Commission's questionnaires is confidential in this case, we have cited figures based upon published statistics. Commission data indicate that actual market penetration by Brazilian fuel ethanol has been even higher. Report at A-30.

15/ Importers argue that the increases in late 1984 were in anticipation of the 10-cent-per-gallon tariff increase that went into effect in January 1985. Id. at A-24.

16/ Counsel for the Brazilian producers and exporters of ethanol has argued that production of ethanol is limited by factors unrelated to capacity, such as the available supply of sugar cane and variations in sugar cane production from year to year. Petitioners have argued, however, that Brazil is increasing both its production of ethanol and of sugar cane from which the ethanol is derived. The Commission, therefore, needs statistical data on actual distillery capacity to produce ethanol in Brazil and historical data on capacity utilization rates in order to evaluate the relative merits of the opposing arguments. In the event of a final investigation, the Commission expects the importers to supply more complete data on Brazilian capacity and capacity utilization.

the United States. Thus, there are indications that Brazil's exports to the United States as a proportion of total production are increasing. 17/ 18/

Although ethanol prices generally increased during 1983 in the six states for which complete price series were reported, there is some indication that prices were softening in October-December 1983. 19/ Ethanol prices declined significantly during 1984, especially in January-March 1984 and October-December 1984. The price decline in January-March 1984 was partially the result of the softening of gasoline prices, which began in the last quarter of 1983. 20/ Prices also declined in October-December 1984 below July-September 1984 prices. Although the concurrent fall in gasoline prices during this quarter contributed to the decline in ethanol prices, there is evidence that ethanol imports from Brazil also contributed to the price decline, including some confirmed lost revenue allegations. Ethanol imports from Brazil also undersold domestic ethanol in some quarters, although the Brazilian ethanol was higher-priced in other quarters. The underselling which

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17/ Since Brazil's anhydrous ethanol production has generally increased between 1981 and 1985 but local demand is shifting toward relatively more hydrous and less anhydrous use. Thus, there are indications that Brazil may have more anhydrous ethanol available for exports to the United States.

18/ Chairwoman Stern notes that petitioners argue that Brazil has virtually unlimited capacity to export fuel ethanol to the United States. On the other hand, importers argue the vast majority of Brazilian production of fuel ethanol will continue to be consumed in Brazil pursuant to its national program to substitute ethanol for gasoline in automobiles. In addition, they argue that the current duty of 60 cents per gallon is prohibitive, and has effectively restricted Brazil's ability to increase exports to the U.S. market. She will explore these issues further in any final investigation.

19/ Report at 32. The price increase in April-June 1983 was primarily the result of the increase in the federal tax exemption from $.04 to $.05 per gallon on April 1, 1983.

20/ Report at A-32.

is present and the confirmed lost revenue allegations provide sufficient questions for our determination to continue the investigation. 21/ 22/

On the basis of the record in this preliminary investigation, we determine that there is a reasonable indication of threat of material injury to the domestic industry.

21/ Id. at A-35. However, in any final investigations, our price analysis will include an assessment of price leadership, since there is also some indication that some domestic ethanol producers were pricing aggressively during the last half of 1984.

22/ Chairwoman Stern notes that an important factor in any final investigation will be information regarding future U.S. demand for ethanol and the ability of domestic producers to meet it. Importers argue that imports from Brazil will clearly benefit the domestic fuel ethanol industry in the future because they will ensure that there will be a sufficient supply of ethanol to meet growing demand for the product. They point to two recent developments as evidence that the demand for ethanol may soon soar. First, in January, 1985, the Environmental Protection Administration ("EPA") announced approval of the "Dupont Waiver," which permits the sale of gasoline blends that combine low cost methanol with ethanol, and which is expected to increase the economic attractiveness of ethanol blends. Second, on March 7, 1985, the EPA issued a "lead phasedown" rule which is also expected to result in a major surge in demand for ethanol by gasoline refineries as an "octane enhancer" which would command a price premium over gasoline.

Petitioners argue that the magnitude of the demand for ethanol as octane boosters is problematic because ethanol competes with other octane boosters and a number of different refining processes. They also argue that, even if there is a significant increase in demand, domestic producers would be able to meet it, or at least a substantial part of it. Because these developments are so recent, the information in the current record regarding this issue is very limited. She shall explore all of these aspects of this issue in any final investigation.

INFORMATION OBTAINED IN THE INVESTIGATIONS

Introduction

On February 25, 1985, petitions were filed with the U.S. International Trade Commission and the U.S. Department of Commerce by counsel on behalf of the Ad Hoc Committee of Domestic Fuel Ethanol Producers. 1/ The petitions allege that imports of certain ethyl alcohol (ethanol) 2/ from Brazil are being subsidized by the Government of Brazil and, in addition, are being sold in the United States at less than fair value (LTFV) and that an industry in the United States is materially injured and threatened with material injury by reason of such imports. Accordingly, effective February 25, 1985, the Commission instituted preliminary countervailing duty and antidumping investigations Nos. 701-TA-239 (Preliminary) and 731-TA-248 (Preliminary) under the applicable provisions of the Tariff Act of 1930 (19 U.S.C. §§ 1671b(a) and 1673b(a)) to determine whether there is a reasonable indication that an industry in the United States is materially injured, or is threatened with material injury, or the establishment of an industry in the United States is materially retarded, by reason of imports of such merchandise into the United States.

Notice of the institution of the Commission's investigations and of a conference to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the Federal Register of March 6, 1985 (50 FR 9136). 3/ The conference was held on March 19, 1985, 4/ and the briefing and vote was held on April 8, 1985. The statute directs that the Commission make its determinations within 45 days after receipt of the petitions, or, in these cases, by April 11, 1985. Ethanol has not been the subject of any other investigation conducted by the Commission.

1/ The Ad Hoc Committee of Domestic Fuel Ethanol Producers comprises the following: New Energy Co. of Indiana, South Bend, IN; A.E. Staley Manufacturing Co., Decatur, IL; Graf Feed and Fuel Alcohol, Watertown, MN; Midwest Solvents Co., Atchinson, KA; South Point Ethanol, South Point, OH; Archer Daniels Midland Co., Decatur, IL; Pekin Energy Co., Pekin, IL; Bio-Chemical Energy, Palm Harbor, FL; Grudem Brothers Co., St. Paul, MN; KV Alternatives, Inc., Morton, MN; Alcon Industries, Inc., Houston, MN; Byron Elevator Co., Byron, MN; Southern Ethanol, Palm Harbor, FL; Dawn Enterprises, Walhalla, ND; and the Ohio Farm Bureau Corp., Columbus, OH. The petition is supported by the Oil, Chemical, and Atomic Workers International Union. According to the petitions, "The Committee members represent 69 percent of domestic fuel ethanol production capacity" and "represent a substantial majority of domestic fuel ethanol production."

2/ The ethyl alcohol (ethanol) included in these investigations is fuel ethanol (fuel-grade ethanol) imported under item 427.88 of the Tariff Schedules of the United States (TSUS) and subject to additional duties under TSUS item 901.50.

3/ Copies of the Commission's and Commerce's notices are shown in app. A.

4/ A list of witnesses appearing at the conference is presented in app. B.

The Product

Description

Ethyl alcohol, or ethanol, is a monohydric alcohol with the chemical formula C_2H_5OH. Chemically pure ethanol is a colorless and flammable liquid that looks like water but has a mild odor. Ethanol is soluble in water and forms a constant-boiling mixture (azeotrope) with a maximum ethanol concentration of about 95 percent. In order to obtain anhydrous ethanol with a concentration approaching 100 percent, it is necessary to redistill the ethanol in the presence of a chemical, such as benzene or cyclohexane, that breaks the azeotropic bond with water. The benzene, or other chemical, is removed in the distillation process and recycled. The concentration of ethanol is frequently expressed as "proof spirit," and 95-percent ethanol is equivalent to 190-proof ethanol, while anhydrous 100-percent ethanol is equivalent to 200-proof ethanol.

Ethanol is well known as a constituent of alcoholic beverages such as beer, wine, whiskey, and gin. Historically, alcoholic beverages have been heavily taxed, and the tax is an important source of revenue for many governments. When ethanol started to become important for industrial applications, it was recognized that the beverage tax was a burden for many essential manufacturing industries. To lift this beverage tax burden from industrial users of ethanol, the Tax-Free Industrial and Denatured Alcohol Act of 1906 was passed. Current regulations on ethanol stem from this basic legislation. 1/

Basically, the concern of the Federal Government is to prevent tax-free ethanol from finding its way into beverages. To achieve this, the regulations call for controls of a financial and administrative type (i.e. bonds, permits, and recordkeeping) as well as controls of a chemical type. The chemical controls are denaturants to make the ethanol unsuitable for beverage use. There are distinct classifications of ethanol, ranging from pure ethanol, which is subject to the most stringent financial and administrative controls, to completely denatured alcohol, which calls for little control. The regulations governing the use of ethanol in the United States are administered by the Department of the Treasury or, more specifically, the Bureau of Alcohol, Tobacco, and Firearms (BATF) within Treasury.

More than 60 different formulations are used to denature ethanol and all denaturants are subject to BATF approval. Some of the substances that are used as denaturants include acetone, ammonia, brucine, ethyl acetate, gasoline, kerosene, methanol, and pine oil. The denaturant used, of course, will depend upon the final use of the ethanol. For example, gasoline is a suitable denaturant for ethanol to be used in motor fuel, while gasoline would not be suitable for ethanol to be used in chemical synthesis or for most industrial applications.

Petitioners state that fuel-grade ethanol is a separate and distinct product from all other types of ethanol and is viewed as a separate and

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1/ Kirk-Othmer Encyclopedia of Chemical Technology, John Wiley & Sons, New York, 2d ed., vol. 8, pp. 422-470.

distinct product in the marketplace by customers and end-users. 1/ However, ethanol is a fungible chemical, and the creation of special end-use or actual-use classifications created significant administrative difficulties. 2/ A Brazilian ethanol producer stated that there is so little difference in the cost of producing anhydrous ethanol from hydrous ethanol that he produces all anhydrous ethanol and if a customer wants hydrous ethanol this producer simply adds water. 3/

On the basis of discussions with producers, importers, and consumers, fuel-grade ethanol from Brazil is like and directly competitive with fuel-grade ethanol produced in the United States. There are some minor differences, mostly in trace impurities, between some grades of industrial ethanol imported from Brazil compared with domestic industrial ethanol because industrial-grade ethanol from Brazil is produced by fermentation, while most domestic industrial ethanol is produced synthetically.

Some States require that ethanol for fuel use be produced within that State by fermentation processes in order to qualify for the State tax exemption. Others do not, however, thereby creating an incentive for marketing across State lines to take advantage of differing State exemptions. In addition, there is at least a potential for use of synthetic ethanol for fuel use if it could be sold for about the price of gasoline, especially if the use of ethanol to increase the octane of gasoline blends becomes more important. Synthetic ethanol, however, does not qualify for the fuel tax exemptions allowed for fermentation ethanol.

To protect themselves from the financial consequences of selling nonqualifying ethanol in their gasoline-ethanol blends (gasohol), buyers of fuel-grade ethanol generally request that sellers certify to them that the delivered fuel-grade ethanol qualifies for the fuel ethanol tax exemptions in the State in which the gasohol is to be marketed. 4/

Manufacturing processes

Ethanol can be produced, in commercial quantities, by fermentation or by chemical synthesis. The processes are so different that separate discussions are presented below. Until about 1980, most nonbeverage ethanol was produced in the United States by chemical synthesis. However, with enactment of legislation designed to promote the production of fuel from renewable resources, the situation reversed, and now most ethanol is produced by fermentation processes.

Fermentation processes.--Ethanol can be derived from any material in which the carbohydrate is present in the form of sugar. The many and varied raw materials used in the manufacture of ethanol by fermentation are conveniently classified under three types of agricultural raw materials--

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1/ Transcript of conference, p. 8.
2/ Petitions of these investigations, p. 32.
3/ Transcript of conference, p. 171.
4/ Ibid., pp. 143-145.

sugars, starches, and cellulose materials. Sugar from sugarcane, sugar beets, molasses, or fruit may be fermented into ethanol directly. Starches from grains, potatoes, and other crops must first be hydrolized to fermentable sugars by the action of enzymes from malt or molds. Cellulose from wood, agricultural residues, and waste from pulp mills must likewise be converted to sugars, which is usually done by using mineral acids. Once the simple sugars are formed, enzymes from yeast readily ferment them into ethanol. 1/

Various distillation processes are then used to concentrate the ethanol from the aqueous solution of about 12-percent ethanol that results from the fermentation process. Further distillation, in the presence of a chemical that breaks the azeotrope, is required to concentrate the ethanol to anhydrous ethanol (100-percent ethanol).

In the United States, virtually all fermentation ethanol is made from grain, predominately corn; while in Brazil most of the fermentation ethanol is made from sugar from sugarcane. Descriptions of typical wet- and dry-grain milling processes along with flow charts for these processes are presented in appendix C.

A number of valuable coproducts are produced during the wet-grain milling process, including the separation of the grain germ, which, in the instance of corn, is then used to make corn oil and germ meal. Additionally, the solid grain residue is high in protein and is marketed as animal feed, much of which is exported from the United States. Starch is separated from the other grain components and can be marketed, as such, for numerous applications in the paper and food industries (among others). In an integrated plant, some of the starch is used to produce corn syrup. Through a saccharification process, starch is converted by chemical enzymes into fermentable sugars for the ethanol plant. Starch can be, and is, converted into high fructose corn sweeteners. A salable byproduct of the fermentation process is carbon dioxide, which can be used to produce dry ice or which can be marketed in pressurized containers for many purposes, including carbonated soft drinks.

