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October 9, 2003

**PUBLIC DOCUMENT**

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Public Comment

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**VIA MESSENGER**

James J. Jochum  
Assistant Secretary for Import Administration  
U.S. Department of Commerce  
Central Records Unit, Room 1870  
14th Street & Pennsylvania Avenue, N.W.  
Washington, DC 20230  
Attention: Section 201 Duties

**Re: Antidumping Proceedings: Treatment of Section 201 Duties and  
Countervailing Duties**

Dear Mr. Secretary:

On behalf of Changwon Specialty Steel, Co., Ltd. ("Changwon") and Dongbang  
Special Steel Co., Ltd. ("Dongbang"), we hereby respond to the Department's request for  
comments on whether to deduct Section 201 and countervailing duties from U.S. gross unit price

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for antidumping duty calculations.<sup>1</sup> Changwon and Dongbang are Korean producers and exporters of stainless steel wire rod. For the reasons explained below, we urge the Department to continue its longstanding policy of not deducting special Customs duties – which include Section 201 duties – from the U.S. gross unit price. While our comments focus on Section 201 duties, a similar analysis applies to countervailing duties.

#### **I. Deduction of Section 201 Duties Is Not Required By Statute**

The Department must deduct “the amount, if any, included in such price, attributable to any additional costs, charges, or expenses, and United States import duties, which are incident to bringing the subject merchandise” to the United States. See 19 U.S.C. § 1677a(c)(2)(A). However, the term “United States import duties” does not include Section 201 duties. Neither the statute, the Department’s regulations, nor the legislative history defines the breadth of the term “United States import duties.”<sup>2</sup> However, it clearly is not all-inclusive, given that the Department’s longstanding policy is not to deduct antidumping duties absent clear evidence that

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<sup>1</sup> See Antidumping Proceedings: Treatment of Section 201 Duties and Countervailing Duties, 68 Fed. Reg. 53104 (Sept. 9, 2003).

<sup>2</sup> Proposed legislation pending in both the Senate and the House of Representatives would treat countervailing duties as costs to calculate dumping margins. See S.219, 108<sup>th</sup> Cong. (2003) (proposing that 19 U.S.C. § 1677a(c)(2)(A) be amended to insert the phrase “(including countervailing duties imposed under this Act)” after the word “duties”); H.R. 2365, 108<sup>th</sup> Cong. (2003) (proposing that 19 U.S.C. § 1677a(d) be amended to include the following additional deduction to CEP: “(5) if the importer is the producer or exporter, or the importer and the producer or exporter are affiliated persons, an amount equal to the net countervailable subsidy calculated under section 771(6), unless the producer or exporter is able to demonstrate that the importer was in no way reimbursed for any countervailing duties paid.”). Thus, Congress recognizes that a statutory amendment is necessary to treat countervailing duties as a cost in dumping calculations. Section 201 duties are no different.

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the importer was reimbursed for those duties.<sup>3</sup> Similarly, the Department has rejected arguments that it should deduct countervailing duties from U.S. price.<sup>4</sup> The Department's separate treatment of antidumping and countervailing duties from other Customs duties effectively has created two categories of import duties: (1) normal Customs duties and (2) special Customs duties.<sup>5</sup> The Department regularly deducts normal import duties from U.S. price, but has not deducted certain special Customs duties, as upheld by the U.S. courts.

For example, in AK Steel Corp. v. United States, 988 F. Supp. 594 (Ct. Int'l Trade 1997), plaintiffs challenged the Department's refusal to deduct antidumping duties in the U.S. price calculation, arguing that the phrase "any . . . United States import duties" included antidumping and countervailing duties. The U.S. Court of International Trade disagreed:

'antidumping duties are intended to offset the effect of discriminatory pricing between . . . two markets. In this context, making an additional deduction from USP for the same antidumping duties that correct this price discrimination would result in double-counting.' . . . A similar explanation would apply to Commerce's refusal to deduct countervailing duties from United States Price.

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<sup>3</sup> See 19 C.F.R. § 351.402(f); see also Outokumpu Copper v. United States, 829 F. Supp. 1371 (Ct. Int'l Trade 1993) (holding that the deduction of antidumping duties from U.S. price is only proper where the respondent or an affiliated party pays the duties on behalf of, or reimburses, an importer).

<sup>4</sup> See, e.g., Certain Cold-Rolled and Corrosion-Resistant Carbon Steel Flat Products from Korea, 62 Fed. Reg. 18404, 18421-22 (Apr. 15, 1997) (Final AD Review) ("Carbon Steel Flat Products from Korea").

<sup>5</sup> The Department's exclusion of antidumping duties from the definition of "United States import duties," is also consistent with Congress' original intent. As the Department noted in Carbon Steel Flat Products from Korea, the Senate Report accompanying Section 203 of the Antidumping Act of 1921 (42 Stat. 12), which first required the deduction of "United States import duties" to derive U.S. price, referred to antidumping duties as "special" duties, as distinguished from the "United States import duties" authorized under the statute.

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AK Steel, 988 F. Supp. at 607. Thus, the AK Steel court recognized that the deduction of these special Customs duties would double-count the effect of the import relief and “would work to open up a margin where none otherwise exists.”<sup>6</sup> Similarly, in U.S. Steel v. United States, 15 F. Supp. 2d 892, 898-900 (Ct. Int’l Trade 1998), the court noted that the deduction of countervailing duties from U.S. price would result in a double remedy by inflating the dumping margin. Also, in Hoogovens Staal v. United States, 4 F. Supp. 2d 1213, 1220 (Ct. Int’l Trade 1998), the Court held that the Department’s decision not to deduct antidumping duties was a permissible interpretation of the statute because such deductions “would reduce the U.S. price – and increase the margin – artificially.”

Many parallels exist between antidumping and countervailing duties, and Section 201 duties. First, similar to antidumping and countervailing duties, Section 201 duties are specially imposed to protect domestic industries against certain import competition. Second, the Department calculates antidumping and countervailing duties based on the level of alleged price discrimination or subsidization. Likewise, Section 201 duties are calculated to impose a remedy necessary for a domestic industry to adjust to increased imports. Finally, like antidumping and countervailing duties, Section 201 duties are not a regular import duty or merely an extra cost or expense to the importer. Therefore, the phrase “United States import duties” excludes Section

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<sup>6</sup> AK Steel, 988 F. Supp. at 608 (citing PQ Corp. v. United States, 652 F. Supp. 724, 737 (Ct. Int’l Trade 1987)).

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201 duties as it does antidumping duties. Both are “special Customs duties,” not “import duties” within the meaning of the statute.

