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THE NEW BREADBASKET

Kyndell Harkness/Star Tribune

Standing in a Brazilian soybean field that stretches to the horizon, Kory Melby, 34, of Greenbush, Minn., described the vast opportunities for farmers on the new agricultural frontier. Melby is looking to buy farmland there.

Brazil's flourishing farm economy is threatening U.S. dominance of world crop markets, and Minnesota farmers are taking note.

By Kevin Diaz • Star Tribune Washington Bureau Correspondent

CUIIABA, BRAZIL — The road to the future breadbasket of the world does not go through America's heartland.

It's being paved instead through the heartland of Brazil's Mato Grosso state, where vast stretches of new farmland can be had for \$150 an acre, and good farmhands like Noel Garcia de Farias are happy to make \$1 an hour.

The road — Hwy. 163 — meanders about 1,200 miles north to the Amazon River port of Santarem, where Minnesota-based Cargill opened a new export terminal last April. The highway is mostly dirt, but the Brazilian government, looking to cut transportation costs, is racing to pave the whole route.

To some American farmers, it looks like a race to the bottom.

Brazil, long a leading exporter of sugar, citrus and coffee, is emerging as the world's leading low-cost producer

of major farm commodities once hardly associated with the tropics. Now, it is threatening the United States' standing as the world's farming superpower, a development that could have profound consequences for rural America.

Brazil has the world's largest commercial cattle herd and is closing the gap with the United States in corn production. But a more dramatic milestone has all of farm country buzzing: Brazil's exports of soybeans — the world's most important source of vegetable protein — have now surpassed those of the United States.

More ominous, Brazil is expected to convert another 50 million acres to crops in the next 10 years. That's an area the size of Minnesota, and most of it will be new soybeans.

BRAZIL continues on A12

Advantage Brazil?

In the past decade, Brazil has become an agricultural powerhouse and has overtaken the United States as the leading exporter of soybeans. Among Brazil's advantages:

- LAND** Huge, undeveloped tracts of cheap land.
- CLIMATE** Its farmers can raise two or three crops a year.
- LABOR** It's abundant and cheap.

But Brazil has obstacles to continued growth:

- TRANSPORTATION** Farms are remote and the routes to ports are poor.
- DISEASE** More chemicals needed to combat tropical plant diseases.
- LOCATION** It is far removed from the growing Chinese market.



First of three parts

With Brazil surpassing the United States in soybean acreage, farmers need more storage space. In January, Jim Palmer, foreground, of the Minnesota Soybean Growers Association, and Gene Hugoson, Minnesota's agriculture commissioner, examined a massive soybean storage facility on the Wards' Mato Grosso farm.



START ↓

"Their potential for growth scares me," said Ron Obermoller, a Minnesota corn and soybean grower who toured Brazil in January.

Occupying almost half of South America, Brazil still has at its disposal unused cropland of scrub grass and rainforest larger than the U.S. acreage of corn, soybeans, wheat and feed grains combined.

The interior savanna, called the cerrado, covers more than 510 million acres — an area larger than the Upper Midwest. Less than one-fourth of it is currently in economic use.

American farmers, by comparison, have little space to grow. In fact, while the trend in the United States is to take land out of cultivation for recreation and conservation, Brazil is opening up an area of cropland the size of Maryland — each year.

"The size of their fields blows my mind," said James Perkins, who operates a 2,400-acre farm in Kansas. "It's just soybeans for as far as the eye can see."

Obermoller, president of the Minnesota Corn Growers Association, counts on rising world living standards to absorb much of Brazil's farm growth. But others wonder how much longer U.S. farmers will be able to match the low-cost competi-

New Zealand-born Chris Ward and his Brazilian wife, Regina Ward, behind him, farm 35,000 acres in Brazil. Despite having filed for three bankruptcies, Ward gave an upbeat report to a group of visiting Midwestern farmers.

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The simple reason: hands cost less.

On a recent trip to Brazil, Jerry Anheluk, a North Dakota cattle rancher, noticed a Mato Grosso farmerband using a long rope to guide a silage spout "for a \$1 an hour," Anheluk said "who needs hydraulics?"