Synthetic processes.--Synthetic ethanol is produced by the hydration of ethylene. Ethylene is a hydrocarbon derived from natural gas or petroleum. The ethylene hydration process involves the catalytic addition of water to ethylene. Phosphoric acid is commonly used as a catalyst and high temperatures (300 degrees Celsius) and pressures of about 1,000 pounds per square inch are required. The reactor operates at low conversion rates so the unreacted ethylene is recycled back through the reactor. Minor side reactions result in the formation of small quantities of byproducts such as aldehydes, higher hydrocarbons, alcohols (other than ethanol), and ethers. 2/

Ethanol is made synthetically in the United States and other industrial countries that have large petrochemical industries. These countries often also produce some fermentation ethanol, frequently for beverage use. Brazil, however, is not believed to produce significant quantities of ethanol by chemical synthesis.

1/ Kirk-Othmer Encyclopedia of Chemical Technology, John Wiley & Sons, New York, 2n ed., vol. 8, pp. 438-439.

2/ Ibid., pp. 430-438.

Uses

Currently, ethanol has three major end-use markets--beverage use, fuel use, and a host of industrial uses. Beverage ethanol is highly taxed and is not the subject of these investigations. Fuel ethanol is specifically named in the petitions as the product that is the subject of the complaint. 1/ However, the petitions allege that fuel ethanol is being imported into the United States designated as industrial ethanol, thus skewing the official U.S. import statistics and, in addition, permitting importers to benefit from allowable administrative delays in collecting the duties under the fuel-ethanol provisions. 2/

Representatives of the domestic industry were asked to compare the characteristics of fuel-grade ethanol with those of industrial ethanol in order to separate, as much as possible, the fuel market from the industrial market. Apparently, at least in the United States, there are fairly distinct market separations because 95-percent ethanol is not used as motor fuel except in very limited situations. 3/ However, this is not true in Brazil, where a large number of automobiles have been specially modified to run on 90- to 95-percent ethanol. 4/

A large market has been developed in the United States, through U.S. Government and State government incentives, for ethanol that can be mixed with gasoline for motor fuel. These incentives are discussed further in the section of this report on alcohol fuel tax incentives. The incentives were originally intended to develop production of ethanol from renewable feedstocks as a partial replacement for gasoline derived from petroleum. Recently, however, there has been increased emphasis placed on the marketing of ethanol as an octane enhancer. 5/

To be suitable for blending with gasoline, ethanol must be virtually anhydrous, because water present in concentrations greater than about 0.5-percent could cause a phase separation of the gasoline from the aqueous ethanol. If this separation were to occur, an engine fueled from this mixture would likely stall. It is, therefore, a critical requirement that the water content be very low for ethanol to be blended into gasohol. On the other hand, ethanol for motor fuel need not be as chemically pure as that for most industrial applications. Fuel ethanol usually has trace impurities of chemicals (such as ethyl acetate, various ketones, aldehydes, and substances called fusel oils) that will burn in an internal combustion engine and need not be removed for fuel use. However, these contaminants (some of which are

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1/ Petitions for these investigations, p. 14.

2/ Ibid., pp. 32-36. The Commission's questionnaires directed respondents to report data separately for fuel-grade ethanol and for industrial-grade ethanol.

3/ Transcript of conference, pp. 76-77.

4/ Ibid., p. 166.

5/ Ibid., p. 13, and postconference submission of Internor Trade, Inc., pp. 5-10.

toxic or odoriferous) must be removed by further purification for most industrial applications. 1/

Thus, in the United States, ethanol for use in blending with motor fuel must be anhydrous, or very nearly so, but need not be highly purified. The denaturant used with this ethanol is, logically, gasoline. 2/

Industrially, ethanol has numerous applications including its use as an intermediate to produce other organic chemicals such as acetaldehyde, acetic acid, ethyl acetate, ethyl chloride, ethylene dibromide, and ethyl ether, among others. Ethanol is also widely used as a solvent. Drugs, plastics, lacquers, polishes, plasticizers, perfumes, and cosmetics are products that generally use ethanol in their production, and the ethanol for these applications must be chemically pure, although not necessarily anhydrous.

U.S. tariff treatment

Imports of nonbeverage ethanol are classified in TSUS item 427.88, with a column 1 duty rate of 3 percent ad valorem. The column 2 rate of duty for item 427.88 is 20 percent ad valorem and is applicable to imports from those Communist countries and areas specified in general headnote 3(f) of the TSUS.

The rates of duty on imports of ethanol were not reduced as a result of the Tokyo round of the Multilateral Trade Negotiations. Thus, there is no preferential rate of duty for Least Developed Developing Countries specified in general headnote 3(d) of the TSUS. Imports of ethanol are not designated as being eligible for duty-free treatment under the Generalized System of Preferences. However, such imports are eligible for duty-free entry under the Caribbean Basin Initiative.

Ethanol that is imported to be used in producing a mixture of gasoline and ethanol (e.g., gasohol) or a mixture of a special fuel and ethanol for use as fuel, or to be used otherwise as a fuel, is subject to a temporary (through December 31, 1992) additional duty of 60 cents per gallon under the provisions of TSUS item 901.50. 3/

1/ Transcript of conference, pp. 13-14.
2/ Ibid., p. 78.
3/ The article description for TSUS item 901.50 reads as follows: "Ethyl alcohol (provided for in item 427.88, part 2D, schedule 4) when imported to be used in producing a mixture of gasoline and alcohol or a mixture of a special fuel and alcohol for use as fuel, or when imported to be used otherwise as fuel."

The Nature and Extent of Alleged Sales at LTFV and Alleged Subsidies

Alleged sales at LTFV

The Ad Hoc Committee of Domestic Fuel Ethanol Producers alleges in its petition that imports of ethanol from Brazil are being sold in the United States at less than their cost of production. In order to estimate the cost of producing ethanol in Brazil, petitioners cite the results from several independent studies, as follows: Ministry of Industry and Commerce Estimate, Copersucar Estimate, Chem Systems Estimate, Jornal do Brazil Article, Bank of Boston Estimate, Stone and Webster Study, Gochnarg Study, and Yang and Trinidade Study. These eight estimates of the cost of producing ethanol in Brazil range from $1.00 to $1.55 per gallon. Petitioners allege that these studies indicate that production costs in Brazil are higher than home-market prices. Petitioners accordingly allege that home-market prices are an inappropriate basis for determining foreign-market value, and they requested that Commerce's investigation of alleged sales at LTFV be based on a comparison of U.S. price with constructed value. 1/

Petitioners estimate the constructed value of Brazilian fuel ethanol to be between $1.18 and $1.83 per gallon. When the estimated constructed value of Brazilian fuel ethanol was compared with their information on U.S prices, petitioners arrived at the following alleged LTFV margins for 1984: 2/

	U.S. selling price (Per gallon)	LTFV margin (Percent)
1984:		
Jan.-Mar----------	$0.76	55-141
Apr.-June----------	.75	57-144
July-Sept----------	.73	62-151
Oct.-Dec----------	.72	64-154

Alleged subsidies

Petitioners allege that there are a wide range of subsidies 3/ available to Brazilian fuel ethanol producers and that these subsidies can be divided into three categories: (1) industry-specific incentives, (2) general export assistance, and (3) regional development programs.

Under industry-specific incentives, petitioners contend that, with regard to ethanol production, government incentives to sugarcane growers constitute "upstream subsidies" and are countervailable. According to figures presented in a Brazilian Government report on Proalcool (the Brazilian government's National Alcohol Program), 98 percent of Brazilian ethanol production capacity is designed to use sugarcane as its feedstock. Petitioners allege that subsidies to sugarcane growers have a substantial effect on the cost of producing ethanol.

1/ Petition of investigation No. 731-TA-248, pp. 74-77.
2/ Ibid., pp. 71 and 78.
3/ Petition of investigation No. 701-TA-239, pp 78-80.

According to the petition, recent cost-of-production estimates for Brazil place the proportion of total ethanol costs reflecting sugarcane costs in excess of 50 percent. Petitioners allege that the Government of Brazil imposes price controls on sugarcane. Since the transfer price is not freely negotiated between buyer and seller, the subsidies paid to the sugarcane growers allegedly provide a competitive benefit to ethanol producers.

Further, the petition alleges that Proalcool offers subsidized long-term financing for sugarcane production through a separate credit line. Both independent growers and combined distillers and sugarcane producer organizations are allegedly eligible for these loans. Petitioners allege that agriculture credit is available at terms up to 3 years when used for the formation or expansion of sugarcane plantations and up to 8 years when used to buy equipment. Allegedly, these credits are at highly preferential terms and are therefore countervailable subsidies.

Proalcool allegedly offers subsidized financing for the construction, expansion, and modernization of ethanol production and storage facilities. Also, the Banco Central do Brazil lets borrowers capitalize the monetary correction portion of 1983 and 1984 interest payments. This benefit allegedly granted to distillers effectively reduced interest rates on loans outstanding by 40 percent in 1983 and 1984. Petitioners allege that these benefits are countervailable because this industrial financing is preferential and is not generally available.

The petition alleges that the Brazilian Government provides preferential financing for manufactured exports. For example, exporters are given a certificate entitling the holder to a certain amount of export financing upon approval. This program has allegedly been found to be countervailable in a number of proceedings involving Brazilian products. Petitioners allege that exports receive fiscal benefits under an export credit premium program, under accelerated depreciation, under the Commission for Granting of Fiscal Benefits to Special Export Programs, and under the Commission for Export Incentives program.

Additionally, the petition alleges that there are several regional development programs, including "Cost Equalization, Sugar Cane Plantation Vicinal Roads, research and development, and the Sudene Regional Program," which effectively subsidize the Brazilian ethanol export program.

The U.S. Market

U.S. producers

Petitioners state that there are approximately 145 domestic fuel ethanol plants with an aggregate annual capacity of 840 million gallons of ethanol. 1/ The 15 petitioners account for a major percentage of this capacity.

A recent publication 2/ lists 12 large producers of ethanol, 3 of which produce ethanol synthetically and 9 of which produce ethanol by fermentation

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1/ Transcript of conference, p. 15.
2/ Chemical Marketing Reporter, "Chemical Profile: Ethanol," Feb. 25, 1985.

processes. The published names and reported capacities of the ethanol producers are presented in the following tabulation:

Producer of--	Location	Capacity (1,000 gallons)
Synthetic ethanol:		
Tennessee Eastman	Longview, TX	25,000
Union Carbide	Texas City, TX	120,000
National Distillers	Tuscola, IL	66,000
Total synthetic		211,000
Fermentation ethanol:		
Archer Daniels Midland	Cedar Rapids, IA Decatur, IL Peoria, IL	300,000
American Diversified	Hastings, NE Hamburg, IA	15,000
Grain Processing Co	Muscatine, IA	60,000
Kentucky Agriculture Energy.	Franklyn, KY	21,000
Midwest Solvents	Atchinson, KA	32,000
New Energy Co	South Bend, IN	52,500
Pekin Energy	Pekin, IL	60,000
Shepherd Oil	Jennings, LA	35,000
Southpoint Ethanol	Southpoint, OH	60,000
Other		60,000
Total fermentation		695,500
Total synthetic and fermentation		906,500

Source: Courtesy of Schnell Publishing Co., New York, NY.

According to the above publication, Union Carbide processes crude ethanol into finished industrial ethanol with a product imported by Shell Oil Co. from Saudi Arabia. Shell reportedly markets a portion of the finished product. Further, Publicker reportedly maintains an idled 60-million-gallon synthetic plant and an idled 60-million-gallon fermentation plant at Philadelphia, PA. The company markets products obtained from domestic and overseas sources. The study states that High Plains Corp. will start up a 10-million-gallon fermentation plant in Colwich, KA, in April 1985. Dawn Enterprises will bring up a 10-million-gallon fermentation unit in Walhalla, ND, in June of 1985. Tennol Corp. will open a 25-million-gallon fermentation plant in Jasper, TN, in November of 1985, and Columbia Energy Resources will bring on stream a 10-million-gallon fermentation plant in Tacoma, WA, in December 1985. 1/

Questionnaires were sent to all of the producers listed in the publication as currently producing ethanol, either synthetically or by fermentation. Questionnaires were also sent to all of the petitioning firms

1/ Chemical Marketing Reporter, "Chemical Profile: Ethanol," Feb. 25, 1985.

not named in the publication. The petition lists 145 to 167 producers of fermentation ethanol, most of which are not presently operating. 1/ Questionnaires were not sent to all of these firms; however, firms that received the Commission's questionnaires are believed to account for more than 90 percent of domestic production in 1984.

U.S. importers

Approximately 20 firms that were believed to have imported ethanol classified under TSUS item 427.88 during 1984 were sent importer's questionnaires. Internor Trade, Inc., is the principal importer of ethanol from Brazil through its parent Interbras, the trading subsidiary of Petrobras, the Brazilian oil company that is majority owned by the Brazilian Government. One other firm, ***, that imports Brazilian industrial-grade ethanol responded to the Commission's questionnaires. ***, an importer of Canadian and British industrial-grade ethanol, reported its import data.

Channels of distribution

Fuel-grade ethanol is marketed much like gasoline and has similar channels of distribution. For some producers, most of their product is sold to independent gasoline marketers. 2/ Large bulk shipments move by barge, rail, or truck to petroleum terminals. Petroleum wholesalers large enough to operate their own tank farms maintain an ethanol tank. The ethanol can then be blended from this tank into gasohol at the tank farm. An alternative is to sell the ethanol in "top-off" quantities, which would consist of adding about 400 gallons of ethanol to make a 4,000-gallon truckload of gasoline. The ethanol then mixes with the gasoline while it is being transported to the service station, where it is pumped into automobiles in the gasoline blends.