## **II. Section 201 Duties Are Special Customs Duties**

The Department should consider Section 201 duties to be special Customs duties. International agreements view them as such, and they are separately categorized within Chapter 99 of the Harmonized Tariff Schedule (“HTS”), which provides for extraordinary and temporarily imposed duties.

### **A. Safeguard Measures are Special Exceptions Permitted Under International Agreements**

The World Trade Organization’s goal is to liberalize international trade and eradicate discriminatory treatment through reciprocal reductions of tariff and non-tariff barriers between member governments. Even so, the WTO Agreements recognize that certain special duties exist, most notably protective tariffs including antidumping and countervailing duties, as well as safeguard measures. The WTO permits specialized duties to provide assistance to a domestic industry alleging injury from imports. In fact, Article XIX of the GATT, as clarified by the WTO Agreements on Safeguards, is commonly known as the “escape clause” because it permits a country to “escape” temporarily from its normal WTO obligations. Just as the WTO recognizes that safeguard measures are specialized short-term measures, the Department should treat Section 201 duties as such and not deduct them from U.S. price.

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**B. The Placement of Section 201 Duties in Chapter 99 of the HTS Further Demonstrates That They are Special Customs Duties**

Another important distinction between Section 201 duties and normal Customs duties is who decides to impose them and the implementation of such a decision. Congress exercises its Constitutional power to “lay and collect” taxes and duties through the establishment of normal Customs duties, which the International Trade Commission publishes in Chapters 1 through 98 of the HTS. Congress typically delegates its power to the Executive Branch to impose special Customs duties, such as antidumping, countervailing, and Section 201 duties. For antidumping and countervailing duties, the ITC determines if a domestic industry is materially injured, or threatened with material injury, and the Department determines the amount of duties to be imposed – both during mandated investigative proceedings. Similarly, after an investigation by the ITC, the President determines the types and levels of safeguard measures, such as Section 201 duties, needed to help a domestic industry adjust to increased import competition.

By statute, Congress directs the Department to impose antidumping and countervailing duties through the issuance of an order and corresponding instructions to U.S. Customs. In delegating the power to the President to levy Section 201 duties, Congress granted the President significant latitude in determining what remedy to impose. In the recent steel safeguards proceeding, the President ordered additional tariffs to be placed in Chapter 99 of the HTS, i.e.,

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the catchall for extraordinary and temporarily imposed duties.<sup>7</sup> Thus, the mere inclusion of Section 201 duties in the HTS does not render them “normal” Customs duties.

**C. Deductions for Certain Duties in Previous Department Decisions Are Not Analogous to Section 201 Duties**

Contrary to what some parties have tried to argue in recent proceedings,<sup>8</sup> the Softwood Lumber from Canada<sup>9</sup> and Fuel Ethanol from Brazil<sup>10</sup> decisions do not support a conclusion that Section 201 duties should be deducted from U.S. price. In Softwood Lumber from Canada, the Department deducted a quota-based fee imposed as a result of the Softwood Lumber Agreement. Specifically, these fees were an export tax, not a U.S. import duty, that Canadian exporters agreed to pay if their exports exceeded certain quantities. Moreover, the exporters paid these taxes pursuant to the Softwood Lumber Agreement, not because they were imposed by the U.S. government. Thus, analogies to Softwood Lumber from Canada are misplaced.

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<sup>7</sup> See Proclamation 7529 — To Facilitate Positive Adjustment to Competition from Imports of Certain Steel Products, 67 Fed. Reg. 10553, 10556 (Mar. 5, 2002). Chapters 1 through 98 of the HTS list all goods that are imported into and exported from the United States, and designate normal Customs duties (i.e., revenue tariffs), if any, that apply to each good. Chapter 99, on the other hand, serves as a repository for any “legislative and . . . executive actions pursuant to duly constituted authority, under which (a) one or more of the provisions in chapters 1 through 98 are temporarily amended or modified; or (b) additional duties or other import restrictions are imposed by, or pursuant to, collateral legislation.”

<sup>8</sup> See, e.g., Letter from Collier Shannon Scott, PLLC to the U.S. Department of Commerce of Sept. 12, 2003, re Fourth Administrative Review of Stainless Steel Wire Rod from Korea, Case No. A-580-829, at 3-4 (“Collier Shannon Letter”); Letter from Shagrin Associates to the U.S. Department of Commerce of July 14, 2003, re Circular Welded Non-Alloy Steel Pipe from Korea, Case No. A-580-809, at 8-9.

<sup>9</sup> See 66 Fed. Reg. 56062, 56067 (Nov. 6, 2001) (preliminary determination), affirmed by 67 Fed. Reg. 15539 (Apr. 2, 2002) (final determination).

<sup>10</sup> See 50 Fed. Reg. 38871 (Sept. 25, 1985) (preliminary determination), affirmed by 51 Fed. Reg. 5572, 5577 (Feb. 14, 1986) (final determination).

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Similarly, the rationale applied in Fuel Ethanol from Brazil does not apply here. For the U.S. price calculation, the Department deducted duties that were temporarily increased on ethyl alcohol, which Congress imposed in addition to the normal Customs duties.<sup>11</sup> Although the Department termed the additional tariff a “special” Customs duty, the duty was entirely different from a Section 201 duty. First, the tariff deducted in Fuel Ethanol from Brazil was added to the HTS by Congress, whereas Section 201 duties are imposed by the President. Second, Congress imposed the additional tariff to offset a federal excise tax subsidy that domestic producers received for fuel-grade ethanol. See Attachment. Instead, Section 201 duties are a protective tariff designed to facilitate positive adjustment to the domestic industry to counter injury allegedly caused by increased imports. Accordingly, the result in Fuel Ethanol from Brazil does not apply to Section 201 duties.

### **III. The Deduction of Section 201 Duties from U.S. Price Would Illegally Provide a Double Safeguard Remedy to Domestic Industries**

As described above, courts are unwilling to support a deduction in an antidumping duty calculation that would double count the effect of import relief or artificially inflate the calculated dumping margins. Likewise, Congress has historically refrained from enacting legislation that

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<sup>11</sup> Ethyl alcohol (for non-beverage purposes) was subject to a normal, 3% ad valorem Customs duty. Imports of fuel-grade ethanol were subject to the 3% plus additional duties (50 cents per gallon in 1984, 60 cents per gallon in 1985) where “ethyl alcohol {was} 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.” Tariff Schedules of the United States Annotated (1984), Appendix, Part 1, Subpart A, Item 901.50; Tariff Schedules of the United States Annotated (1985), Appendix, Part 1, Subpart A, Item 901.50.