Inexpensive labor

Actually, farm workers can be had in Mato Grosso for \$80 to \$200 a month, double that for health care and housing costs are added in. For that, they work six days a week — seven during the harvest season.

In a region where most of the crop is trucked over bad roads, truckers come cheap, as well. Feliz Ral di Sarelli, driving a semi full of soybeans down Hwy. 163, said he would get about 10 percent of the freight bill, less than half the rate truck drivers get in the United States.

To cut expenses, he sometimes lives out of the truck during the two- or three-day wait to get unloaded. A fold-out gas stove under the trailer bed permits him to cook his own meals on the road.

Many other Brazilian truck drivers live out of their rigs with their wives and kids.

Environmental regulation, or the lack of it, is another significant Brazilian advantage. Environmentalists have long decried the destruction of the Amazon rainforest, although Brazilian officials say they are strictly enforcing new rules that limit how much forest landowners can clear.

More than 87 percent of the Amazon basin is kept as natural

BRAZIL continues on next page

need to know why. Mato Grosso represents the frontier of the farming expansion in the cerrado, on the southern edge of the Amazon River basin. From the capital city of Cuiaba to Jucas do Rio Verde in the north, fields of soybeans stretch from horizon to horizon, earning the area the designation of "soybean ground zero."

Two decades ago, the area was a tropical ranching backwater, too disease-ridden and acidic to plant major crops. The introduction of lime, pesticides and new seed varieties has changed all that. Its flat expanses make it every bit as suitable for mechanized crop production as Iowa or Minnesota.

The changing picture is reflected in Cuiaba, which has grown in 30 years from a decaying gold-rush town to a sprawling metropolis of malls and apartment buildings.

Cuiaba and nearby Ron domopolis have the potential to reshape the worldwide food markets in ways that have been compared to a long-ago Minneapolis or Chicago, where world commodity prices are still largely determined.

"Brazil will be setting the price for soybeans in the future," said Seth Naeve, a soybean extension agronomist at the University of Minnesota. "You could think of them as OPEC."

Virgin cerrado land can be put into production for about \$350 an acre, a fraction of what it costs in Minnesota. An equatorial climate also permits two or three crops a year.

Despite oversize farms of 10,000 acres or more in Mato Grosso, it is not uncommon to see tractors and other farm machinery that are undersized by U.S. standards. Jobs that are mechanized in the United

States are often done by hand in Brazil.

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BRAZIL continues on next page

Soybeans and asphalt could transform a farmer into a president

Already the "soybean king," his plan for getting crops moving on new roads is paving the way.

By Kevin Diaz

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In Brazil, farming is just a business," he said with characteristic understatement.

But as the leader of a huge, family-owned agribusiness empire, Maggii makes no secret of trying to establish Mato Grosso as the center of econom-

"The impact he has had on the state's economy has been incredible," said Regina Ward, a political supporter in Mato Grosso. "Industry is coming, and with it, infrastructure, as well."

A native of Brazil's traditional farm region, Rio Grande do Sul, where his family began cultivating



The competition

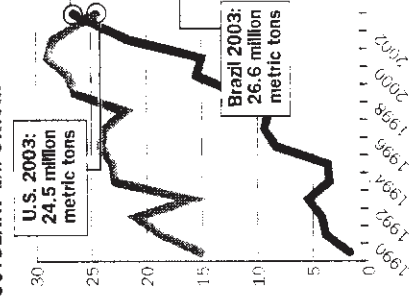
As Brazil gobbles up more of the global export market, some worry that it could become to farming what China is becoming to low-cost manufacturing, and what India is becoming to offshoring information technology.

"Brazil is the 800-pound gorilla of farming," said U.S. Sen. Norm Coleman, who has joined a procession of Minnesota officials to Brazil in recent months. "From the perspective of agriculture, they're the competition."

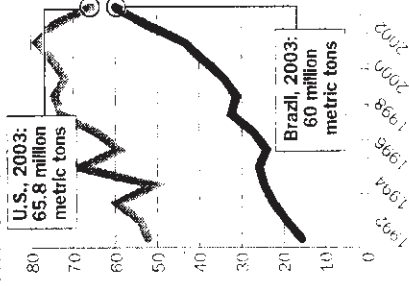
Minnesota Agriculture Commissioner Gene Hugoson's visit to Brazil in January underscored what is at stake.