* * * * * * *

Alcohol fuel tax incentives

Federal incentives.--The U.S. General Accounting Office, upon the request of Senators Charles H. Percy, David Durenberger, and J. James Exon, completed a report in June 1984 entitled Importance and Impact of Federal Alcohol Fuel Tax Incentives. 3/ According to this study, the cornerstone of the incentives was provided in the Energy Tax Act of 1978 (Public Law 95-618, Nov. 9, 1978). This act exempted fuels containing at least 10 percent ethanol produced from renewable resources from the Federal gasoline excise tax which was then set at 4 cents per gallon. Because only one-tenth of a gallon of ethanol was needed to exempt the entire gallon of mixed fuel from the tax, the tax advantage amounted to 40 cents per gallon of ethanol.

1/ Petitions of these investigations, p. 44 and exhibit 2.
2/ Transcript of conference, pp. 24, 68-71.
3/ The U.S. General Accounting Office, Importance and Impact of Federal Alcohol Fuel Tax Incentives, GAO/RCED-84-1, June 6, 1984, 69 pp.

The gasoline tax exemption has subsequently been amended by other legislation. The Crude Oil Windfall Profit Tax Act of 1980 (Public Law 96-233, Apr. 2, 1980) extended the tax exemption's termination date from 1984 to 1992. It also provided an equivalent 40-cents per gallon income tax credit to those businesses using or selling ethanol either as a straight fuel or as a blend with gasoline. The incentives were structured so that only one of the two benefits could be claimed. The act also provided a 10-percent energy investment tax credit through 1985 on investments in equipment to produce ethanol from renewable resources. This credit is in addition to the 10-percent investment tax credit available to any business investing in new machinery or equipment.

The Highway Revenue Act of 1982 (Public Law 97-424 title V, Jan. 6, 1983) increased the tax advantage provided to ethanol. Effective April 1, 1983, this act increased the exemption for gasohol from 4 cents to 5 cents per gallon. It also adjusted the income tax credit from 40 cents to 50 cents per gallon of ethanol. The Deficit Reduction Act of 1984 (Public Law 98-369) increased the exemption for gasoline containing at least 10-percent ethanol from 5 cents to 6 cents per gallon effective January 1, 1985.

As part of the Omnibus Reconciliation Act of 1980 (Public Law 96-499, Dec. 5, 1980), the Congress enacted a special duty on fuel-ethanol imports. In addition to the 3 percent ad valorem duty applied to all nonbeverage ethanol imports, the act added a duty applied to all nonbeverage ethanol imports. The act added a 10-cent-per-gallon duty to ethanol imported for fuel purposes in 1981. It raised the extra duty to 20 cents per gallon during 1982 and to 40 cents per gallon from 1982 through 1992. Subsequently, the Highway Revenue Act of 1982 increased the duty to 50 cents per gallon for fuel ethanol imports entering between April 1, 1983, and December 31, 1992. The duty was further increased by the Deficit Reduction Act of 1984 to 60 cents per gallon effective January 1, 1985. The duty level has been set to offset the value of the Federal tax exemption so that foreign producers of fuel ethanol do not benefit from the exemption.

State incentives.--As of February 1, 1985, 33 States offered incentives, generally in the form of exemptions or credits with respect to the State excise tax or sales tax on motor fuels. The exemptions range from 1 cent to 16 cents a gallon, with most States offering 3 to 5 cents a gallon. Some States offer incentives only for fuel ethanol produced in that State, while others offer incentives for all domestically produced fuel ethanol. In addition, some States offer incentives for all fuel-grade ethanol irrespective of whether it is produced domestically or imported. The net effect, according to petitioners, is the creation of separate State-level markets for ethanol, each with its own unique supply, demand, and price characteristics. 1/

In addition to tax incentives, the fuel-ethanol industry has benefited from other forms of financial incentives. Both the Department of Energy

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1/ Petitions of these investigations, pp. 20-21 and exhibit 4.

and the U.S. Department of Agriculture have issued loan guarantees to fuel-ethanol projects. 1/

Apparent U.S. consumption

Apparent U.S. consumption of fuel-grade ethanol increased by *** percent from 1982 to 1983 and *** percent from 1983 to 1984. The increase in apparent U.S. consumption of fuel-grade ethanol during 1982-84 reflects growth in the new gasohol market for this product. The questionnaire data base for industrial-grade ethanol was not large enough to accurately reflect apparent consumption. Apparent U.S. consumption of fuel-grade ethanol, according to data submitted in response to the Commission's questionnaires, was as follows (in thousands of gallons):

	Apparent U.S. consumption
1982----------	***
1983----------	***
1984----------	***

Consideration of Material Injury to an Industry in the United States

U.S. production, capacity, and capacity utilization

U.S. production of fuel-grade ethanol increased by *** percent from 1982 to 1983 and by another *** percent from 1983 to 1984 (table 1). Similarly, average U.S. capacity, for the reporting firms, increased *** percent from 1982 to 1983 and *** percent from 1983 to 1984. Average capacity utilization rates increased from 1982 to 1983 and then declined in 1984.

U.S. production of industrial-grade ethanol increased *** percent from 1982 to 1983 and another *** percent from 1983 to 1984. Average capacity decreased *** percent from 1982 to 1983 and increased *** percent from 1983 to 1984. Utilization rates for producers of industrial-grade ethanol increased during 1982-84. Utilization rates for producers of industrial-grade ethanol were *** percent of the utilization rates for producers of fuel-grade ethanol in 1982, *** percent in 1983, and *** percent in 1984. Data related to industrial-grade ethanol may not be as representative of this segment of the industry because questionnaires were only received from producers accounting for slightly less than half of the domestic capacity.

1/ Petitions of these investigations, p. 19.

Table 1.--Ethanol: U.S. production, practical capacity, and capacity utilization, by grades, 1982-84

Item	1982	1983	1984
Production:			
Fuel-grade ethanol--------1,000 gallons--	***	***	***
Industrial-grade ethanol----------do----	***	***	***
Total----------do----	***	***	***
Practical capacity: 1/			
End of period:			
Fuel-grade ethanol-----1,000 gallons--	***	***	***
Industrial-grade ethanol--------do----	***	***	***
Total----------do----	***	***	***
Average for period:			
Fuel-grade ethanol-----1,000 gallons--	***	***	***
Industrial-grade ethanol--------do----	***	***	***
Total----------do----	***	***	***
Ratio of production to average capacity:			
Fuel-grade ethanol----------percent--	***	***	***
Industrial-grade ethanol----------do----	***	***	***
Total ethanol----------do----	***	***	***

1/ Practical capacity was defined as the greatest level of output a plant can achieve within the framework of a realistic work pattern. Producers were asked to consider, among other factors, a normal product mix and an expansion of operations that could be reasonably attained in their industry and locality in setting capacity in terms of the number of shifts and hours of plant operations.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

U.S. producers' domestic shipments, intracompany shipments, exports, and imports

The trend in U.S. producers' shipments parallels that in production (table 2). U.S. producers' domestic shipments of fuel-grade ethanol, produced in the United States, increased by *** percent in quantity and *** percent in value from 1982 to 1983 and by *** percent in quantity and *** percent in value from 1983 to 1984. Intracompany shipments increased by *** percent in quantity and *** percent in value from 1982 to 1983 and by *** percent in quantity and *** percent in value from 1983 to 1984. There were no exports of fuel-grade ethanol reported during 1982-84.

U.S. producers' domestic shipments of industrial-grade ethanol increased by *** percent in quantity and *** percent in value from 1982 to 1983 and by *** percent in quantity and *** percent in value from 1983 to 1984. Intracompany shipments increased by *** percent in quantity and *** percent in

Table 2.--Ethanol: U.S. producers' domestic shipments, intracompany shipments, and exports of domestically produced product, by grades, 1982-84

Item	1982	1983	1984
	Quantity (1,000 gallons)		
Domestic shipments: 1/			
Fuel-grade ethanol	***	***	***
Industrial-grade ethanol	***	***	***
Total	***	***	***
Intracompany shipments:			
Fuel-grade ethanol	***	***	***
Industrial-grade ethanol	***	***	***
Total	***	***	***
Export shipments:			
Fuel-grade ethanol	***	***	***
Industrial-grade ethanol	***	***	***
Total	***	***	***
All shipments:			
Fuel-grade ethanol	***	***	***
Industrial-grade ethanol	***	***	***
Total	***	***	***
	Value (1,000 dollars)		
Domestic shipments: 1/			
Fuel-grade ethanol	***	***	***
Industrial-grade ethanol	***	***	***
Total	***	***	***
Intracompany shipments:			
Fuel-grade ethanol	***	***	***
Industrial-grade ethanol	***	***	***
Total	***	***	***
Export shipments:			
Fuel-grade ethanol	***	***	***
Industrial-grade ethanol	***	***	***
Total	***	***	***
All shipments:			
Fuel-grade ethanol	***	***	***
Industrial-grade ethanol	***	***	***
Total	***	***	***

1/ Excluding intracompany shipments.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

value from 1982 to 1983, but decreased by *** percent in quantity and *** percent in value from 1983 to 1984. Exports of industrial-grade ethanol amounted to a high of *** percent of total shipments of such ethanol, on the basis of quantity, in 1984.

Table 3 shows imports of ethanol reported by U.S. producers. Of the U.S. producers' imports, *** accounted for *** percent (on the basis of quantity); ***, *** percent; and ***, *** percent in 1982. *** accounted for *** percent and ***, *** percent in 1983. *** accounted for all such imports in 1984. Virtually all such imports were fuel-grade ethanol from Brazil. Imports by U.S. producers accounted for *** percent of total imports of fuel-grade ethanol in 1982; *** percent in 1983; and *** percent in 1984, on the basis of data submitted in response to the Commission's questionnaires.

Table 3.--Ethanol: U.S. producers' imports, by grades, 1982-84

Item	1982	1983	1984
	Quantity (1,000 gallons)		
Fuel-grade ethanol:			
From Brazil	***	***	***
From all other countries	1/ ***	***	***
Total	***	***	***
Industrial-grade ethanol:			
From Brazil	***	***	***
From all other countries	***	***	***
Total	***	***	***
	Value (1,000 dollars) 2/		
Fuel-grade ethanol:			
From Brazil	***	***	***
From all other countries	1/ ***	***	***
Total	***	***	***
Industrial-grade ethanol:			
From Brazil	***	***	***
From all other countries	***	***	***
Total	***	***	***

1/ Imports from Canada.

2/ At the U.S. port of entry, including the cost of ocean freight and insurance, brokerage charges, and import duties (i.e., all charges except inland freight in the United States).

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

U.S. producers' inventories

U.S. producers' end-of-period inventories of domestically produced fuel-grade ethanol increased by *** percent from 1981 to 1982, *** percent from 1982 to 1983, and declined *** percent from 1983 to 1984 (table 4). U.S. producers' end-of-period inventories of industrial-grade ethanol decreased by *** percent from 1981 to 1982, *** percent from 1982 to 1983, and *** percent from 1983 to 1984. The ratio of producers' inventories of fuel-grade ethanol to their total shipments of such merchandise during the preceding period decreased from *** percent in 1982 to *** percent in 1984. The ratio of inventories to shipments of industrial-grade ethanol declined from *** percent in 1982 to *** percent in 1984.

Table 4.--Ethanol: U.S. producers' inventories, by grades, as of Dec. 31 of 1981-84

Item	December 31--			
	1981	1982	1983	1984
Inventories of firms' production:				
Fuel-grade ethanol---1,000 gallons--	***	***	***	***
Industrial-grade ethanol------do----	***	***	***	***
Total----------do----	***	***	***	***
Other inventories:				
Fuel-grade ethanol---1,000 gallons--	***	***	***	***
Industrial-grade ethanol------do----	***	***	***	***
Total----------do----	***	***	***	***
Total inventories:				
Fuel-grade ethanol---1,000 gallons--	***	***	***	***
Industrial-grade ethanol------do----	***	***	***	***
Total----------do----	***	***	***	***
Ratio of total inventories to all shipments during the preceding period of--				
Fuel-grade ethanol---------percent--	***	***	***	***
Industrial-grade ethanol------do----	***	***	***	***
Average----------do----	***	***	***	***

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

U.S. employment, wages, and productivity

In general, the trends in employment of, hours worked by, and wages and total compensation paid to production and related workers producing ethanol were upward during 1982-84, as shown in table 5. However, the data in table 5

should be viewed with the understanding that a number of companies were unable to separate data for fuel- and industrial-grades of ethanol from their overall operations. This is not too serious for those firms that have a limited number of products. However, the most significant omission in the reported data occurred in 1982, because *** did not provide separate data for *** fuel-grade and industrial-grade ethanol operations.

Table 5.--Average number of U.S. producers' employees (total and production and related workers) producing all products and those producing ethanol; hours worked by and wages, total compensation, and average hourly compensation paid to such workers; output per hour worked; and unit labor cost in producing ethanol, by grades, 1982-84

Item	1982	1983	1984
Average employment:			
All persons	***	***	***
Production and related workers producing--			
All products	***	***	***
Fuel-grade ethanol	1/	***	***
Industrial-grade ethanol	1/	***	***
Hours worked by production and related workers producing--			
All products----1,000 hours	***	***	***
Fuel-grade ethanol----do	1/	***	***
Industrial-grade ethanol----do	1/	***	***
Wages paid to production and related workers producing--			
All products----1,000 dollars	***	***	***
Fuel-grade ethanol----do	1/	***	***
Industrial-grade ethanol----do	1/	***	***
Total compensation paid to production and related workers producing--			
All products----1,000 dollars	***	***	***
Fuel-grade ethanol----do	1/	***	***
Industrial-grade ethanol----do	1/	***	***
Average hourly compensation paid to production and related workers producing--			
All products	$***	$***	$***
Fuel-grade ethanol	1/	***	***
Industrial-grade ethanol	1/	***	***
Output per hour worked:			
Fuel-grade ethanol----1,000 gallons	1/	***	***
Industrial-grade ethanol----do	1/	***	***
Labor cost of producing--			
Fuel-grade ethanol----per 1,000 gallons	1/	***	***
Industrial-grade ethanol----do	1/	***	***

1/ Not available. * * *.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Financial experience of U.S. producers

Thirteen U.S. producers furnished income-and-loss data relative to their overall establishment operations. 1/ Twelve of these 13 firms are producers of fuel-grade ethanol, and they provided data on their operations producing fuel-grade ethanol. Four producers provided data on their operations producing industrial-grade ethanol.