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would allow double remedies where they were not intended.<sup>12</sup> The Department recognized in a recent recommendation memorandum that Section 201 duties should not be deducted from U.S. price for this reason.

Specifically, in Stainless Steel Wire Rod from Trinidad and Tobago,<sup>13</sup> the Department acknowledged that deducting Section 201 duties from U.S. price would improperly double count the effect of these special protective measures:

{t}reating section 201 duties as deductible selling expenses or import duties would, in effect, generally double-count (i.e., double the impact of) the section 201 remedy. For example, if the section 201 duty were 20 percent *ad valorem*, and the entered value of an entry subject to the duty were \$10.00, one would expect the U.S. government to collect a \$2.00 remedial duty. If the Department were to deduct the section 201 duty from EP and CEP, however, approximately \$2.00 would be added to the antidumping duty, and the total impact of the section 201 remedy would be \$4.00.

The Department's example is logical. As the Department correctly noted, the deduction of Section 201 duties will increase the amount of antidumping duties owed by the amount of Section 201 duties paid. However, whether or not there is an antidumping duty proceeding, Customs will collect at least a \$2.00 Section 201 payment on the imports, thereby fully implementing the safeguard measures intended by the President.

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<sup>12</sup> For example, to prevent the imposition of a double remedy through concurrent antidumping and countervailing duties, the Department must increase U.S. price by the amount of any countervailing duty imposed on subject merchandise to offset an export subsidy. See 19 U.S.C. § 1677a(c)(1)(C).

<sup>13</sup> See Memorandum from Gary Taverman to Bernard T. Carreau, "Recommendation Memorandum – Section 201 Duties and Dumping Margin Calculations in Antidumping Duty Investigation: Carbon and Certain Alloy Steel Wire Rod from Trinidad and Tobago," Case No. A-274-804 (Aug. 13, 2002).

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Another example illustrates that the deduction of Section 201 duties will result in double-counting the safeguard remedy for both EP and CEP sales. Assume that a foreign exporter exports a steel product to the United States through one of two channels of distribution, direct sales (delivered, duties paid) to unaffiliated customers (EP sales) and sales through an affiliated importer, who resells the merchandise in the United States (CEP sales). Suppose that the entered value for the steel product is \$100 per unit, regardless of the channel of distribution. Also, consider that the current cash deposit rate for antidumping duties is 10% ad valorem and the level of Section 201 duties is 20% ad valorem, i.e., \$20 in this example. Suppose for EP sales that the net U.S. price is \$85 per unit without a deduction of Section 201 duties and \$65 per unit with the deduction. Assuming a normal value of \$90 per unit, the dumping margin would increase from 6% ( $=(\$90 - \$85) \div \$85$ ) without the deduction of Section 201 duties to 38% ( $=(\$90 - \$65) \div \$65$ ) with the deduction. Similarly, consider for CEP sales that the net U.S. price is \$95 without the deduction of Section 201 duties, and \$75 with the deduction.<sup>14</sup> Assuming again a normal value of \$90 per unit, the dumping margin increases from 0% ( $=(\$90 - \$95) \div \$95$ ) without the deduction to 20% ( $=(\$90 - \$75) \div \$75$ ) with the deduction.<sup>15</sup>

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<sup>14</sup> Note that CEP sales have a higher starting price than EP sales due to the affiliated reseller's mark-up, but this is offset by the additional deduction of expenses associated with U.S. economic activity as well as CEP profit. See 19 U.S.C. § 1677a(d).

<sup>15</sup> In these examples, the increase in the dumping margin is directly correlated with the deduction of Section 201 duties. For EP sales, the numerator of the dumping margin calculation, which reflects the potentially uncollected dumping duties, increases by the exact amount of Section 201 duties deducted from the starting price, i.e., \$20. For CEP sales, the treatment of Section 201 duties as a movement or selling expense will also affect the CEP profit calculation, but otherwise the effect on the margin calculation is the same.

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Thus, rather than receiving a refund of antidumping duty deposits, the importer would owe additional antidumping duties because of a punitive methodological quirk, rather than due to increased price discrimination. In the example above, the importer would owe an additional 28% ad valorem (=38%-10%) for EP sales. More importantly, in the CEP scenario, the deduction of Section 201 duties created the appearance of price discrimination. Instead of receiving a full refund on its cash deposit, the importer would be required to pay an additional 10% ad valorem (=20%-10%).

As this example shows, the deduction of Section 201 duties from EP or CEP inappropriately amplifies the remedial impact to the domestic industry. Section 201 duties, like antidumping and countervailing duties, are protective tariffs imposed specifically to protect domestic firms from import competition. However, the law does not intend for the Department to create dumping margins artificially through the deduction of other special protective tariffs and it is contrary to good trade policy for the Department to do so.

In their submissions in certain on-going proceedings, domestic interested parties attempt to manipulate the calculations on the double-counting issue.<sup>16</sup> They try to demonstrate that the total cost to the consumer would be, in these scenarios, the gross unit price plus the cost of antidumping duties and Section 201 duties. While an exporter's price to its customers generally reflects all costs and expenses, plus a mark-up for profit, the starting point for an antidumping

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<sup>16</sup> See, e.g., Collier Shannon Letter, at 10-12.

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analysis is the gross unit price to the unaffiliated customer. Therefore, these parties' analyses are inherently flawed.<sup>17</sup> Similar to antidumping duties, other protective tariffs, such as countervailing duties and Section 201 duties, should not be deducted from U.S. price because they are not "normal" import duties.

#### **IV. Deduction of Section 201 Duties Indirectly Increases the Impact of the Illegal Byrd Amendment**

The double impact caused by the proposed deduction of Section 201 duties is particularly troubling in light of 19 U.S.C. § 1675c, commonly referred to as the "Byrd Amendment," which provides for the distribution of duties assessed, pursuant to antidumping or countervailing duty orders, to qualifying domestic producers. If the Department deducts Section 201 duties from U.S. price in the dumping calculations, which increases the amount of dumping duties owed, Section 201 duties, in effect, will be distributed to domestic producers under this mechanism. The distribution of duties collected pursuant to Section 201 is inconsistent both with the statute and the United States' WTO obligations.