"When world soybean prices start moving with the rain forecasts in Mato Grosso," he said, "I

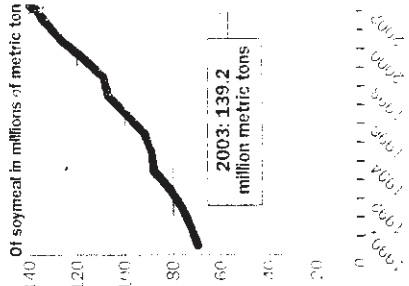
SOYBEAN: EXPORTS...



PRODUCTION...



GLOBAL CONSUMPTION...

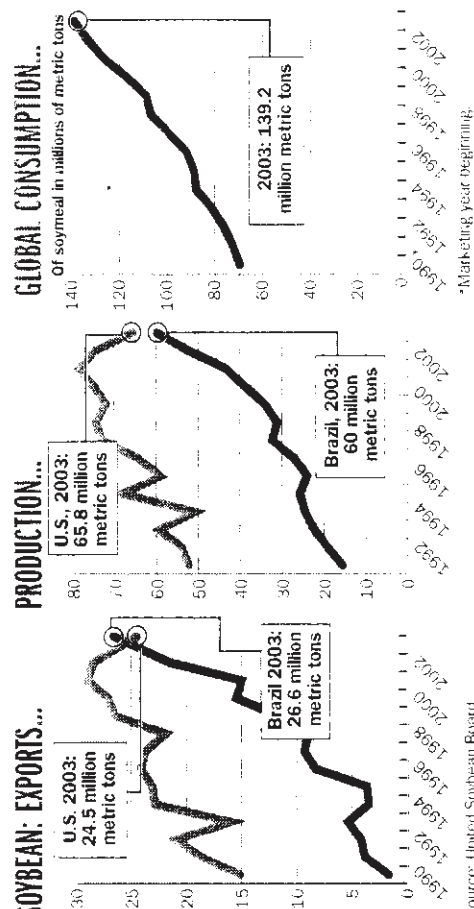


Source: United Soybean Board

Star Tribune



New Zealand-born Chris Ward and his Brazilian wife, Regina Ward, behind him, farm 35,000 acres in Brazil. Despite having filed for three bankruptcies, Ward gave an upbeat report to a group of visiting Midwestern farmers.



Source: United Soybean Board
Marketing year beginning

Soybeans and asphalt could transform a farmer into a president



Blairo Maggi, governor of Mato Grosso and a soybean grower, said there is room for both the United States and Brazil in the world market.

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BRASIL continues on next page

attached to him, notably that of "soybean king." In Brazil, farming is just a business," he said with characteristic understatement. But as the leader of a huge, family-owned agribusiness empire, Maggi makes no secret of trying to establish Mato Grosso as the center of economic development in Brazil. Roadside billboards in the Mato Grosso capital of Cuiaba proclaim asphalt as the key to the region's economic growth. And with good reason: Much of the state's agriculture produce — including Maggi's — goes to market over dangerous truck-clogged highways, most of them pot-holed, some of them dirt. The catalyst for the road-building program is the region's burgeoning agribusiness sector, which has formed into several private consortia to finance a modernized transport network and reduce shipping costs. "They expect something," Maggi acknowledges. "They are not just doing it to be nice guys. If he succeeds in improving the region's infrastructure, some people believe, the farmer-turned politician could have a shot at Brazil's presidential palace.

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Already the "soybean king," his plan of getting crops moving on new roads is paving the way. **by Kevin Diaz** Star Tribune Washington Bureau Correspondent

CUIABA, BRAZIL — Soybeans made Blairo Maggi a governor. Asphalt could make him president. Maggi, considered the world's biggest soybean farmer, works out of a spacious office in the governor's palace in Brazil's most important agricultural state, Mato Grosso. Since his election last year, Maggi has dedicated himself to paving Brazil's rural truck routes, the only thing that seems to be slowing down the nation's rise as the world's top agricultural exporter.

"Roads are a Brazilian problem, not just a Mato Grosso problem," Maggi said, speaking through an interpreter. Low key and modest, Maggi, 46, tries to downplay the grandiose monikers that are often at-

"The impact he has had on the state's economy has been incredible," said Regina Ward, a political supporter in Mato Grosso. "Industry is coming, and with it, infrastructure, as well."