In the aggregate, U.S. producers earned operating profits from their overall operations and industrial-grade ethanol operations during each full year of the investigation. Fuel-grade ethanol operations were somewhat more profitable than industrial-grade ethanol operations during 1982, but profits fell in 1983, and producers sustained a *** percent operating loss in 1984.

Overall establishment operations.--Overall establishment net sales increased from $*** billion in 1982 to $*** billion in 1983, or by *** percent (table 6). Such sales then rose by *** percent to $*** billion in 1984. Net sales for five firms were up during interim 1984 from those in the corresponding period of 1983. Operating income followed a somewhat different trend than net sales during 1982-84. Such income declined by *** percent from 1982 to 1983, falling to *** percent of increasing net sales. Operating income in 1984 then increased by *** percent to $*** million, or *** percent of net sales.

Fuel-grade ethanol operations.--Net sales of fuel-grade ethanol increased in each year during 1982-84 as new producers began operations (table 7). Net sales increased by *** percent in 1983 over sales in 1982 *** three additional producers of ethanol began production. In 1984, net sales increased by *** percent as *** more firms began production. For five producers providing data for the interim periods, net sales increased by *** percent in 1984 over those in the corresponding period of 1983. The cost of goods sold rose more rapidly than did net sales, resulting in gross income falling from *** percent of net sales in 1982 to *** percent in 1983. This trend continued in 1984 as income fell, resulting in a loss of *** percent of net sales in that year.

General, selling, and administrative expenses *** than *** during the 3 full years of the investigation as new producers joined the market in fuel-grade ethanol. Operating income exhibited a pronounced downward pattern, falling by *** percent from $*** million in 1982 to $*** million in 1983; in 1984, producers incurred an aggregate operating loss of $*** million.

As a share of net sales, the cost of goods sold rose from *** percent in 1982 to *** percent in 1983 and *** percent in 1984. General, selling, and administrative expenses fell from *** percent of net sales in 1982 to *** percent in 1983 but rose to *** percent in 1984.

For the five producers of ethanol reporting interim data, gross losses were significantly lower in 1984, at *** percent of net sales, than the *** percent incurred in the corresponding period of 1983. Operating losses were reduced from *** percent in interim 1983 to *** percent in interim 1983.

1/ ***.

Table 6.--Income-and-loss experience of U.S. producers on the overall operations of their establishments within which fuel-grade ethanol is produced, 1982-84, interim 1983, and interim 1984

Item	1982	1983	1984	Interim period ending Dec. 31--	
				1983 1/	1984 1/
Net sales----1,000 dollars--	***	***	***	***	***
Cost of goods sold----do----	***	***	***	***	***
Gross income----------do----	***	***	***	***	***
General, selling, and administrative expenses 1,000 dollars--	***	***	***	***	***
Operating income or (loss)-----1,000 dollars--	***	***	***	***	***
Depreciation and amortization-----1,000 dollars--	***	***	***	***	***
Ratio to net sales:					
Gross income-----percent--	***	***	***	***	***
Operating income or (loss)---------do----	***	***	***	***	***
Cost of goods sold--do----	***	***	***	***	***
General, selling, and administrative expenses percent--	***	***	***	***	***
Number of firms reporting operating losses----------	***	***	***	***	***
Number of firms reporting data----------	***	***	***	***	***

1/ Includes 4 firms reporting quarterly data and 1 firm reporting half-year data.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 7.--Income-and-loss experience of U.S. producers on their operations producing fuel-grade ethanol, 1982-84, interim 1983, and interim 1984

Item	1982	1983	1984	Interim period ending Dec. 31--	
				1983 1/	1984 1/
Net sales----1,000 dollars--	***	***	***	***	***
Cost of goods sold----do----	***	***	***	***	***
Gross income (loss)---do----	***	***	***	***	***
General, selling, and administrative expenses 1,000 dollars--	***	***	***	***	***
Operating income (loss) 1,000 dollars--	***	***	***	***	***
Depreciation and amortization-----1,000 dollars--	***	***	***	***	***
Ratio to net sales:					
Gross income (loss) percent--	***	***	***	***	***
Operating income (loss) percent--	***	***	***	***	***
Cost of goods sold--do----	***	***	***	***	***
General, selling, and administrative expenses percent--	***	***	***	***	***
Number of firms reporting operating losses----------	***	***	***	***	***
Number of firms reporting data----------	***	***	***	***	***

1/ Includes 4 firms reporting quarterly data and 1 firm (***) reporting half-year data. The latter firm accounted for *** percent of net sales and *** percent of the total operating loss in the 1984 interim period.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Industrial-grade ethanol operations.--Four producers provided full year data on industrial-grade ethanol operations from 1982 to 1984. Gross income and operating income improved modestly in each year of the investigation, as shown in table 8. The cost of goods sold was *** percent of net sales in 1982 and 1983 and declined slightly to *** percent of net sales in 1984.

Table 8.--Income-and-loss experience of U.S. producers on their operations producing industrial-grade ethanol, 1982-84, interim 1983, and interim 1984

Item	1982	1983	1984	Interim period ending Dec. 31--	
				1983 1/	1984 1/
Net sales-------1,000 dollars--	***	***	***	***	***
Cost of goods sold-------do----	***	***	***	***	***
Gross income-----------do----	***	***	***	***	***
General, selling, and administrative expenses------do----	***	***	***	***	***
Operating income (loss)--do----	***	***	***	***	***
Depreciation and amortization--------1,000 dollars--	***	***	***	***	***
Ratio to net sales:					
Gross income--------percent--	***	***	***	***	***
Operating income (loss)----------percent--	***	***	***	***	***
Cost of goods sold-----do----	***	***	***	***	***
General, selling, and administrative expenses percent--	***	***	***	***	***
Number of firms reporting operating losses----------	***	***	***	***	***
Number of firms reporting data----------	***	***	***	***	***

1/ Both firms reported quarterly data.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Capital expenditures.--The reporting U.S. producers of fuel-grade ethanol had capital expenditures for all products that fell by *** percent from 1982 to 1983 but that then rebounded by *** percent in 1984 (table 9). For capital expenditures on fuel-grade ethanol, the pattern was more dramatic, with expenditures decreasing from $*** million in 1982 to $*** million in 1983 and then rebounding to $*** million in 1984, or *** percent of the 1982 level. Capital expenditures on industrial-grade ethanol decreased by *** percent from 1982 to 1983 and then increased in 1984 to *** percent of the 1982 level.

Table 9.--Capital expenditures on U.S. producers' facilities within which fuel-grade ethanol is produced, as of the end of accounting years 1982-84

(In thousands of dollars)

Item	1982	1983	1984
All products of the establishment(s):			
Land and land improvements	***	***	***
Building or leasehold improvements	***	***	***
Machinery, equipment, and fixtures	***	***	***
Total	***	***	***
Fuel-grade ethanol:			
Land and land improvements	***	***	***
Building or leasehold improvements	***	***	***
Machinery, equipment, and fixtures	***	***	***
Total	***	***	***
Industrial-grade ethanol:			
Land and land improvements	***	***	***
Building or leasehold improvements	***	***	***
Machinery, equipment, and fixtures	***	***	***
Total	***	***	***

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Value of plant, property, and equipment.--Fourteen U.S. firms provided data on their investment in productive facilities in which fuel-grade ethanol is produced (table 10). For all products of the establishments, the total value of plant, property, and equipment--measured on an original-cost basis--increased by *** percent from 1982 to 1983 and by *** percent from 1983 to 1984 as new ethanol plants went into production. On a book-value basis, these investments increased by *** percent from 1982 to 1983 and by *** percent from 1983 to 1984.

The value of investments in facilities used for the production of fuel-grade ethanol increased by *** percent on an original-cost basis and by *** percent on a book-value basis from 1982 to 1984. Most of this increase occurred in 1984 as *** new plants began ethanol sales. Assets for the production of industrial-grade ethanol rose by *** percent on an original-cost basis and by *** percent on a book-value basis from 1982 to 1984 as new plants, property, and equipment were put into service.

Research and development expenses.--Reported expenses on research and development are shown in the following tabulation for 1982 to 1984 (in thousands of dollars):

	1982	1983	1984
Fuel-grade ethanol	***	***	***
Industrial-grade ethanol	***	***	***

Table 10.--Value of plant, property, and equipment (investment in productive facilities) of U.S. producers' facilities within which fuel-grade ethanol is produced, as of the end of accounting years 1982-84

(In thousand of dollars)

Item	1982	1983	1984
All products of the establishment(s):			
Original cost	***	***	***
Book value	***	***	***
Fuel-grade ethanol:			
Original cost	***	***	***
Book value	***	***	***
Industrial-grade ethanol:			
Original cost	***	***	***
Book value	***	***	***

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

***. Without these noncapitalized expenses, research and development would have increased each full year of the investigation. Expenses for research and development of industrial-grade ethanol fell in 1983 and then increased in 1984 to about *** percent of the reported 1982 levels.

Capital and investment.--U.S. producers were requested to provide comments on the actual and potential negative effects, if any, of imports of ethanol from Brazil on their firm's growth, investment, and ability to raise capital. Eleven companies provided specific comments regarding actual or potential negative effects of the depressed selling prices caused by imports of ethanol from Brazil. Negative effects cited include the closing of an ethanol plant (***), the diminished value of existing facilities, and a slowdown in sales growth, which has caused excess capacity. ***. Five firms have canceled planned expansions in productive capacity.

The questionnaire response by *** effectively summarizes the actual and potential negative effects cited by the other 10 firms and is, therefore, quoted as follows:

> "The U.S. domestic ethanol industry has been placed into unfair competition with a highly subsidized foreign industry selling its products below its cost of production. Some of the subsidies that the Brazilian ethanol industry directly or indirectly receives are as follows: farm subsidies, sugarcane processing facility subsidies, ethanol production facilities subsidies, no or low interest loans from Brazilian government agencies, no or low

interest loans from the World Bank (U.S. Government is the largest contributor), Brazilian government mandate of ethanol usage, Brazilian guarantee for price supports. Additionally, Brazil is encouraged to dump its ethanol into the United States market because of the all-time high exchange rate of the U.S. dollar.

Because of the above-mentioned facts, our company's growth potential looks dismal at this point since imported ethanol can be purchased at below the true cost of production. The suppression of ethanol prices due to Brazilian imports has been a contributing factor to the unprofitability of domestic ethanol plants. Unless private enterprise can make a profit, new investments into this industry become highly unlikely.

In addition, current investments in domestic alcohol production facilities are in danger of being lost due to heavily subsidized ethanol imports. New capital for ethanol production facilities is almost non-existent because of the unprofitable pricing of ethanol as the result of the unfair international trade practice of dumping ethanol into the U.S. market."

Consideration of Threat of Material Injury to an Industry in the United States

In its examination of the question of threat of material injury to an industry in the United States, the Commission may take into consideration such factors as the rate of increase in the allegedly subsidized and/or LTFV imports, the rate of increase of U.S. market penetration by such imports, the capacity of producers in the exporting country to generate exports (including the availability of export markets other than the United States), and other factors, such as the quantities of imports of the merchandise under investigation held in inventory in the United States.

Trends in imports and U.S. market penetration are discussed in the sections of this report that address the causal relationship between the alleged injury and allegedly subsidized and/or LTFV imports. A discussion of U.S. importer's inventories of fuel-grade ethanol and the available data on the capacity of producers in Brazil to generate exports of this product follow.

U.S. importers' inventories

U.S. importers' inventories of fuel-grade ethanol from Brazil increased sharply during 1982-84 (table 11). *** inventories were *** million gallons at the end of 1984. Counsel for Internor stated that large quantities of fuel-grade ethanol were imported during late 1984 in anticipation of the 10-cent-per-gallon tax increase on fuel ethanol that went into effect on January 1, 1985. Internor stated that it has not imported any fuel-grade ethanol during 1985 and does not intend to do so for several months. 1/

1/ Internor's postconference brief, pp. 34-35.

Table 11.--Ethanol: U.S. importers' end-of-period inventories, by grades and by firms, 1982-84

(In thousands of gallons)

Item	1982	1983	1984
Fuel-grade ethanol:			
*** 1/	***	***	***
Industrial-grade ethanol:			
*** 1/	***	***	***
*** 2/	***	***	***
*** 3/	***	***	***
Total	***	***	***

1/ Data are for imports from Brazil.
2/ Data are for imports from Brazil, the United Kingdom, South Africa, and Argentina.
3/ Data are for imports from Canada and the United Kingdom.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Ability of producers in Brazil to generate exports and the availability of export markets other than the United States

Counsel for Internor was requested to provide detailed information on Brazilian capacity to produce fuel-grade ethanol and industrial-grade ethanol, production data for 1982-84, and exports to the United States and to other countries. However, such detailed capacity data have not been forthcoming. About all that can be said, on the basis of information currently available, is that petitioners allege that Brazil's capacity to produce exports is huge 1/, but respondents contend that virtually all of Brazil's production is directed toward its domestic requirements for fuel. 2/

Both sides used data prepared by The Brazilian Ethanol Producers' Special Committee. Relevant statistics from a publication by that group 3/ are shown in the following tabulation (in millions of gallons):

Brazil's ethanol production

Crop year	Anhydrous (200 proof)	Hydrous (185 proof)	Total
1981-82-------	384	736	1,120
1982-83-------	938	602	1,540
1983-84-------	646	1,407	2,053
1984-85-------	700	1,702	2,402

1/ Transcript of conference, pp. 17-20.
2/ Ibid., pp. 158-161.
3/ Ethanol Brazil, Export Potential, The Brazilian Ethanol Producers' Special Committee, Sao Paulo, Brazil.