The WTO Appellate Body recently confirmed that the Byrd Amendment is incompatible with WTO rules as a response to dumping or subsidization.<sup>18</sup> In that decision, the Appellate

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<sup>17</sup> Moreover, these scenarios assume that exporters can easily pass along Section 201 duties to customers in the form of higher U.S. prices when, in fact, the market usually determines U.S. prices. Section 201 duties may decrease the supply of U.S. imports, but that decrease would be offset by an increase in production and sales by U.S. producers. As a result, U.S. market prices may not necessarily increase in proportion to the levels of Section 201 duties.

<sup>18</sup> See WTO Appellate Body, United States – Continued Dumping and Subsidy Offset Act of 2000, WT/DS217/AB/R, WT/DS234/AB/R (Jan. 16, 2003) ("CDSOA Report").

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Body upheld the WTO Panel's finding that the Byrd Amendment "is a non-permissible specific action against dumping," contrary to Article 18.1 of the WTO's Antidumping Agreement, because it results in the financing of the U.S. domestic industry through the transfer of collected dumping duties, thereby further encouraging foreign producers and exporters not to dump products in the United States. See CDSOA Report, at paras. 256 and 318(a). Similarly, because Section 201 duties are a response to increased imports, the deduction of such measures from EP or CEP in dumping calculations, which increases the remedy to U.S. industries through higher dumping margins, provides foreign producers and exporters with a further incentive to reduce their level of exports to the United States. Thus, remedies permitted under the WTO Agreements become further exaggerated through the application of a separate WTO-sanctioned mechanism.

For the foregoing reasons, we strongly encourage the Department not to deduct Section 201 duties from U.S. price in its calculation of antidumping duties.

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If you have any questions or desire any additional information, please do not hesitate to contact the undersigned.

Respectfully submitted,



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## **ATTACHMENT**

M. Gill and E. Allen, "Status of the U.S. Ethanol Market,"  
Feed Outlook and Situation Report, U.S. Department of Agriculture  
August 1985

# STATUS OF THE U.S. ETHANOL MARKET

by  
Mohinder Gill and Edward Allen  
Agricultural Economists  
Economic Research Service

**Abstract:** Alcohol fuel production capacity has expanded rapidly due to Federal and State incentives to encourage production from domestically abundant renewable resources. Corn, which can be converted into ethanol, has emerged as the premier source for the foreseeable future.

With the EPA phasedown of the use of lead in gasoline, demand has surged for ethanol as an octane-enhancer. Ethanol is competitive with other octane-boosters only because of Federal and State production incentives. Limited production capacity and the long lead time required to install new capacity, will make it difficult for the domestic industry to meet accelerated demand for ethanol.

Because imports, especially from Brazil, are an increasing source of U.S. supplies, domestic producers have filed an anti-dumping case, alleging that Brazilian production is heavily subsidized.

**Keywords:** Ethanol, feedstock, supply, demand, octane-booster, imports, and gasohol.

## *Introduction*

The petroleum supply disruption of the 1970's and the resulting dramatic escalation of imported crude oil prices spurred substantial interest in the production of liquid fuels from domestically abundant renewable resources. The goal was to reduce U.S. dependence on uncertain foreign oil supplies. Consequently, Federal and State policies were implemented to enhance the production of alcohol fuels from domestic raw materials.

Although petroleum prices have declined in recent years due to high production and slack demand, the United States remains vulnerable to international oil supply interruptions and, consequently, major price increases. Moreover, since energy consumption in developing countries is increasing faster than in industrialized countries, there is a worldwide need to expand alternative sources of energy production such as alcohol fuels from grain. 1/

Recently, the Environmental Protection Agency (EPA) ordered a phased reduction of

1/ Alcohol fuels include both ethanol and methanol. This paper concentrates primarily on fuel ethanol.

the use of lead in gasoline, creating additional demand for alcohol fuels, primarily ethanol, an octane-booster. Since corn is a major ethanol feedstock, expanding production of ethanol implies increased demand for corn.

## *Government Subsidies*

The production of alcohol fuel from biomass has received considerable support at both Federal and State levels. The U.S. Congress and many States have enacted a variety of incentives to encourage the development of the domestic fuel ethanol industry. These incentives take a variety of forms: investment tax credits, loan guarantees, and sales and excise tax exemptions for motor fuel containing alcohol.

## *Federal Incentives*

*Gasoline Excise Tax Exemption* — Currently, the Federal excise tax on gasoline is 9 cents per gallon. To encourage development of the domestic fuel ethanol industry, the Federal Government has reduced the tax on fuel ethanol-gasoline blends, known as gasohol. Gasohol blends of one-part alcohol and nine-parts gasoline are eligible for a 6-cents-per-gallon exemption from the Federal excise tax.



The Federal gasoline excise tax exemption has undergone successive increases since its inception. The Energy Tax Act of 1978, (PL-95-618), established a 4-cents-per-gallon exemption. The Highway Revenue Act of 1982, (PL-97-424), increased the exemption to 5 cents. The exemption was increased to its current level on January 1, 1985, under the Tax Reform Act of 1984, (PL-98-369). This exemption is scheduled to expire December 31, 1992. Since the Federal excise tax exemption is 6 cents per gallon on the 90-percent gasoline and 10-percent fuel ethanol blend, this translates into a 60-cents-per-gallon exemption for ethanol. Furthermore, fuels containing at least 85 percent ethanol, methanol, or other alcohol will be exempted from the entire 9-cents-per-gallon Federal excise tax if the alcohol is produced from substances other than petroleum or natural gas. This exemption also will continue through 1992.

*Investment Tax Credits* — Facilities for alcohol production may qualify for two investment tax credits: 1) a 10-percent energy investment tax credit, which is due to expire December 31, 1985, and applies to equipment that converts biomass into fuel ethanol, and 2) the permanent 10-percent investment tax credit available to any business investing in new machinery or equipment. Thus a total investment credit of 20 percent can be claimed for new equipment producing fuel ethanol from biomass.

*Federal Income Tax Credits* — Individuals who sell or use blended or unblended (neat) alcohol in their trade or business may claim income tax credits for alcohol derived from substances other than petroleum, natural gas, or coal. Amounts claimed must be reduced by the amount of any Federal gasoline excise tax exemption claimed for the fuel. Total income tax credits per gallon equal 60 cents for 190-proof or above and 45 cents for alcohol of 150-to-189 proof. 2/

*Loan Guarantees* — The Energy Security Act of 1980 (PL-96-223) established a

2/ Proof describes the strength of the ethanol (ethyl alcohol) solution and is a number double that of the percent alcohol in the solution. For example 100 proof = 50 percent alcohol.

short-term program of loan guarantees to assist in the financing and construction of fuel ethanol plants. The Federal loan guarantees are administered by the Office of Alcohol Fuels of the Department of Energy (DOE) and by the Farmers Home Administration (FmHA) of the Department of Agriculture (USDA).