A native of Brazil's traditional farm region, Rio Grande do Sul, where his family began cultivating soybeans in the 1970s, Maggi has led the agricultural expansion into Mato Grosso, in the heart of the country's sub-Amazon interior.

In the 1990s, his company led a public-private partnership to open a barge channel on the Madeira River, linking the region to ocean-going ships on the Amazon River.

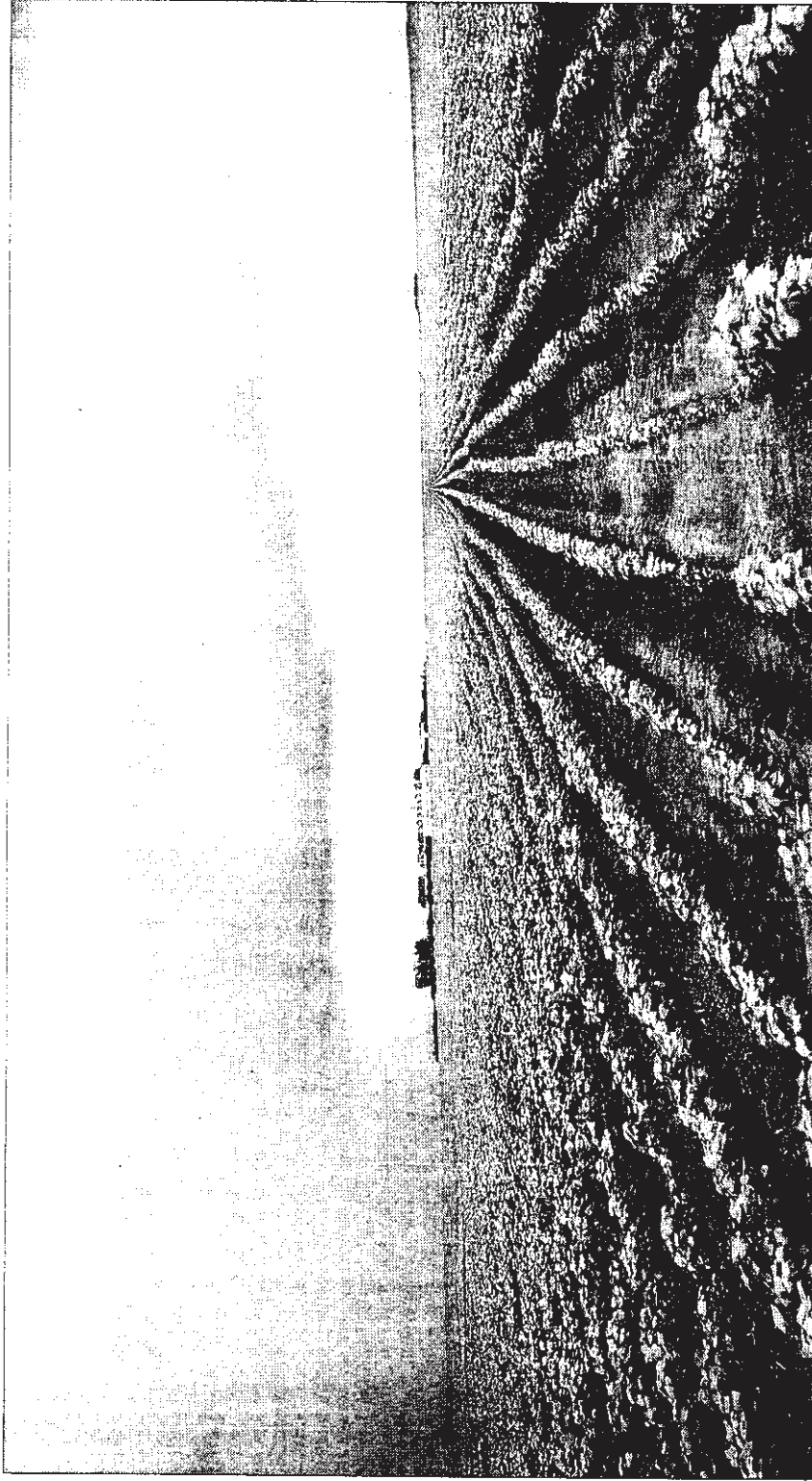
Two decades ago, Mato Grosso grew less than 1 percent of Brazil's soybeans. Now it accounts for about a quarter.