Brazil's ethanol market

	1981	1982	1983	1984
As fuel:				
Anhydrous	303	534	580	585
Hydrous	368	442	779	1,226
Total	671	976	1,359	1,811
Chemicals	31	62	100	150
Other uses	75	91	103	164
Total domestic	777	1,129	1,562	2,125
Exports	40	76	91	264
Total market	817	1,205	1,653	2,389

Consideration of the Causal Relationship Between the Allegedly Subsidized and/or LTFV Imports and the Alleged Injury

U.S. imports

Official import statistics show that aggregate U.S. imports of fuel-grade ethanol from all sources increased rapidly during 1982-84, from 13.5 million gallons in 1982 to 55.3 million gallons in 1983 and 74.0 million gallons in 1984. As shown in table 12, virtually all such imports were from Brazil. Imports of industrial-grade ethanol from all sources increased from 22.0 million gallons in 1982 to 47.2 million gallons in 1983 and 88.6 million gallons in 1984.

Petitioners have repeatedly referred to the official import statistics of the Department of Commerce as not properly reflecting the level of imports of fuel-grade ethanol. 1/ As indicated previously, they allege that fuel-grade ethanol is being imported into the United States designated as industrial ethanol, thus skewing the official U.S. import statistics. 2/ Data gathered by the Commission from questionnaires sent to importers indicate that imports of fuel ethanol from Brazil are understated, and imports of industrial ethanol are overstated in official Commerce import statistics. ***. Imports reported by these importers in 1983 amounted to *** million gallons (table 13). Imports then rose to *** million gallons in 1984. Reported imports of industrial-grade ethanol from Brazil fell from *** million gallons in 1982 to *** in 1983 and then increased to *** million gallons in 1984.

Total reported imports of fuel-grade ethanol from Brazil (producers' direct imports in table 3 plus imports in table 13) increased from *** million gallons in 1982, to *** million gallons in 1983, and *** million gallons in 1984 (table 14).

1/ Petitions of these investigations, pp. 32-36, and transcript of conference, pp. 19-22, 57.

2/ Official Commerce import statistics on imports for consumption during 1982-84 were compared with general imports. The only significant differences were for 1983 and 1984, when general imports were greater than imports for consumption by 1.8 million gallons and 6.2 million gallons, respectively.

Table 12.--Ethanol: U.S. imports for consumption, by grades and by principal sources, 1980-84

Item	1980	1981	1982	1983	1984
	Quantity (1,000 gallons)				
Fuel-grade ethanol from--					
Brazil	0	4,440	13,480	54,484	73,756
Spain	0	0	0	783	270
Canada	0	0	45	0	0
Total, fuel-grade	0	4,440	13,526	55,267	74,026
Industrial-grade ethanol from--					
Brazil	40,784	8,480	4,272	18,483	55,435
United Kingdom	1/	1/	6,947	5,155	10,652
Canada	8,569	8,658	5,166	14,148	7,318
Argentina	11,145	7,197	4,582	5,520	6,455
Spain	0	0	0	140	3,598
France	3	1/	0	1,612	2,385
Republic of South Africa	0	0	0	1,431	1,616
Netherlands	0	1/	495	0	896
All other	2	3	522	731	279
Total, industrial-grade	60,503	24,339	21,983	47,222	88,636
All grades of ethanol from--					
Brazil	40,784	12,920	17,753	72,967	136,575
United Kingdom	1/	1/	6,947	5,155	10,652
Canada	8,569	8,658	5,211	14,148	7,318
Argentina	11,145	7,197	4,582	5,520	6,455
Spain	0	0	0	923	3,868
France	3	1/	0	1,612	2,385
Republic of South Africa	0	0	0	1,431	1,616
Netherlands	0	1/	495	0	896
All other	2	3	522	731	279
Total, ethanol	60,503	28,779	35,509	102,489	170,045

See footnote at end of table.

Table 12.--Ethanol: U.S. imports for consumption, by grades and by principal sources, 1980-84--Continued

Item	1980	1981	1982	1983	1984
	Value (1,000 dollars)				
Fuel-grade ethanol from--					
Brazil	-	5,834	14,122	52,654	59,378
Spain	-	-	-	505	174
Canada	-	-	65	-	-
Total, fuel-grade	-	5,834	14,188	53,159	59,552
Industrial-grade ethanol from--					
Brazil	50,829	11,179	4,594	18,586	50,447
United Kingdom	2	10	8,568	5,921	13,253
Canada	12,300	12,033	4,953	12,984	8,746
Argentina	11,468	7,302	5,790	6,336	6,310
Spain	-	-	-	91	3,022
France	2	1	-	1,870	2,658
Republic of South Africa	-	-	-	1,744	1,368
Netherlands	-	2	556	-	1,100
All other	21	109	376	894	353
Total, industrial-grade	74,623	30,635	24,838	48,425	87,258
All grades of ethanol from--					
Brazil	50,829	17,013	18,717	71,240	115,723
United Kingdom	2	10	8,568	5,921	13,253
Canada	12,300	12,033	5,018	12,984	8,746
Argentina	11,468	7,302	5,790	6,336	6,310
Spain	-	-	-	596	3,197
France	2	1	-	1,870	2,658
Republic of South Africa	-	-	-	1,744	1,368
Netherlands	-	2	556	-	1,100
All other	21	109	376	894	353
Total, ethanol	74,623	36,469	39,025	101,584	152,708

1/ Less than 500 gallons.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 13.--Ethanol: U.S. imports reported by respondents to the Commission's importers' questionnaires, by grades, 1982-84 1/

Item	1982	1983	1984
	Quantity (1,000 gallons)		
Fuel-grade ethanol:			
From Brazil:			
***	***	***	***
Industrial-grade ethanol:			
From Brazil:			
***	***	***	***
***	***	***	***
Total	***	***	***
From all other countries:			
***	***	***	***
***	***	***	***
Total	***	***	***
Total ethanol:			
From Brazil	***	***	***
From all other countries	***	***	***
Total	***	***	***
	Value (1,000 dollars)		
Fuel-grade ethanol:			
From Brazil:			
***	***	***	***
Industrial-grade ethanol:			
From Brazil:			
***	***	***	***
***	***	***	***
Total	***	***	***
From all other countries:			
***	***	***	***
***	***	***	***
Total	***	***	***
Total ethanol:			
From Brazil	***	***	***
From all other countries	***	***	***
Total	***	***	***

1/ Excludes direct imports by U.S. producers as reported in table 3.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 14.--Fuel-grade ethanol: U.S. producers' shipments, imports for consumption, exports of domestic merchandise, and apparent consumption, 1982-84

Year	U.S. producers' shipments	Imports from Brazil 1/	U.S. producers' exports	Apparent consumption	Ratio of imports to consumption
	1,000 gallons				Percent
1982	***	***	***	2/ ***	***
1983	***	***	***	***	***
1984	***	***	***	***	***

1/ U.S. producers' imports plus importers' imports.
2/ Includes *** gallons of fuel-grade ethanol imported from Canada.

Source: Compiled from information submitted in response to questionnaires of the U.S. International Trade Commission.

U.S. market penetration by imports

U.S. imports of ethanol from Brazil have rapidly increased their U.S. market penetration, as shown in table 14. The ratio of imports of fuel-grade ethanol from Brazil to apparent U.S. consumption rose from *** percent in 1982 to *** percent in 1983, and then more than *** to *** percent in 1984.

Prices

Fuel ethanol is used by gasoline refiners and marketers both as a fuel extender and as an octane enhancer. As a fuel extender, ethanol competes with gasoline, and ethanol prices must remain competitive with gasoline prices. However, with the recent decision by the Environmental Protection Agency to accelerate the phaseout of lead in gasoline, the demand for and value of ethanol as an octane enhancer may increase. 1/ 2/

Industrial-grade ethanol is primarily used for paints, perfumes, and other similar uses. Because only a small portion of the ethanol imported from Brazil is actually used for industrial purposes, the analysis in this section concentrates on prices of fuel-grade ethanol. 3/ 4/

1/ Transcript of conference, p. 83.
2/ Other alternatives for increasing the octane rating of gasoline are the addition of toluene, benzene, or other chemicals to the gasoline, or further refining.
3/ Although a significant portion of ethanol imports from Brazil are classified as industrial-grade material in the official import statistics, data collected from importers indicate that a relatively small portion of imports from Brazil are actually used for industrial purposes.
4/ A comparison of industrial-grade and fuel-grade price trends is not likely to be helpful because of the significantly different demand factors facing each market.

The actual price differential between ethanol and gasoline is wide. For example, in October-December 1984, the ethanol price in Illinois was $*** per gallon while the unleaded gasoline wholesale price was $0.82 per gallon. A price differential of roughly this size existed in other States as well and illustrates that, without fuel tax incentives, unsubsidized ethanol is uneconomical as a fuel extender. As indicated previously, to promote ethanol as an alternative fuel source, the Federal Government exempts gasohol blends containing at least 10-percent ethanol from a portion of the Federal excise tax on gasoline. In 1984, gasohol blends were exempted from $0.05 of the $0.09 Federal excise tax per gallon of gasoline. On January 1, 1985, the Federal exemption for gasohol was increased to $0.06 per gallon. 1/ Because 0.1 gallon of ethanol qualifies a gallon of gasohol for this $0.06 exemption, a single gallon of ethanol effectively receives a $0.60 Federal subsidy, significantly narrowing the above price differential. The exemption is received by the seller of the gasohol mix rather than by the producer of ethanol. The fuel tax exemption makes gasoline producers and distributors willing to pay a higher price for ethanol. 2/

Because gasoline prices have been at relatively low levels in recent years, the Federal tax exemption does not completely offset the price disadvantage of ethanol, and many State governments also exempt gasohol from a portion of the State gasoline tax. The State tax exemptions are not uniform, and the economic viability of domestic or foreign ethanol in a particular State depends on the existence of and level of the State tax exemption, as well as on whether the ethanol qualifies for the exemption. In States where no State tax exemption exists, the volume of ethanol sales is generally small or nonexistent. Some States require that either the ethanol be distilled or the feedstock (generally corn) be grown in that State to qualify for the exemption. This type of restriction effectively precludes from that market ethanol produced in other States (unless reciprocity agreements exist) or produced in Brazil. 3/

The Commission asked U.S. ethanol producers and importers of Brazilian ethanol to report sales prices for their two largest shipments to customers located in Florida, Illinois, and Michigan. Both Florida and Illinois provide nonrestrictive State tax exemptions, and gasohol qualifies for this exemption regardless of the source of the ethanol. The Michigan gasohol tax exemption does not apply to gasohol using foreign ethanol. If an ethanol supplier did not have a customer located in any of these States, it was asked to report sales prices in States in which it did have customers. ***.

1/ The import duty on fuel ethanol is directly tied to the Federal tax exemption so that foreign producers will not benefit from the Federal subsidy. Therefore, the import duty on fuel ethanol increased from $0.50 per gallon to $0.60 per gallon on Jan. 1, 1985.

2/ Transcript of conference, p. 145.

3/ As an example of the complexity of the U.S. ethanol market caused by the diversity of State gasohol tax laws, ADM has filed suits against some States having tax regulations that effectively excluded ADM from those State markets (Colorado, Minnesota, and Louisiana).

Questionnaires were sent to *** and to the largest of these distributors for their sales prices. 1/ Commerce import statistics show that 75 percent of the Brazilian ethanol imported during the last half of 1984 entered through the ports of New Orleans, LA, and Mobile, AL. Imports entering New Orleans likely compete in the Tennessee and midwestern markets, because other States along the Mississippi River have State tax laws that make Brazilian ethanol uneconomical. Imports entering Mobile compete in Florida and Alabama. 2/

Price trends.--The most complete series of domestic prices were reported for the States of California, Florida, Illinois, Nebraska, Ohio, Kentucky, and Michigan. Of these states, California, Florida, Illinois, Nebraska, and Ohio have nonrestrictive State tax exemptions, whereas Kentucky and Michigan have restrictive tax exemptions. The most common method of transport was by tanker truck with a capacity of about 7,500 to 8,500 gallons, although ethanol is also sold by railcar, barge, or in smaller "top-off" quantities. 3/

U.S. producers' delivered prices to these states, by methods of transportation, are shown in table 15. Although the magnitude and timing of domestic price changes differed by state, some common trends are evident. ***. This increase primarily resulted from the increase in the Federal tax exemption from $0.04 to $0.05 per gallon on April 1, effectively increasing the ethanol subsidy by $0.10. It appears that in some states, the U.S. producers gained the full benefit of this subsidy. ***. ***. These declines were partially the result of the decline in gasoline prices, which had begun in the last quarter of 1983 and continued into January-March 1984 (table 16). ***.

Petitioners argue that the increased supply of Brazilian ethanol caused prices to decline more than would have been expected on the basis of falling gasoline prices. 4/ One respondent argued that a variety of factors, including lower gasoline prices, the expansion of domestic ethanol capacity in October 1984, and price competition from ADM, explain the decrease in ethanol prices. 5/ 6/

1/ ***. Therefore, price competition at this level of competition will be analyzed. Of the 42 firms named in lost sales or price suppression allegations, 26 are located in the Midwestern States and involved transactions in the last half of 1984. Six allegations related to purchasers located in Florida.