### *State Incentives*

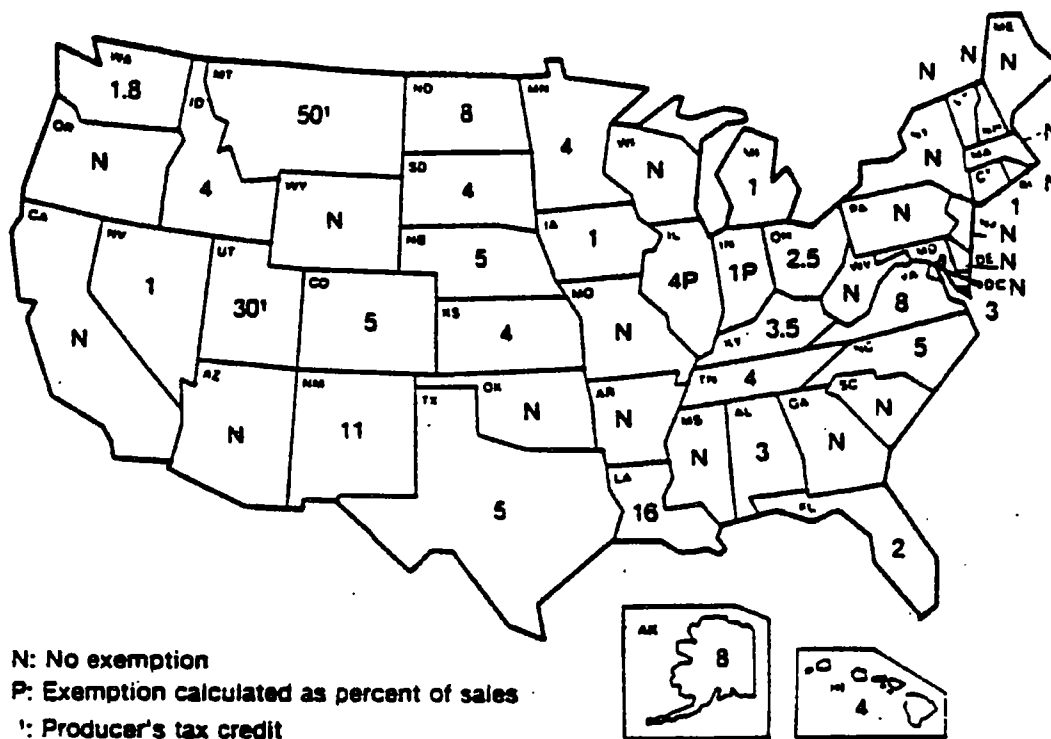
Many States have enacted legislation to encourage ethanol production and the consumption of gasohol. As of April 1985, 29 States offered incentives, generally in the form of exemptions from the State excise tax or sales tax on motor fuels. State gasoline tax exemptions vary, ranging from 1 cent to 16 cents a gallon, with most States offering 3 to 5 cents (Figure 1). Some States offer exemptions only for fuel ethanol produced in that State, others for all domestically produced fuel ethanol, and still others for all fuel ethanol, imported and domestic.

### *Feedstock Sources and Production Processes*

Agricultural feedstocks presently available for ethanol production by the well-established fermentation technology include corn, grain sorghum, wheat, potatoes, sugar, molasses, and cull fruits. Although ethanol can be produced from virtually any raw material containing sugar or starch, domestic fuel ethanol is predominantly produced from corn. Corn is a less expensive and more abundant feedstock than the other sources.

Ethanol can be produced from corn by either the dry-milling or the wet-milling process. In the wet-milling process, the components of the corn kernel are separated in a water solution before being processed into a variety of products. The starchy portion of the kernel has traditionally been converted by the wet-milling industry into sweeteners (e.g. high fructose corn syrup) and processed starch products. With the advent of a fuel ethanol market, the industry was able to switch some of the starch to produce ethanol with small additional capital investment and relatively minor changes in its operation. Instead of processing the starch into sweeteners, wet-millers convert the sugars into ethanol through fermentation and finally the crude ethanol is distilled into anhydrous (200-proof) fuel ethanol.

## State Tax Exemptions for Ethanol-Gasoline Blends



Cents per gallon of gasoline (blend containing 10 percent ethanol and 90 percent unleaded gasoline).

When ethanol is produced by dry-milling, the kernel is ground up in its entirety. Ethanol production by dry-milling takes place in three steps: the formation of a solution of fermentable sugars, the fermentation of sugars to ethanol, and the distillation of ethanol. A sugar solution is prepared from the ground grains by adding water and cooking it to separate the starch from the other components. Enzymes are then added which convert the starch into sugar.

In 1984, the wet corn-milling industry accounted for about 75 percent of fuel ethanol production. However, because of the relative simplicity of the operation and lower capital investment, most new producers are expected to use the dry-milling process. Regardless of process, each bushel of corn yields about 2.5 gallons of anhydrous ethanol plus a variety of byproducts that can be used as animal feed. DDG (distillers' dried grains), DDGS (distillers' dried grains with solubles) and carbon dioxide (CO<sub>2</sub>) are the byproducts of dry-milling whereas corn gluten feed, gluten meal, corn oil, and CO<sub>2</sub> are the major byproducts of the wet-milling process.

Ethanol also can be made synthetically from natural gas or petroleum. However, Federal and State tax incentives which are critical to fuel ethanol use, are applicable to ethanol produced from renewable agricultural feedstocks.

About 95 percent of current fuel ethanol production capacity is designed to produce ethanol from corn. In 1984, domestic ethanol producers used 160 million bushels of corn, compared with 150 million in 1983. An estimated 200 to 240 million bushels of corn will be required in 1985 to produce 500 to 600 million gallons of ethanol. Corn is likely to remain the premier ethanol feedstock in the country.

### *Economics of Ethanol Production*

Several factors affect the profitability of producing ethanol from corn or other feedstocks. These include the cost of feedstock, the value of byproducts, processing costs, the cost of capital, the milling process, the size of the plant, the price of gasoline critically, the availability of Government

subsidies. The cost of feedstock is particularly important, as it represents 50-75 percent of the total cost of fuel ethanol, but the range depends upon the cost of the feedstock and the efficiency of the plant. Size of the plant is also important because there are significant economies of scale.