Maggi's family empire, AMaggi, includes an estimated 350,000 acres of farmland, about half of it in soybeans. Some of his fields are larger than entire townships in the U.S. Midwest.

Despite his ambitions, Maggi says he doesn't regard the U.S. and Brazil as competitors.

"We are complementary," he said. "We are both worried about the markets. We both want the markets to buy."

Produto de
BRASIL



A thunderstorm rolled in over a soybean field at the Girassol farm outside of Rondonopolis, Brazil. The acidic soil was treated with lime to make it fertile for cultivation. Fertilizers, pesticides and other scientific advancements have helped crops thrive in the tropical climate.

Star Tribune photos by Kyndell Harkness

BRAZIL from A12

preserve or in Indian reservations, according to the Brazilian government. Mato Grosso farmers say they intend to conserve their natural resources. But they balk at external international controls.

"The sentiment here is that North Americans and Europeans burn fossil fuels like crazy, but we're not allowed to cut down a few trees," said Chris Ward, a Mato Grosso farmer. A recent U.S. Agriculture De-

competitive.

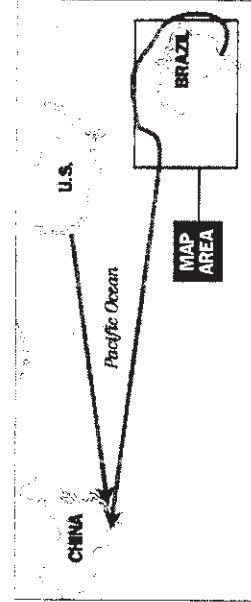
Despite Brazil's great cost advantages in land and labor, a U.S. Agriculture Department study found that the price of a bushel of Mato Grosso soybeans delivered to Holland is merely 2 percent cheaper than a bushel from the U.S. "heartland."

The reason: the significantly higher costs of transport over long distances and rough terrain.

"Once they get their transportation and crop disease problems under control, they'll

PAVING THE WAY TO FASTER TRANSPORTATION IN BRAZIL

Hwy. 163 is mostly a dirt road, making it slow and costly to transport crops from the growing agricultural state of Mato Grosso to the Amazon River export terminals to the north. But the highway is rapidly being paved. That will allow more commodities to be shipped from ports closer to major markets like China and Europe instead of from South Atlantic ports near Sao Paulo and Curitiba.



COLOMBIA

Tariffs, subsidies are epic struggle

U.S. and Brazilian farmers say the other side has all the advantages.

By Kevin Diaz
Star Tribune Washington Bureau Correspondent

CUIABA, BRAZIL — As U.S. trade officials press for a pact that would create a free trade zone from arctic Canada to the tip of Argentina's Tierra de Fuego, they are encountering resistance from a chief rival, Brazil.

Brazil's government argues that billions of dollars in annual U.S. farm payments help flood the world with cheap commodities and hamper the ability of developing countries to climb out of poverty.

"The feeling here is the Americans depend on price supports," said Mato Grosso Gov. Blairo Maggi, Brazil's largest soybean producer. "The keep producing for the market even if the market is down. The hurts prices, but they don't suffer."

U.S. farmers counter that there are hidden farm subsidies at work in Brazil, such as tax breaks for putting land into cultivation.

The dispute is part of an epic struggle over hemispheric trade pacts like NAFTA, which seek to tear down tariffs and quotas.

One of those pacts, the pending Free Trade Agreement of th

South America, and one of the most restrictive to foreign investment," said Sarah Anderson, a fellow at the Institute for Policy Studies in Washington, D.C.

Disputes over U.S. and European farm subsidies largely derailed global trade talks in Cancun last year. The Bush administration's biggest nemesis in these trade talks was — not surprisingly — Brazil.

Brazil, leading a bloc of developing nations, has taken its case against U.S. farm subsidies to the World Trade Organization (WTO), which could soon render a decision setting an awkward precedent for American farmers. Although the case centers mainly on U.S. cotton subsidies, all farm payments are essentially on trial.