2/ See postconference submission of Internor Trade, Inc., Mar. 21, 1985, p. 28.

3/ Top-off sales represent sales of ethanol to fill up a tanker truck that is already 90 percent full of gasoline, thus achieving gasohol containing 10-percent ethanol.

4/ Transcript of conference, pp. 28-30.

5/ Ibid. pp. 132-139.

6/ Average quarterly gasoline prices may mask gasoline-price changes within a quarter. For example, although the October-December average price fell by only $0.02 per gallon in Ohio, within that quarter gasoline prices fell from about $0.83 per gallon at the wholesale level in the first week of October to about $0.74 per gallon in the last week of December, or by $0.12 per gallon.

Table 15.--Delivered sales prices for U.S.-produced ethanol in California, Florida, Illinois, Kentucky, Michigan, Nebraska, and Ohio, by methods of transportation and by quarters, 1983 and 1984

(Per gallon)

Period	California --Rail	Florida		Illinois		
		Truck	Barge	Truck	Barge	Top-off
1983:						
January-March	$***	$***	$***	$***	1/	$***
April-June	***	***	***	***	1/	***
July-September	***	***	***	***	$***	***
October-December	***	***	***	1/	***	***
1984:						
January-March	***	***	***	***	***	***
April-June	***	***	***	***	***	***
July-September	***	***	***	***	***	***
October-December	***	***	***	***	***	***

	Nebraska--	Ohio		Kentucky	Michigan
	Truck	Truck	Barge	--Truck	--Truck
1983:					
January-March	$***	$***	1/	$***	$***
April-June	***	***	1/	***	***
July-September	***	***	1/	***	***
October-December	***	***	$***	***	***
1984:					
January-March	***	***	***	***	***
April-June	***	***	***	***	***
July-September	***	***	***	***	***
October-December	***	***	***	***	***

1/ No shipments reported.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 16.--Average prices of unleaded gasoline for refiner and gas plant operators' sales for resale in California, Florida, Illinois, Ohio, and Michigan, by quarters, 1983 and 1984

(Per gallon)

Period	California	Florida	Illinois	Ohio	Michigan
1983:					
January-March	$0.83	$0.90	$0.88	$0.90	$0.89
April-June	.91	.93	.93	.92	.93
July-September	.93	.94	.94	.94	.95
October-December	.86	.88	.88	.90	.90
1984:					
January-March	.85	.86	.86	.87	.87
April-June	.91	.88	.88	.88	.89
July-September	.82	.84	.84	.85	.85
October-December	.87	.82	.82	.83	.84

Source: Petroleum Marketing Monthly, Department of Energy, various issues.

State tax law changes in Indiana and Iowa on July 1, 1984, probably had some effect on ethanol prices in Illinois, Nebraska, Ohio, and Kentucky in the last half of the year. The State tax exemption decreased from 3 percent to 2.5 percent of the wholesale gasoline price in Indiana and from $0.03 per gallon to $0.02 per gallon in Iowa. One market analyst reported the net effect to be about a $*** decline in ethanol prices in Indiana and an $*** decline in ethanol prices in Iowa, with negative price effects in the adjacent States. 1/ Also, on July 1, 1984, the Florida State tax exemption was restricted to ethanol distilled from U.S. agricultural products or byproducts. This restriction was subsequently overturned by the Florida Circuit Court on August 22, 1984. In California, the State tax exemption of $0.03 expired on June 30, 1984. A bill to partially restore the State tax exemption was subsequently vetoed by the governor, and California currently has no State tax exemption for gasohol. 2/

* * * * * * *

***. ***. Import prices fluctuated irregularly in *** during *** (table 17.)

1/ Alcohol Outlook, July 1984, p. 2.

2/ The repeal of this exemption effectively reduced the State subsidy for ethanol by $0.30 per gallon, of which the importer absorbed $*** of the loss. See postconference submission of Internor Trade, Inc., Mar. 21, 1985, pp. 30-31.

Table 17.--* * *

(Per gallon)

Period	***	***	*** 1/
1983:			
January-March	$***	2/	2/
April-June	***	2/	2/
July-September	***	2/	2/
October-December	***	2/	2/
1984:			
January-March	***	2/	$***
April-June	***	2/	***
July-September	***	$***	***
October-December	***	***	***

1/ * * *.

2/ No sales reported.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Margins of underselling.-- *** (table 18).

Table 18.--Delivered price comparisons between U.S.-produced and Brazilian ethanol in the Illinois, Ohio, and Florida markets, by quarters, 1983 and 1984

(Per gallon)

Period	Illinois							
	Top-off sales 1/			Bargeload sales			Truckload sales 2/	
	U.S.-produced	From Brazil	Margin of underselling	U.S.-produced	From Brazil	Margin of underselling	--U.S.-produced	
1983:								
Jan.-Mar---	$***	3/	-	3/	3/	-	$***	
Apr.-June--	***	3/	-	3/	3/	-	***	
July-Sept--	***	$***	$***	$***	3/	-	***	
Oct.-Dec---	***	3/	-	***	3/	-	3/	
1984:								
Jan.-Mar---	***	***	***	***	3/	-	***	
Apr.-June--	***	***	***	***	3/	-	***	
July-Sept--	***	***	***	***	3/	-	***	
Oct.-Dec---	***	***	***	***	$***	$***	***	

Period	Ohio				Florida			
	Truckload sales			Bargeload sales---	Truckload sales			Bargeload sales 2/
	U.S. produced	From Brazil	Margin of underselling	U.S.-produced	U.S.-produced	From Brazil	Margin of underselling	--U.S.-produced
1983:								
Jan.-Mar---	$***	3/	$***	3/	$***	3/	$***	$***
Apr.-June--	***	3/	***	3/	***	3/	***	***
July-Sept--	***	3/	***	3/	***	3/	***	***
Oct.-Dec---	***	3/	***	$***	***	3/	***	***
1984:								
Jan.-Mar---	***	3/	***	***	***	3/	***	***
Apr.-June--	***	$***	***	***	***	$***	***	***
July-Sept--	***	***	***	***	***	***	***	***
Oct.-Dec---	***	***	***	***	***	***	***	***

1/ ***.
2/ ***.
3/ ***.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Transportation costs

Producers and importers of ethanol were asked to report transportation costs for shipments of ethanol to customers located at distances of 50 miles, 200 miles, and more than 500 miles. The tabulation below shows transportation costs at these distances for truck, rail, and barge transportation (per gallon):

	Truck	Rail	Barge
50 miles	$0.020	$0.025	$0.007
200 miles	.056	.054	.025
More than 500 miles	.149	.129	.049

Barge transportation is by far the least expensive of the transport methods, but it requires large-volume purchases and access to waterways. Most ethanol suppliers reported that most sales were by truck. Internor reported that it entered the Florida and California ethanol markets because there was no significant instate ethanol capacity, because U.S. producers were located in the Midwest, and because these States provided nonrestrictive tax exemptions for gasohol. 1/

* * * * * * *

Lost sales/lost revenues

Lost sale and lost revenue allegations were provided by 8 ethanol producers; the allegations involved ethanol purchases by 42 companies. There were 39 lost revenue allegations, which were generally concentrated in the last quarter of 1984 and which involved price decreases of $*** to $*** per gallon for sales of about *** million gallons of ethanol. The Commission's staff contacted 26 of the companies, which accounted for about *** million gallons of the lost revenue allegations. ***. 2/ There were seven lost-sale allegations, involving ethanol purchases in the last half of 1984 that totaled *** million gallons. Details of the information received from the purchasers contacted follows.

1/ Postconference brief of Internor Trade, Inc., Mar. 21, 1985, p. 27.
2/ ***. ***.

.--This lost-revenue allegation was made by ***, but no details were provided. *** is a distributor of Brazilian ethanol in the U.S. market. *** reported that any purchase of domestic ethanol would be made indirectly through *** because *** does not purchase directly from U.S. ethanol producers. *** reported that, in the *** market, ethanol from *** is available for $ per gallon and *** ethanol is available for $*** per gallon.

.--This lost-revenue allegation was made by *** and involved a $ per gallon price decline for a sale of *** gallons in ***. This purchaser is located in *** and reported that it purchases *** ethanol from ***, ***, and ***, and purchases domestic ethanol from ***. ***. ***. ***.

***.--This lost-revenue allegation was made by *** and involves price decreases for a sale of *** gallons of ethanol in ***. This purchaser reported that it purchases *** gallons from ***. *** believes that the fall in ethanol prices in *** was greater than warranted, on the basis of the concurrent decline in gasoline prices. ***.

.--This company was named in lost revenue allegations by both *** and ***. The *** allegation involves a $ per gallon price decrease in ***, and the *** allegation involves a $*** per gallon price decrease in ***. *** is located in ***, ***, and reported that it purchases from ***, ***, and ***. It purchases truck tank loads for its top-off facilities, and most of its purchases are from ***. ***.

.--This company was named in lost-revenue allegations by both *** and ***. The *** allegation involves a $ price decrease in ***, and the *** allegation involves a $*** price decrease in ***. *** is located in ***, ***, and it purchased from ***, ***, and *** on a top-off basis. * * *. However, this purchaser also reported that U.S. producers maintain a certain margin between gasoline and ethanol prices, regardless of their cost situation. *** believes that with the lead phase-down of gasoline, major oil companies will become preferred customers of ethanol producers, and *** wants to maintain *** as an alternative source of supply. ***.

.--This lost-revenue allegation was made by *** and involves a $ per gallon price decrease in *** and a $*** per gallon price decrease in ***. *** is located in ***, ***. This purchaser reported that its primary suppliers are *** and ***, but that it has purchased ethanol from *** at competitive prices. ***.

.--This lost-revenue allegation was made by *** and involves a $ per gallon price decrease in *** and a $*** per gallon price decrease in ***. *** is located in ***, ***. This purchaser reported that its primary suppliers of ethanol are *** and ***. *** reported that it has been approached by *** with prices about $*** to $*** lower than prices available from domestic suppliers. *** reported that declining gasoline prices had the major impact on ethanol prices, but competition from *** caused prices to decline another $*** to $*** in the *** of ***.

.--This lost-revenue allegation was made by *** and involves a $ per gallon price decrease in *** and a $*** per gallon price decrease in *** ***. *** is located in ***, ***. This purchaser reported that it believes the decline in ethanol prices was completely attributable to the declining price of gasoline. *** reported that independent *** require a fair price for ethanol and that ***'s price has been artificially high.

.--This lost-revenue allegation was made by *** and involves a price decline of $ per gallon in *** and a price decline of $*** per gallon in ***. ***. ***.

.--This company was named in both a lost-revenue and a lost-sales allegation by ***. The lost-revenue allegation involves a price decline of $ per gallon from *** to *** in the *** market. ***. ***. *** is *** principal supplier of ethanol, although it purchases from *** for its *** and also from ***. ***. ***. This purchaser reported that the increase in import volume in late 1984 was an attempt to beat the duty increase of January 1, 1985, and ***. According to this purchaser, gasoline prices fell at a faster rate than did ethanol prices in late 1984; they fell to such an extent that ethanol was becoming uncompetitive with gasoline at that time.

.--This lost-revenue allegation was made by *** and involves a price decrease of $ per gallon in *** in the *** market and a price decline of $*** per gallon in *** in the *** market. ***. This purchaser reported that *** is the price leader in these markets.

.--This lost-revenue allegation was made by *** and involves a price decrease of $ per gallon in ***. This purchaser is located in ***. *** reported that it purchases from *** and *** and has never purchased *** ethanol or been approached by suppliers of *** ethanol.

.--This lost-revenue allegation was made by *** and involves a price decrease of $ per gallon in ***. *** is located in ***. ***. *** reported that *** is the price leader in the market.

.--This purchaser was named by two producers, *** and ***, in both lost-sale and lost-revenue allegations. The lost-revenue allegation by *** involves a price decrease of $ per gallon from *** to ***, affecting sales of approximately *** gallons in the *** market, and a price decrease of $*** per gallon in *** affecting sales of *** gallons in the *** market. The lost-sale allegation by *** involves the purchase of *** gallons of *** ethanol in ***. The *** lost-revenue allegation involves a price decrease of $*** per gallon in *** for sales of *** gallons of ethanol. ***. ***. ***. ***.

.--This lost-revenue allegation was made by *** and involves a price decrease of $ per gallon in ***. ***. ***. ***'s primary supplier is ***, but it also purchases from ***, ***, ***, and ***. The only foreign ethanol it purchases is in *** from ***. ***.

.--This lost-sale allegation was made by *** and involves the purchase of *** gallons of *** ethanol in ***. ***. ***. ***. This purchaser expressed concern that, with the increase in ethanol demand that will result from the accelerated lead phaseout, ethanol producers will not have the capacity to supply *** such as ***. This purchaser reported that ethanol prices are currently $ above ***'s prices.

.--This lost-revenue allegation was made by *** and involves a price decrease of $ per gallon in ***. ***. ***. It purchased about *** gallons of ethanol in ***. *** reported that it received several phone calls last summer and fall concerning foreign ethanol at a $*** per gallon saving over domestic prices. ***. *** reported that ethanol price changes are exactly tied to gasoline price changes, and ethanol must be at least $*** per gallon lower priced than gasoline.

.--This lost-revenue allegation was made by *** and involves a price decrease of $ per gallon in *** and a price decrease of $*** per gallon in ***. ***. Its primary suppliers are ***, ***, and ***. ***. *** reported that late in the *** of *** ethanol prices declined signficantly, because of falling gasoline prices and intense competition among ethanol suppliers, especially in the *** market. ***. ***.