Actual ethanol production data, being proprietary in nature, are not available. Estimated corn-based ethanol production costs, based on a corn price of \$3 a bushel and the dry-milling process, range from \$2.01 to \$1.42 per gallon in 1984 dollars without Government subsidies when the plant size ranges from 10 million gallons to 120 million per year, respectively (table 1). Most operational plants in the United States fall in the capacity range of 20 to 60 million gallons per year. However, the bulk of the production comes from plants with annual capacity of 60 million gallons per year or larger.

The average wholesale price of unleaded gasoline in 1984 was 84 cents per gallon, excluding taxes, and it declined to 81 cents in first-quarter 1985. Obviously, without Federal and State subsidies, ethanol is not competitive with other octane-enhancement alternatives. However, the combined Federal and State exemptions range from 6 to 22 cents per gallon of gasohol, and therefore currently enable ethanol-gasoline blend to effectively compete with unleaded gasoline in States that have a subsidy.

### Ethanol Demand

Ethanol demand consists of fuel uses and nonfuel uses. Fuel uses include neat fuel (100-percent ethanol), a fuel extender, and an octane-enhancer. Nonfuel uses are in chemicals, solvents, and beverages. Ethanol for chemical and solvent use is derived mostly from ethylene—a petroleum product—and is called synthetic or industrial ethanol. Ethanol used in beverages and fuel, on the other hand, is produced from sugars and starches, mostly grain, by the fermentation process. Industrial ethanol is more chemically pure than fuel ethanol. Fuel ethanol can be substituted for industrial ethanol but it requires purification which entails extra cost.

U.S. demand for ethanol in 1984 was 815 million gallons and is projected to increase to about 1.2 billion in 1990 (table 2). Ethanol demand by various uses is discussed below:

**Chemical Demand** — Ethanol is used in the manufacture of chemicals such as vinegar, ethyl acrylate, ethyl acetate, ethylamines, and glycol ethers and other chemicals. The demand in this use was around 90 million gallons in 1984 and is expected to grow to around 95 million by 1990.

**Solvent Demand** — Outside the fuel market, the use of ethanol as solvent commands the largest market. Solvent applications such as coatings, toiletries,

Table 1.—Cost per gallon of corn-based ethanol production, 1984 1/

Cost	Ethanol plant size (million gallons)						
	10	20	40	60	80	100	120
	Dollars per gallon						
Energy	.30	.30	.30	.30	.30	.30	.30
Other direct	.17	.10	.07	.07	.06	.06	.06
Indirect	.24	.18	.13	.12	.12	.10	.10
Capital recovery	.74	.60	.51	.47	.44	.41	.40
Feedstock 2/	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Byproduct credit 3/	-0.59	-0.59	-0.59	-0.59	-0.59	-0.59	-0.59
Total	2.01	1.74	1.57	1.54	1.46	1.43	1.42

1/ Assumptions: Conversion yields of 2.6 gallons of ethanol and 16.8 pounds of high-protein byproducts per bushel of corn; Federal and State tax exemptions not included; and costs shown are for dry-milling production technology. 2/ Based on corn price of \$3.00 a bushel. 3/ Based on distillers' dried grain of \$181.00 a ton.

Sources: Inputs Outlook and Situation (IOS-5), August 1984.

cosmetics, pharmaceuticals, cleaning products, and disinfectants, together had a market of 116 million gallons in 1984. Demand is expected to grow at an annual rate of nearly 3 percent through 1990.

**Beverage Demand** — The beverage market for ethanol is expected to remain stagnant at about 70 million gallons per year.

**Fuel Market** — In recent years, attention has largely centered on the fuel uses of ethanol. Ethanol may be used as a neat fuel or in gasoline blends. In the United States, virtually all is used in gasoline blends.

Currently, most fuel ethanol is used in gasohol. Gasohol grew rapidly from its introduction in 1979: consumption rose from about 81 million gallons in 1981 to 430 million gallons in 1983 (table 2). This growth was boosted primarily by increasing Federal and State subsidies and other incentives for production and use of ethanol-gasoline blends. In 1984, the growth rate slowed to 26 percent from the 1981-82 and 1982-83 rates of 184 percent and 87 percent respectively, primarily because of declining gasoline prices, which make ethanol production relatively less profitable.

With the promulgation of EPA's new regulation requiring a reduction in the lead content of gasoline from 1.1 gram to 0.1 gram per gallon in January 1986, the demand for ethanol as an octane-enhancer is expected to pick up significantly.

While refiners have historically used tetra-ethyl lead as the cheapest means of increasing octane, the required phasing down of lead from leaded gasoline and the production of new cars designed to use unleaded gasoline, have required refiners to find alternative octane-boosters. These alternatives include more extensive refining of gasoline, which requires added capital expenditures and additional energy, and lowers the yield per barrel of crude oil; and using alternative octane-boosters such as ethanol, methanol, tertiary butyl alcohol (TBA), methyl tertiary butyl ether (MTBE), and toluene.

The option selected by each refiner will depend upon a variety of factors including plant age, location and configuration, capital

Table 2.—U.S. ethanol demand, 1981-1990

Year	Chemical	Solvent	Beverage	Fuel	Total
Million gallons					
1981	96	110	70	81	357
1982	88	102	70	230	490
1983	89	111	70	430	700
1984 1/	89	116	70	540	815
1985 1/	89	121	70	600	880
1990 1/	96	138	70	850	1,154

1/ Estimated.

Source: Evangelow, James, Chemical Systems Inc. Terrytown, N.Y., Global Outlook for Ethanol and Implications for the United States. Presented at the 1984 Washington Conference on Alcohol, Arlington, Virginia. November 15-16, 1984.

cost and availability, crude oil cost and availability, and the cost of alternative octane-boosters.

Because of its high octane rating of 110-112, ethanol can be used in place of tetra-ethyl lead to increase the octane rating of unleaded gasoline. At current ethanol prices and with the current Federal subsidy would cost about 1 cent per gallon to increase the octane rating of unleaded regular gasoline by 1 octane number. This compares with 2 cents for TBA, 1.2 cents for toluene, and 1.1 cents for MTBE. Methanol is the cheapest octane-enhancer. Net cost is less than one cent a gallon per octane number. However, current law prohibits producing blends containing more than 5-percent methanol. Reforming also is a relatively low-cost alternative, adding 0.4 to 0.8 cents per octane number per gallon. This shows that U.S.-produced ethanol, with the subsidies, is currently price competitive with some octane-enhancement alternatives.