An adverse ruling could have major repercussions for Minnesota, which received \$467 million in farm subsidies in 2002, ranking it eighth in the nation.

Subsidies or no subsidies, the driving calculation for farmers throughout the world is the same as that governing global capitalism in general: produce more for less.

American farmers like to say they can handle all comers. But the growth of Brazilian agriculture confronts U.S. farmers with a fundamental dilemma: With government subsidies eliminated or reduced, some U.S. farmers would simply go bankrupt trying to match prices at Brazilian costs of production.

"The effect it would have on rural communities, rural banks, and all the other things that are related to the 'ag world' would be unthinkable," said Darryl Ray, director of the Agricultural Policy Analysis Center at the University of Tennessee.

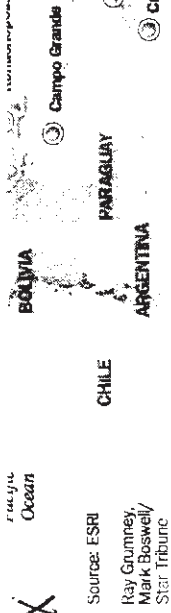
Producto de Brasil

TODAY: Brazil emerges as an agricultural colossus.

MONDAY: Midwestern farmers move to Brazil and become America's competition.

TUESDAY: Cheap, abundant labor supports Brazil's farm economy.

Source: ESRI
Ray, Gurneely, Mark Boswell/
Star Tribune



their hopes on using world consumption of meat and other high-protein foods that rely on soybeans.

"The demand side is just as phenomenal as the supply side," said Jim Palmer, executive director of the Minnesota Soybean Growers Association. "The world is eating better. You need to overlay what the Brazilians export."

Although exports and competition in the global marketplace will always be a part of U.S. agriculture — America can't possibly eat all the food it produces — most observers agree that American farmers can't chase the world export market to the bottom indefinitely. This "race to the bottom," as Iowa farm economist Marty McVey once described it, may be a race that nobody can "win."

"Winning is worse than losing," said University of Minnesota agricultural economist Richard Levin. "The winner is the one that can grow the absolute cheapest soybean, and that person is going to have a terrible life — giving up on environmental policies and working themselves to death. It's just not going to be any fun."

But then again, that's business. Minnesota farmers have largely benefited from the world grain trade, and now the cerrado in Mato Grosso — with its ever-expanding tracts of soybean fields — is a big part of it.

"It's no different than in any other industry," said Cargill's Edwardson. "The pressure to be the low-cost producer is not a fun endeavor in any competitive environment. But it's a big world, and it's a global marketplace."

Kerim Diaz is at kdiaz@mcclatchydc.com

crop yields, disease resistance and grain quality.

"As I look around this country, they do have some big farms," said Ronald Jacobson, president of the Minnesota Soybean Growers Association, who was on the same trip as Call. "But I have yet to see anything that matches our ability."

Some experts say that American farmers are going to have to compete on innovation — finding new products like ethanol and biodiesel — and quality.

"Our growth will have to be in processed food products, not in bulk commodities," said Benny Jencenas, of the food and agriculture section of the Congressional Research Service. "That's the future."

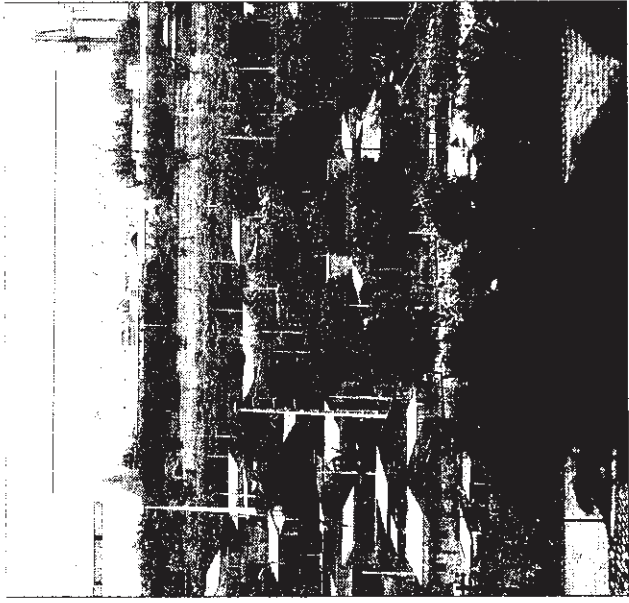
American farmers also place

where the road to the future is headed.