.--This lost-revenue allegation was made by *** and involves a price decrease of $ per gallon in ***. ***. It believes ethanol from *** to be *** in origin. ***. ***. ***.

.--This lost-revenue allegation was made by *** and involves a price decrease of $ per gallon in ***. *** is located in ***, ***, and reported that it purchases exclusively from *** and has never received any offers to purchase foreign ethanol.

.--This lost-revenue allegation was made by *** and involves a price decrease of $ per gallon in ***. ***. It did not report whether it had been approached by marketers of *** ethanol.

.--This lost-revenue allegation was made by *** and involves a price decrease of $ per gallon in ***. ***, which is in ***, ***, reported that it purchases ethanol from *** and ***. It has never been approached by a seller of *** ethanol.

.--This lost-revenue allegation was made by *** and involves a price decrease of $ per gallon in ***. *** is located in ***, ***, and reported that price negotiations occur all the time for purchases from all its suppliers.

.--This lost revenue allegation was made by *** and involves a price decrease of $ per gallon in ***. *** is located in ***, ***. ***.

***.--This lost-sale allegation was made by *** and involves purchases of *** gallons *** *** of *** ethanol. ***. ***. ***.

.--This lost-revenue allegation was made by *** and involves a price decrease of $ per gallon in ***. ***. ***. ***.

APPENDIX A

FEDERAL REGISTER NOTICES

[Investigations Nos. 701-TA-239 and 731-TA-248 (Preliminary)]

Certain Ethyl Alcohol From Brazil

AGENCY: International Trade Commission.

ACTION: Institution of preliminary countervailing duty and antidumping investigations and scheduling of a conference to be held in connection with the investigations.

SUMMARY: The Commission hereby gives notice of the institution of preliminary countervailing duty investigation No. 701-TA-239 (Preliminary) under section 703(a) of the Tariff Act of 1930 (19 U.S.C. 1671b(a)) to determine whether there is a reasonable indication that an industry in the United States is materially injured, or is threatened with material injury, or the establishment of an industry in the United States is materially retarded, by reason of imports from Brazil of certain ethyl alcohol, for nonbeverage purposes, provided for in item 427.88 of the Tariff Schedules of the United States, which are alleged to be subsidized by the Government of Brazil. As provided in section 703(a), the Commission must complete preliminary countervailing duty investigations in 45 days, or in this case by April 11, 1985.

The Commission also gives notice of the institution of preliminary antidumping investigation No. 731-TA-248 (Preliminary) under section 733(a) of the Tariff Act of 1930 (19 U.S.C. 1673b(a)) to determine whether there is a reasonable indication that an industry in the United States is materially injured, or is threatened with material injury, or the establishment of an industry in the United States is materially retarded, by reason of imports from Brazil of certain ethyl alcohol, for nonbeverage purposes, provided for in item 427.88 of the Tariff Schedules of the United States, which are alleged to be sold in the United States at less than fair value. As provided in section 733(a), the Commission must complete preliminary antidumping duty investigations in 45 days, or in this case by April 11, 1985.

For further information concerning the conduct of these investigations and rules of general application, consult the Commission's rules of practice and procedure, Part 207, Subparts A and B

(19 CFR Part 207), and Part 201, Subparts A through E (19 CFR Part 201, as amended by 49 FR 32569, August 15, 1984).

EFFECTIVE DATE: February 25, 1985.

FOR FURTHER INFORMATION CONTACT: Tedford Briggs (202-523-4612), Office of Investigations, U.S. International Trade Commission, 701 E Street NW., Washington, DC 20436.

SUPPLEMENTARY INFORMATION:

Background. These investigations are being instituted in response to petitions filed on February 25, 1985, by counsel on behalf of the Ad Hoc Committee of Domestic Fuel Ethanol Producers.

Participation in the investigations. Persons wishing to participate in the investigations as parties must file an entry of appearance with the Secretary to the Commission, as provided in § 201.11 of the Commission's rules (19 CFR 201.11), not later than seven (7) days after publication of this notice in the Federal Register. Any entry of appearance filed after this date will be referred to the Chairwoman, who will determine whether to accept the late entry for good cause shown by the person desiring to file the entry.

Service list. Pursuant to § 201.11(d) of the Commission's rules (19 CFR 201.11(d)), the Secretary will prepare a service list containing the names and addresses of all persons, or their representatives, who are parties to these investigations upon the expiration of the period for filing entries of appearance. In accordance with § 201.16(c) of the rules (19 CFR 201.16(c), as amended by 49 FR 32569, August 15, 1984), each document filed by a party to the investigations must be served on all other parties to the investigations (as identified by the service list), and a certificate of service must accompany the document. The Secretary will not accept a document for filing without a certificate of service.

Conference. The Commission's Director of Operations has scheduled a conference in connection with these investigations for 9:30 a.m. on March 19, 1985, at the U.S. International Trade Commission Building, 701 E Street NW., Washington, DC. Parties wishing to participate in the conference should contact Tedford Briggs (202-523-4612) not later than March 15, 1985, to arrange for their appearance. Parties in support of the imposition of antidumping and/or countervailing duties in these investigations and parties in opposition to the imposition of such duties will each be collectively allocated one hour within which to make an oral presentation at the conference.

Written submissions. Any person may submit to the Commission on or before March 21, 1985, a written statement of information pertinent to the subject of the investigations, as provided in § 207.15 of the Commission's rules (19 CFR 207.15). A signed original and fourteen (14) copies of each submission must be filed with the Secretary to the Commission in accordance with § 201.8 of the rules (19 CFR 201.8, as amended by 49 FR 32569, August 15, 1984). All written submissions except for confidential business data will be available for public inspection during regular business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary to the Commission.

Any business information for which confidential treatment is desired must be submitted separately. The envelope and all pages of such submissions must be clearly labeled "Confidential Business Information." Confidential submissions and requests for confidential treatment must conform with the requirements of § 201.6 of the Commission's rules (19 CFR 201.6, as amended by 49 FR 32569, August 15, 1984).

Authority: These investigations are being conducted under authority of the Tariff Act of 1930, title VII. This notice is published pursuant to § 207.12 of the Commission's rules (19 CFR 207.12).

Issued: March 1, 1985.

By order of the Commission.

Kenneth R. Mason,

Secretary.

[FR Doc. 85-5386 Filed 3-5-85; 8:45 am]

BILLING CODE 7020-02-M

International Trade Administration

[C-351-501]

Initiation of a Countervailing Duty Investigation; Fuel Ethanol From Brazil

AGENCY: Import Administration, International Trade Administration, Commerce.

ACTION: Notice.

SUMMARY: On the basis of a petition filed in proper form with the U.S. Department of Commerce, we are initiating a countervailing duty investigation to determine whether manufacturers, producers, or exporters in Brazil of fuel ethanol, as described in the "Scope of the Investigation" section of this notice, receive benefits which constitute subsidies within the meaning of the countervailing duty law. The petition also alleges that "critical circumstances" exist within the meaning of section 703(e)(1) of the Act. We are notifying the U.S. International Trade Commission (ITC) of this action, so that it may determine whether imports of the subject merchandise from Brazil materially injure, or threaten material injury to, a U.S. industry. If the investigation proceeds normally, the ITC will make its preliminary determination on or before April 11, 1985, and we will make our preliminary determination on or before May 21, 1985.

EFFECTIVE DATE: March 22, 1985.

FOR FURTHER INFORMATION CONTACT: Alain Letort, Office of Investigations, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue NW., Washington, D.C. 20230; telephone: (202) 377-5050.

SUPPLEMENTARY INFORMATION:

Petition

On February 25, 1985, we received a petition in proper form from the Ad Hoc Committee of Domestic Fuel Ethanol Producers, filed on behalf of the fuel ethanol industry in the United States. In compliance with the filing requirements of § 355.26 of the Commerce Regulations (19 CFR 355.26), the petition alleges that manufacturers, producers, or exporters in Brazil of fuel ethanol receive subsidies within the meaning of section 701 of the Tariff Act of 1930, as amended (the Act). In addition, the petition alleges that "critical circumstances" exist within the meaning of section 703(e)(1) of the Act. Since Brazil is a "country under the Agreement" within the meaning of section 701(b) of the Act, Title VII of the Act applies to this investigation, and the ITC is required to determine whether imports of the subject merchandise from Brazil materially injure, or threaten material injury to, a U.S. industry.

Initiation of Investigation

Under section 702(c) of the Act, we must determine, within 20 days after a petition is filed, whether a petition sets forth the allegations necessary for the initiation of a countervailing duty investigation, and whether it contains information reasonably available to the petitioner supporting the allegations. We have examined the petition on fuel ethanol from Brazil, and we have found that the petition meets these requirements. Therefore, we are initiating a countervailing duty investigation to determine whether the manufacturers, producers, or exporters in Brazil of fuel ethanol, as described in the "Scope of the Investigation" section of this notice, receive subsidies.

Scope of the Investigation

The product covered by this investigation is fuel-grade ethyl alcohol, also called fuel ethanol, for use as a motor fuel additive, which is currently classified in the *Tariff Schedules of the United States (TSUS)* under item number 427.8800. Ethanol, when imported to be used as a fuel or in producing a fuel, is subject to additional duties under TSUS item number 901.50.

Most fuel ethanol in the United States is derived from alcohol fermented from agricultural feedstocks that contain sugar or starch, although fuel ethanol can be synthesized from petroleum or natural gas. The vast majority of U.S. fuel ethanol is produced from corn by either a dry- or wet-milling process. By contrast, almost all Brazilian fuel ethanol producers use sugar cane as their feedstock. Corn-derived fuel ethanol is interchangeable with fuel ethanol derived from sugar cane; indeed, it is purchased by the same customers for identical uses.

Ethanol is used as a fuel additive to boost the octane content of gasoline, thereby reducing engine pinging and knocking, as well as engine run-on when the engine is shut off. The addition of fuel ethanol to gasoline allows gasoline to be refined to a lower octane level, which increases gasoline production per barrel of petroleum.

Allegations of Subsidies

The petition alleges that manufacturers, producers, or exporters in Brazil of fuel ethanol receive benefits under the following programs which constitute subsidies:

- Incentives for Distilleries:

—Proalcool Industrial Credit
—Research and Development Assistance
—Government Equity Infusions and Capital Assistance
—PETROBRAS Storage Assistance
—PETROBRAS Preferential Payment Terms

- Incentives for Cooperatives and Distributors:

—Preferential Financing
—Government Debt and Equity Infusions in PETROBRAS

- Regional Development Programs:

—Cost Equalization Program
—SUDENE

- Working Capital Financing for Exports;

Preferential Financing for Trading Companies;

Export Financing Under the Cic–CREGE 14–11 Circular;

- Financing for Storage of Exports in Bonded Warehouses;
- PROEX Export Financing;
- Resolution 68 Financing;
- IPI Export Credit Premium;
- Accelerated Depreciation;
- BEFIEX;
- Income Tax Exemptions for Export Earnings; and
- CIEX.

Upstream Subsidy Allegation

The petition alleges that Brazilian producers, manufacturers, and exporters of fuel ethanol receive the following "upstream subsidies" through the purchase of subsidized sugar cane, which is by far the major input in fuel ethanol in Brazil:

- Incentives for Sugar Cane Production:

—Proalcool Agricultural Credit
—Research and Development Assistance

- Regional Development Programs:

—Sugar Cane Plantation Roads
—Research and Development Programs.

Petitioner further alleges that upstream subsidies on sugar cane bestow a competitive benefit on fuel ethanol and have a significant effect in lowering the cost of producing fuel ethanol. Because the petition failed to quantify the amount of subsidy bestowed on sugar cane producers and to specify how much of that subsidy is passed through to ethanol producers, there is no basis on which to evaluate the competitive benefit allegedly bestowed on fuel ethanol or the effect of such benefit on the cost of producing fuel ethanol. Therefore, we find the petition does not provide "reasonable grounds," within the meaning of section 771A of the Act, to believe or suspect that upstream subsidies are being bestowed on fuel ethanol, and are excluding such alleged subsidies from the scope of this investigation.

Allegation of Critical Circumstances

Petitioner alleges that critical circumstances exist with respect to imports of fuel ethanol from Brazil. Petitioner claims that fuel ethanol benefits from export subsidies that are inconsistent with the Agreement (the Subsidies Code), and that imports have been massive over a relatively short period.

Notification of ITC

Section 702(d) of the Act requires us to notify the ITC of this action, and to provide it with the information we used to arrive at this determination. We will notify the ITC and make available to it all nonprivileged and nonconfidential information in our files. We will also allow the ITC access to all privileged and confidential information in our files, provided it confirms that it will not disclose such information, either publicly or under an administrative protective order, without the written consent of the Deputy Assistant Secretary for Import Administration.

Preliminary Determination by ITC

The ITC will determine by April 11, 1985, whether there is a reasonable indication that imports of fuel ethanol from Brazil are causing material injury, or threaten material injury, to a United States industry. If the ITC determination is negative, the investigation will end; otherwise, it will continue according to statutory procedures.

Alan F. Holmer,

Deputy Assistant Secretary for Import Administration.

March 18, 1985.

[FR Doc. 85-6876 Filed 3-21-85; 8:45 am]

BILLING CODE 3510-DS-M

[A-351-502]

Initiation of Antidumping Duty Investigation; Fuel Ethanol From Brazil

AGENCY: International Trade Administration, Import Administration, Commerce.

ACTION: Notice.

SUMMARY: On the basis of a petition filed in proper form with the United States Department of Commerce, we are initiating an antidumping duty investigation to determine whether fuel ethanol from Brazil is being, or is likely to be, sold in the United States at less than fair value. We are notifying the United States International Trade Commission (ITC) of this action so that it may determine whether imports of this product are causing material injury, or threaten material injury, to a United States industry. If this investigation proceeds normally, the ITC will make its preliminary determination on or before April 11, 1985, and we will make ours on or before August 5, 1985.