Ethanol's estimated octane market share in 1984 was 24 percent and it is projected to reach 25 percent in 1985 and remain at that level through 1988, considering relative price and other factors affecting competition among available octane-enhancers 3/. Fuel ethanol demand, as a consequence, could increase

3/ Oppenheimer & Co. Inc. "Lead Phasedown To Spur Renewed Growth in Ethanol" No. 85-109.

significantly from 540 million gallons in 1984. It could play a limited role in helping refiners bridge the octane gap.

### Domestic Ethanol Production Capacity

Total anhydrous ethanol production capacity in the United States grew rapidly from 380 million gallons in 1981 to about 740 million in 1984, and it is projected to reach 790 million in 1985. Annual capacity may reach 1 billion gallons by the end of 1988 if current Federal and State incentives remain in effect. However, the energy investment tax credit is scheduled to expire at the end of this year, and there is a proposal to terminate the tax subsidy for plants completed after 1985.

U.S. ethanol producers are operating at less than full capacity because gasoline prices have fallen and the competition from Brazilian imports has increased. Also, facility loan guarantees and investment tax credits may have overcapitalized in the early 1980's. However, because of EPA's new lead standard and the likely additional demand for ethanol as an octane-booster, it is possible that the ethanol industry might be hard pressed to keep up with the projected increase in demand.

### U.S. Imports of Ethanol

Brazil supplies the bulk of our imported ethanol. Fuel and industrial ethanol exports to the United States have increased rapidly from the low levels of the 1970's. While traditional

suppliers, mainly European, have remained small, Brazilian exports have begun to dominate the U.S. ethanol import market.

In 1984, imports from Brazil that were declared for fuel purposes accounted for 15 percent of the fuel ethanol consumed in the United States. However, Brazil exported more industrial alcohol to the United States than fuel alcohol. If the industrial imports were actually used as fuel, Brazil could have supplied over 35 percent of the fuel ethanol used in the United States in 1984. This market penetration has occurred despite increasing high tariff barriers for fuel ethanol (table 3). U.S. ethanol subsidies were created to help U.S. producers. Foreign ethanol is expected to compete in the fuel market without subsidies. Therefore, a 60-cent-per-gallon tariff was imposed to offset the Federal subsidy.

### Trade Loopholes

The large tariff provides ample incentive to ethanol exporters to try to find ways of avoiding the tariff and manage to compete in the U.S. market on the same favorable conditions as U.S. producers.

While imports of fuel and industrial ethanol can be used interchangeably, tariffs and duties are much lower for industrial ethanol than for fuel ethanol. Fuel ethanol imports are subject to a 3-percent ad valorem duty and a 60-cents-per-gallon tariff. Only the 3-percent ad valorem duty applies to

Table 3.—Brazilian hectares of harvested sugar cane, production of ethanol, total ethanol exports to the United States, cruzeiro exchange rate, and U.S. fuel ethanol import tariff, 1981-84

Year	Sugar cane harvested	Ethanol produced	U.S. ethanol imports from Brazil		Brazilian fuel ethanol imports as a share of U.S. fuel ethanol market	Exchange rate cruzeiros/ U.S. dollars	U.S. tariff on fuel ethanol 2/
			Industrial	Fuel 1/			
	Million hectares	Billion gallons	Million gallons	Million gallons	Percent	Cruzeiros/\$	Dollars/gal.
1981	2.83	.89	8.5	4.4	5.4	93.1	0.10
1982	3.09	1.02	4.3	13.3	6.3	179.5	0.20
1983	3.45	1.32	18.5	54.5	12.7	577.0	0.50
1984	3.85	3/ 1.77	129.2	82.5	14.7	1,848.0	4/ 0.50

1/ U.S. Department of Commerce estimates. (Note: These estimates differ significantly from U.S. customs records for all ethanol imports.) 2/ Excludes Caribbean Basin countries. 3/ June-December 1983/84 marketing year. 4/ Raised to \$0.60 January 1, 1985.

ethanol imported for industrial use. If the industrial ethanol is used as fuel, reclassification and payment of the tariff can be postponed for as long as 3 years. This is one of several ways to avoid paying the tariff.

A second way to circumvent the tariff is use of the Caribbean Basin Initiative (CBI). The CBI is a major economic program to help the region's economies and gives them preferential access to U.S. markets by exempting CBI producers from U.S. tariffs. Caribbean producers would like to convert imported hydrous ethanol to the anhydrous product in order to avoid paying the U.S. ethanol tariff. Certain requirements must be met to qualify, and U.S. Customs is currently making an evaluation. Much of Brazil's production is hydrous, suitable for cars specially designed to run on pure alcohol, but not suitable for mixing with gasoline. At present, there is limited industrial capacity in the Caribbean to convert hydrous alcohol to anhydrous.

Exporters have been able to blend ethanol with gasoline, toluene, and other hydrocarbons and avoid the tariff. Customs no longer allows such blends to avoid the tariff. However, significant quantities may enter under existing contracts. Several bills have been introduced in Congress to close these loopholes.

In addition, in February 1985, U.S. fuel alcohol producers filed an anti-dumping case with the International Trade Commission (ITC) and International Trade Administration, claiming that Brazilian ethanol is sold in the United States at prices too low to provide a profit without subsidization. If the ITC finds that Brazil does subsidize or dump excess production at below cost, countervailing duties can be imposed. Faced with the prospect of a countervailing duty, Brazil may agree to a quota system or market allocation that would ensure a more stable market.

#### Factors Encouraging Brazilian Exports

The ethanol program in Brazil is significantly larger than the U.S. program, and has received extensive government support. A relatively small portion of Brazilian production, if diverted to exports, can depress ethanol prices in the United States.

After the 1974 disruption of oil supplies Brazil was the first country to turn to biomass as a major substitute for petroleum. Few alternatives were available. Domestic reserves of petroleum were small and the transportation system was dependent on an expansive system of roads. Brazil's foreign exchange was scarce and credit for petroleum imports was limited. Furthermore, since Brazil is the world's largest sugarcane producer, a large supply of renewable feedstock was available and the fermentative technology was well-known.

In 1975, Brazil launched a national program (PROALCOOL) designed to produce fuel alcohol from sugarcane. Initially, anhydrous ethanol was blended with gasoline for use without modifying existing engines. Currently, neat ethanol is being promoted for use in specially manufactured cars and light trucks. Straight alcohol is sold at 65 percent of the gasoline price, and over 95 percent of new cars now run on neat ethanol. Government loans were made available for alcohol processing facilities and sugarcane production, covering up to 80 percent of the total cost of establishing new distilleries or modernizing older facilities, and up to 100 percent of sugarcane producers' investment, production, and marketing costs. Due to budgetary austerity imposed over the last 3 years, the interest rate charged on government loans has become less favorable. Currently the government charges full adjustment for inflation (about 200 percent per year) plus 3 percent. This is still below market rates.