"Yes, they're going to be the No. 1 soybean producer in the future," he said. "We're just going to have to deal with it."

How to deal with Brazil's green revolution is now topic No. 1 in American farming. With an eye on Brazil's infrastructure improvements, U.S. farmers have been lobbying Washington to upgrade the nation's water transportation system, particularly the locks on the Upper Mississippi River up to Minneapolis.

They also are pressing for research and development funding to maintain slight U.S. advantages in biotechnology.



An Archer Daniels Midland plant sits atop a hill in Cuiaba, Brazil. Investments by U.S.-based agribusiness giants are helping Brazil challenge the United States in the global food marketplace.

such as ethanol are protected by help. Already, the Minnesota-based multinational has more than 120 plants, warehouses, port terminals and farms in Brazil. It counts more than 90 buying stations and employs more than 5,000 people.

Illinois-based Archer Daniels Midland and New York-based Bunge are also major players. John Deere tractors can be found all over Brazil.

Crates say that the foreign investments of the multinational grain traders undercut farm ers back home. Cargill sees its role as helping feed the entire world.

"Whether it's Brazilian or American soybeans, the world needs both," said Bryan Edwardson, Cargill's director of public policy in Washington, D.C. Even amid record Brazilian production this year, Edwardson notes, soybean prices are the highest they've been since 1997.

At Santarem, Cargill was not alone in its interest in developing an inland waterway to the world. Other private entities sought a piece of the action, including Brazil's own Maggi conglomerate.

Maggi's father got into soybeans in the early 1970s, when President Richard Nixon imposed an embargo on U.S. soybean exports.

The Nixon embargo — a reaction to domestic grain shortages tied to massive Soviet grain purchases — is widely credited with jump-starting Brazil's soybean industry.

Winners and losers

Jim Call, a farmer from Madison, Minn., stood surrounded by 15,000 acres of soybean plants on the Fazenda Girassol, a single farm in Mato Grosso. It was late January, about a month before the Brazilian harvest.

Call, chairman of the Minnesota Soybean Research and Promotion Council, went to Brazil a skeptic about Brazilian agriculture. He returned a little less so.

He looked over a leafy verdant plant, filled with mealy pods of healthy beans. "These are the best soybeans I've ever seen," he said.

ous have argued that Brazilian farmers routinely pirate GMO biotechnology from the United States, such as Roundup Ready pesticide-resistant soybeans. That allows them to avoid royalty payments to Monsanto and other U.S. biotechnology firms.

The non-disclosure also gives them a big advantage with exports to the European Union, which largely bans GMO crops from the United States.

Asphalt dreams

A billboard in Cuiaba proclaims asphalt as the key to Mato Grosso's "future prosperity."

More than 300 miles of dirt roads were paved in Mato Grosso so last year, more than had been paved in the past eight years. Another 1,500 miles are to be paved by 2006.

Since his election last year, Mato Grosso Governor Blairo Maggi has made it a top priority. With good reason: It's the state's biggest soybean producer.

Most of the work is being done on Hwy. 163, Cuiaba's link to the Amazon River port of Santarem. The distance is equivalent to trucking soybeans from Minneapolis to New Orleans. In good weather, the trip takes three or four days. In bad weather, it's largely impassable.

Shipping soybeans to Santarem on a paved highway will save Mato Grosso growers like Maggi an estimated \$20 a ton.

The importance of the highway is such that the soybean growers and traders who use the road have formed a consortium among themselves and the state of Mato Grosso to speed the paving.

When it's finished, the main users — Cargill, Archer Daniels Midland and Bunge — will finance the road through tolls.

"Here, road building is a private enterprise, not a government project," said Ward, who farms outside the city of Itanopolis.

American producers are taking note of the massive road-building projects in Brazil, because until now, Brazil's daunting transportation challenges — bad roads and limited railways — have been the main factors keeping U.S. farmers