EFFECTIVE DATE: March 25, 1985.

FOR FURTHER INFORMATION CONTACT: Ken Shimabukuro, Office of Investigation Import Administration International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue NW., Washington, D.C. 20230; telephone: (202) 377-5332.

SUPPLEMENTARY INFORMATION:

The Petition

On February 25, 1985, we received a petition in proper form filed by the Ad Hoc Committee of Domestic Fuel Ethanol Producers and the Oil Chemical and Atomic Workers International Union. In compliance with the filing requirements of § 353.36 of the Commerce Regulations (19 CFR 353.36), the petitioners allege that imports of the subject merchandise from Brazil are being, or are likely to be, sold in the United States at less than fair value within the meaning of section 731 of the Tariff Act of 1930, as amended (the Act), and that these imports are causing material injury, or threaten material injury, to a United States industry.

The petitioners base the United States prices on the adjusted Customs C.I.F. value of Brazilian fuel ethanol imports during 1984. These prices were taken from U.S. Census data. The petitioners subtract estimated ocean freight, foreign inland freight and foreign port storage costs to arrive at the ex-factory value. The petitioners add taxes rebated or not collected upon exportation of the product to the United States.

The petitioners allege that sales in the home market were made below the cost of production. Therefore, the petitioners base foreign market value on the constructed value of the merchandise in Brazil. The petitioners calculate the constructed value by taking estimates of cost of production, contained in eight studies concerning the cost of fuel ethanol in Brazil, and add 10 percent for selling, general and administrative expenses and eight percent for profit.

There is sufficient information presented in the petition that sales of fuel ethanol are made below the cost of production in the home market. Therefore, we are initiating a cost of production investigation.

By comparing the values calculated by the foregoing methods, the petitioners allege dumping margins between 55 and 154 percent.

The petitioners allege that critical circumstances exist.

Initiation of Investigation

Under section 732(c) of the Act, we must determine, within 20 days after a petition is filed, whether it sets forth the allegations necessary for the initiation of an antidumping duty investigation and whether it contains information reasonably available to the petitioner supporting the allegations.

We examined the petition on fuel ethanol and have found that it meets the requirements of section 732(b) of the Act. Therefore, in accordance with section 732 of the Act, we are initiating an antidumping duty investigation to determine whether fuel ethanol from Brazil is being, or is likely or be, sold in the United States at less than fair value. If our investigation proceeds normally, we will make our preliminary determination by August 5, 1985.

Scope of Investigation

The product under investigation is fuel grade ethyl alcohol, also called "fuel ethanol," currently classified in the *Tariff Schedules of the United States. Annotated* (TSUSA), under items 427.8800 and 901.50.

Notification of ITC

Section 732(d) of the Act requires us to notify the ITC of this action and to provide it with the information we used to arrive at this determination. We will notify the ITC and make available to it all nonprivileged and nonconfidential information. We will also allow the ITC access to all privileged and confidential information in our files, provided it confirms that it will not disclose such information either publicly or under an administrative protective order without the consent of the Deputy Assistant Secretary for Import Administration.

Preliminary Determination by ITC

The ITC will determine by April 11, 1985, whether there is a reasonable indication that imports of fuel ethanol from Brazil are causing material injury, or threaten material injury, to a United States industry. If its determination is negative the investigation will terminate; otherwise, it will proceed according to the statutory procedures.

Alan F. Holmer,

Deputy Assistant Secretary for Import Administration.

March 18, 1985.

[FR Doc. 85-7016 Filed 3-22-85; 8:45 am]

BILLING CODE 3510-DS-M

APPENDIX B

LIST OF WITNESSES APPEARING AT THE COMMISSION'S CONFERENCE

CALENDAR OF PUBLIC CONFERENCE

Investigation Nos. 701-TA-239 and 731-TA-248 (Preliminary)

CERTAIN ETHYL ALCOHOL FROM BRAZIL

Those listed below appeared at the United States International Trade Commission's conference held in connection with the subject investigations on March 19, 1985, in the Hearing Room of the USITC Building, 701 E Street, NW., Washington, DC.

In support of the imposition of antidumping and/or countervailing duties

Akin, Gump, Strauss, Hauer & Feld--Counsel
Washington, DC
on behalf of--

A.E. Staley Manufacturing Co.
Decatur, IL

W. Robert Schwandt, Vice President and General Manager - Ethanol

Archer Daniels Midland Co.
Decatur, IL

John G. Reed, Jr., Vice President, International

South Point Ethanol
South Point, OH

Lauren L. Hill, General Manager

New Energy Company of Indiana
South Bend, IN

Barry B. Direnfeld, President

Bio-Chemical Energy, Inc.
Tarpon Springs, FL

Ronald A. Buening, President

Ohio Farm Bureau Federation, Inc.
Columbus, OH

George D. Robey, Director Special Projects

Richard R. Rivers)
Edward L. Rubinoff)--OF COUNSEL
Shannon S. Shuman)

In opposition to the imposition of antidumping and/or countervailing duties

Rogers & Wells--Counsel
Washington, DC
on behalf of--

Internor Trade, Inc.
New York, NY

Marco Marangoni, Chief, Export Section, Alcohol Marketing Division, Petrobras

Eugene T. Rossides)
Roger A. Clark)
Anthony F. Essaye)--OF COUNSEL
Stuart M. Goldberg)

Collier, Shannon, Rill & Scott--Counsel
Washington, DC
on behalf of--

Raj Chemicals, Inc.

Certified Oil Company
Columbus, OH

Dean Walcutt, President

Paul C. Rosenthal--OF COUNSEL

Wald, Harkrader & Ross
Washington, DC
on behalf of--

Brazilian Ethanol Producers' Special Committee

Andre Arantis, Director, Sopral

Lamartine Navarro, Jr. Director, Sopral

Joao Guilherme Ometto, Director, Copersucar

Antonio Jose Pargana, Director, Cotia

Royal Daniel III)
Noel Hemmendinger)--OF COUNSEL

APPENDIX C

TYPICAL WET AND DRY GRAIN MILLING PROCESSES

ADM CORN SWEETENERS

Customer Service

WET CORN MILLING PROCESS

The initial step in corn wet milling is steeping of the cleaned corn. Steeping consists of soaking the corn in water at 120° F. for about 40 hours. A small amount of sulfur dioxide is added to the steep water for softening, to prevent germination of the kernel and to retard fermentation. The steeping process is necessary to provide efficient separation of the hull, gluten, germ and starch.

Next, the softened kernels are separated from the steepwater and passed through degerminating mills which macerate the kernel without damaging the corn germ. The coarse ground mixture is pumped through a series of hydro-clone centrifuges which separate the lighter weight germ from the starch, gluten and hull.

The remaining material passes on to mills for finer grinding. This grinding step releases the starch from the fiber and gluten. The finely ground material flows over a series of screens in order to separate the hulls from the starch and gluten solution.

Next, the lighter gluten is separated from the starch in continuous centrifuges. The remaining starch is washed and filtered to provide a slurry which is low in protein and ash content. The major finished products which are food and industrial starches, corn syrups, dextrose and ethanol are derived from this starch slurry.

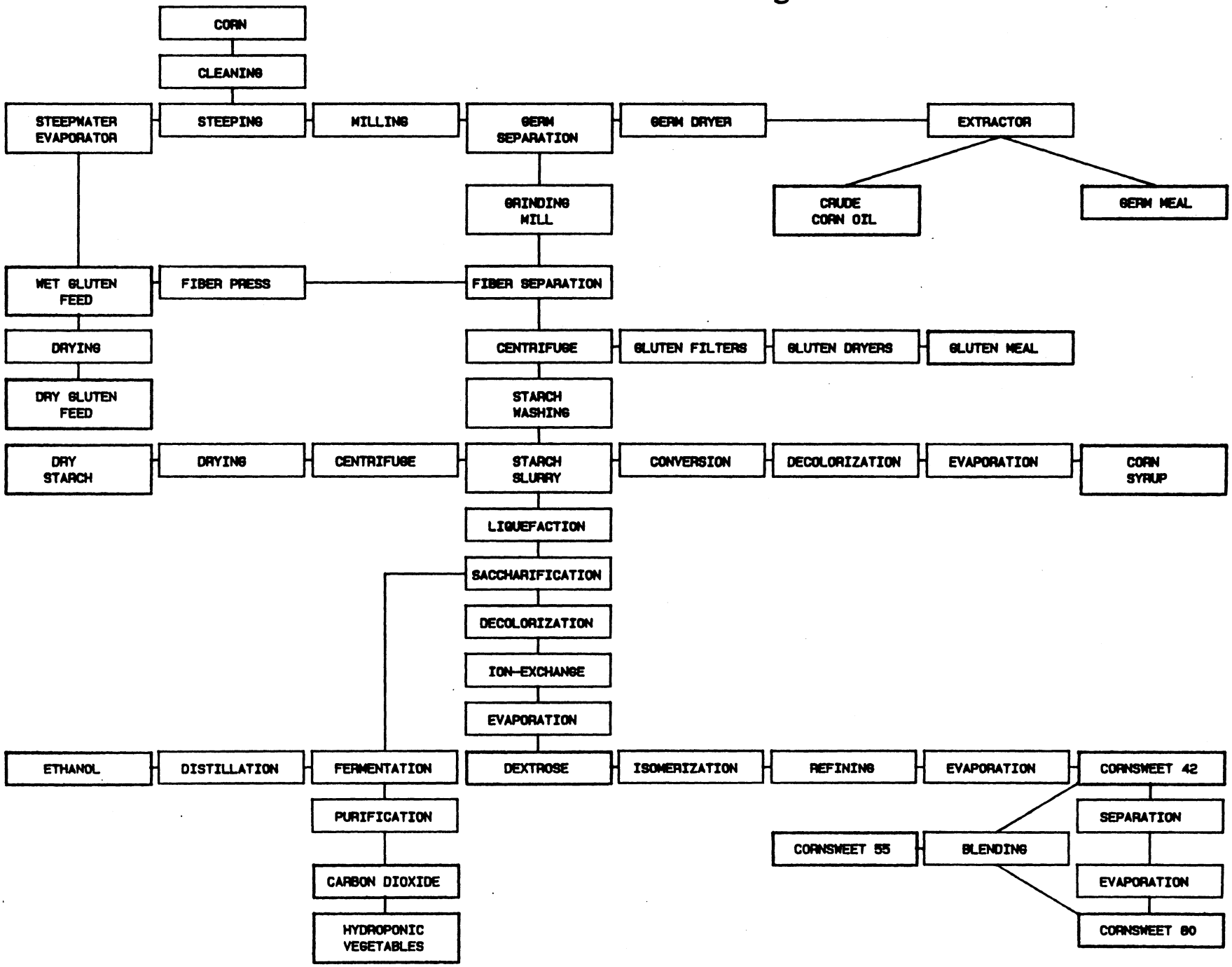
In the production of unmodified starches, the starch slurry is dewatered and dried in flash driers or tunnel driers. If acid-modified, oxidized or derivatized starches are produced, the slurry is chemically treated prior to final washing and drying.

Conventional corn syrups are produced by treating the starch slurry with acid, enzymes, or a combination of acid and enzyme. The individual treatments result in products of varying levels of sweetness. The syrup is then carbon refined for clarification and decolorization, and evaporated to specific densities.

In the production of high fructose corn syrup, the starch is hydrolyzed, or saccharified, to dextrose and refined. The liquefied dextrose is isomerized by enzymatic action to a level of about 42% fructose. Some of this high fructose solution is separated by a chromatographic technique to produce a syrup of about 80-90% fructose. These two syrups are blended to yield a second generation product of 55% fructose.

The liquefied starch can also be made into beverage grade or industrial grade ethanol. A simultaneous saccharification and fermentation process is used, resulting in rapid fermentation of the sugars into ethanol. Distillation of this material yields 190 proof ethanol. Further dehydration of this product to 200 proof and the addition of a denaturant results in fuel grade ethanol.

Corn Wet Milling Process



ADM CORN SWEETENERS

Customer Service

ETHANOL PRODUCTION FROM CORN

DRY MILLING PROCESS

Cleaned corn from storage is conveyed to grinding mills where the whole kernels are ground to flour. The corn meal contains about 61% starch, 19% protein, 4% oil and 15% water. The purpose of the grinding phase is to make the starch accessible for conversion to fermentable sugars.

Next, the meal is mixed with water to prepare a starch slurry. Liquefying enzyme is added to the slurry and the mixture heated. This process, called cooking, converts the starch into soluble, polymeric sugars or dextrins.

The next step involves simultaneous saccharification and fermentation. After flash cooling, the cooked mash is mixed with glucoamylase enzyme and transferred to fermentation tanks where yeast is added. Sugar concentration, pH, and temperature are maintained at optimal conditions for the strain of yeast used and the saccharifying enzyme. As the enzyme converts the dextrins to fermentable sugars, the yeast acts upon the sugars to produce ethanol. Complete conversion is accomplished in 48 to 60 hours.

The ethanol is separated from the material by a two stage distillation process. The first stage, referred to as the beer still, strips the volatile components, predominately ethanol and water, from the remaining mass (whole stillage). The vapors off the beer still are fed to a rectifying column which concentrates the ethanol to 190° proof. Whole stillage from the process, high in protein, is collected and used to make distiller's dried grains, an important animal feed co-product.

Fuel grade, anhydrous ethanol can be made by refluxing the 190° proof ethanol with benzene. Another method involves passing the 190° proof ethanol through a column packed with corn grits. This material selectively absorbs the water resulting in anhydrous ethanol.

Ethanol Production
Corn Dry Milling Process