Nonbudgetary support for the alcohol program includes price supports for sugarcane as well as a variety of consumer incentives to use alcohol-fueled vehicles. These incentives include lower license fees, longer-term financing of alcohol-fueled vehicles, and a ban on Sunday gasoline sales.

Since the initiation of PROALCOOL programs, Brazil has increased alcohol production from 147 million gallons during the 1975/76 crop year (June/May) to 1,770 million gallons in 1984/85. The target for 1985/86 is 2,933 million gallons. Similarly, sugarcane hectareage increased from 2.61 million in 1979/80 to 3.85 million in 1983/84. In 1984/85, only half of the sugarcane harvest was used for sugar production.

The Petroleum Institute of Brazil has acquired all fuel ethanol and made decisions about exports. However, the controlling agencies are being reorganized and some additional decision making may be delegated to private industry. There is some flexibility to trade off between sugar and alcohol exports. Distilleries annexed to sugar refineries can process alcohol from molasses, a byproduct of sugar, or use the entire product from the cane crushing. However, this production flexibility is not available to many distilleries that are independent of sugar refineries.

Another government agency, the Sugar and Alcohol Institute, has a monopoly on sugar exports. A large portion of Brazil's sugar exports are under long-term contracts and remain profitable, but with world sugar prices as low as 3 cents per pound, additional sugar exports need to be subsidized, and are not profitable. As long as the losses from ethanol exports are less than those from sugar exports, the incentive remains to channel as much cane as possible into ethanol and export it instead of sugar. According to Brazilian press estimates, Interior, a subsidiary of the Petroleum Institute of Brazil, lost at least U.S. \$30 million exporting ethanol to the United States in 1984.

#### *The Outlook for U.S./Brazil Ethanol Trade*

The most important incentives for Brazil's current aggressive exports of ethanol are:

- Potential to avoid the U.S. tariff and therefore benefit from U.S. ethanol subsidies
- depressed domestic demand for ethanol due to recession
- increased supplies of petroleum in Brazil
- sugarcane production increases greater than expected
- very low prices for exported sugar
- low growth in Brazilian demand for sugar

- high value of the U.S. dollar, making exports to the U.S. market very attractive
- need to generate hard currency to service Brazil's international debt.

A change in any one of these factors could change Brazil's decision to export ethanol.

#### *Implications for the U.S. Market*

The future of U.S. ethanol imports from Brazil will be largely shaped by efforts to close loopholes in the U.S. import tariff, which may make direct shipments of Brazilian ethanol unprofitable. Bilateral trade relations with Brazil are complicated by the need for a trade surplus in Brazil's favor if Brazil is to service its international debt. Any action that limits its trade surplus complicates Brazil's ongoing debt negotiations with the International Monetary Fund.

If Brazil can place ethanol on the U.S. market without paying the tariff, it could significantly increase competitive pressure in the U.S. ethanol industry and may drive some domestic producers out of business. This would reduce the amount of corn needed to produce ethanol. Even if Brazilian ethanol is not allowed to benefit from U.S. subsidies, it may continue to have a modest share of the ethanol market.

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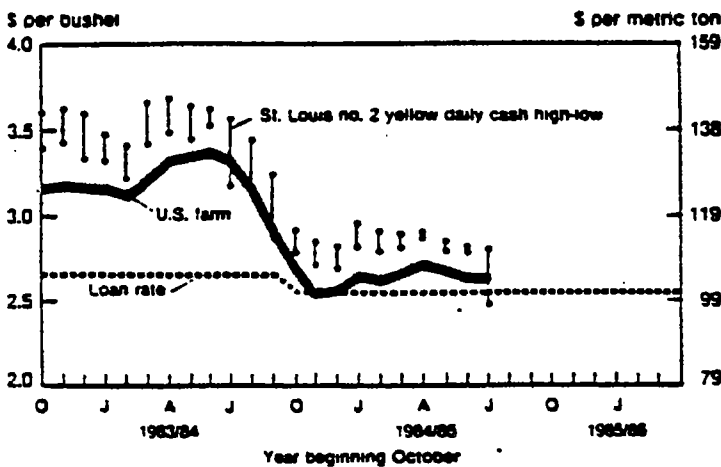
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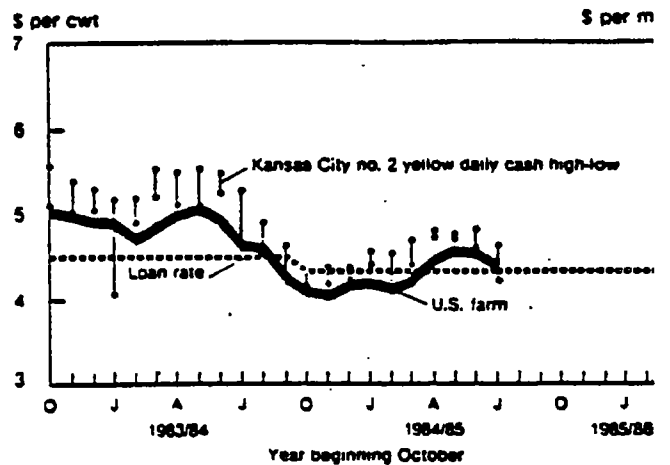
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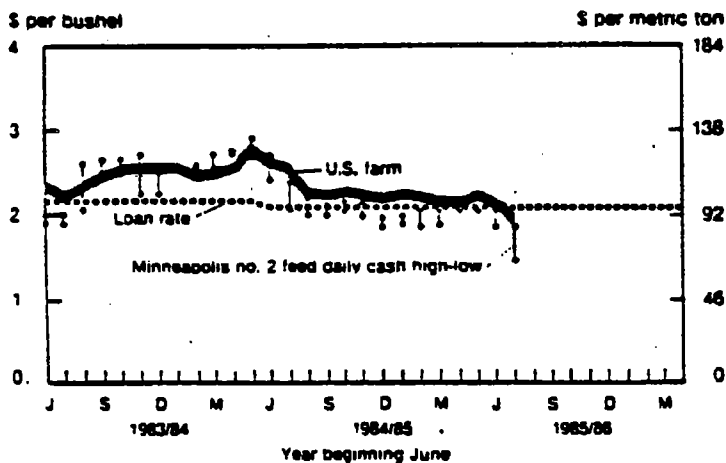
**Corn Prices**



**Sorghum Prices**



**Barley Prices**



**Oat Prices**

