URRIALBA, Costa Rica, Jan. 22 - The game of baseball is a pure product of America. The ball itself is another matter.

Every baseball used in the major leagues is made here, millions of them. They are handcrafted with the precision of a machine by the men and women of Turrialba and the towns in the green hills beyond.

The baseball workers typically make about $2,750 a year. A baseball player in the United States makes, on average, about $2,377,000, the Players Association says.

"It is hard work, and sometimes it messes up your hands, warps your fingers and hurts your shoulders," said Overly Monge, 37. Temperatures inside the factory can rise to 90 to 95 degrees, he said, and when they do, "we suffocate."

He makes $55 a week after 13 years at the baseball factory, barely above Costa Rica's minimum wage. After he pays for the necessities of life, he has about $2 a day left over for himself, his wife and daughter. His salary, adjusted for inflation, is about the same as when he started.

But that's life, he said with a shrug. Hard work, but far better than no work at all. Many of the coffee and sugar cane plantations around here have collapsed, done in by the forces of globalization. There is only one other factory in Turrialba, population 30,000. Without baseballs, Mr. Monge said, life here "would be more like Nicaragua," the poor neighbor to the north.

The baseball workers arrive at 6 a.m. and work until 5 p.m. Peak production pressures have pushed the day deep into the night. Each can make four balls an hour, painstakingly hand-sewing 108 perfect stitches along the seams. They are paid by the ball - on average about 30 cents apiece. Rawlings Sporting Goods, which runs the factory, sells the balls for $14.99 at retail in the United States.

"After I make the first two or three balls each week, they have already paid my salary," Mr. Monge said. "Imagine that."

Warny Goméz, 33, worked for four years at Rawlings, put himself through college and became a primary school teacher. "People here have no choice but to work there," he said. "There are almost no other jobs."

"There's tremendous pressure to produce," he added. "The balls have to be exactly alike, totally perfect, and for this work people are paid $50 or $60 a week. A machine can't
make them - it has to be done by hand. But they demand the precision and speed of a machine."

Rawlings workers past and present say that while their real wages have not risen over the years, workplace safety has improved - particularly since a new manager, Ken West, arrived four months ago. Previous bosses, they say, screamed at them, pressured them to go faster. Mr. West, an affable 62-year-old Missourian, is not that kind of boss.

Rawlings, founded in 1887, has had an exclusive contract to supply the major leagues with baseballs since 1977. Mr. West says the Costa Rica plant makes about 2.2 million balls a year and sells about 1.8 million of them to the majors. Officials at K2 Inc., the sporting goods company that acquired Rawlings last year, say the wholesale price the majors pay for those balls is a trade secret. Industry analysts say Rawlings sells about $35 million worth of baseballs a year, about one-third of the world market.

Rawlings came to Costa Rica 16 years ago, from Haiti, where workers made $15 to $25 a week. It moved after a 1986 coup deposed the dictator Jean-Claude Duvalier.

"About the time the coup was going on in Haiti, they could see some problems coming," Mr. West said. Rawlings sought "a neutral country that has a good work force."

Rawlings was awarded a 54,000-square-foot free-trade zone by Costa Rica. It pays no taxes. It imports duty-free the makings of millions of baseballs - cores from the Muscle Shoals Rubber Company in Batesville, Miss.; yarn from D&T Spinning in Ludlow, Vt.; cowhide from Tennessee Tanning in Tullahoma, Tenn.

Its operations are a harbinger of a pending free-trade accord between Costa Rica and the United States; negotiations on that agreement, expected to bring more such ventures to Costa Rica, are in their final stages.

"Free trade is excellent for the United States, because they consume so much," Mr. Monge, the Rawlings worker, said. "For other nations, it's more complicated."

As the sole source for major league baseballs, and the biggest employer by far in Turrialba, Rawlings seems to have things sewn up. Mr. West sees no social or economic tensions at the plant. He says his work force is more like a team or a family.

"These people are so good - they're just very good at it," he said. "I am just so impressed by the people."

"The best thing's the pay," he said. "We're a good place to work." The work itself, he said, is "not demanding." As for repetitive-stress injuries, like carpal tunnel syndrome, "we
just do not have that problem.”

However, Dr. Carlos Guerrero, who worked at the Rawlings plant as a company doctor in 1998, and at the national health insurance clinic in Turrialba from 1991 to 1997, said a third of Rawlings workers developed carpal tunnel syndrome in those years. (The syndrome, which causes pain and numbness in the hands, is common among assembly-line workers, typists and computer operators worldwide.) He said perhaps 90 percent of Rawlings workers experienced pain from their exacting work, from minor cuts to disabling aches.

Officials at Major League Baseball headquarters in New York referred questions about the plant to Rawlings. The head of baseball's Players Association, Donald Fehr, said workplace injuries at the plant had not been brought to his attention. Dudley W. Mendenhall, a senior vice president of K2, also said he was unaware of any workplace injuries at the plant.

Few baseball players are aware of where the ball comes from, said Charles Kernaghan, the executive director of the National Labor Committee, an international workers' rights group based in New York. "But if the players would actually stand up, it would have enormous consequences" for the baseball workers, including better pay, he said.

Some past employees say they had to quit after developing repetitive stress injuries, and they have the medical records to prove it.

"The work deforms your fingers and arms," said Maribel Alezondo Brenes, 36, who worked seven years at the plant - until her doctor told her to stop sewing baseballs.

Soledad Castillo, 46, cannot make a fist, or touch her right palm with her middle finger after nine years at Rawlings. Disputing Mr. West's contention that workers are not injured by their labor, she said, "If he ever worked a day sewing, he'd know it's hard."

Despite their injuries, the two women say they liked the camaraderie and the atmosphere at the Rawlings plant. "I can't complain about the work environment," Ms. Alezondo said. "The ventilation improved over the years," even if the pay did not. There was time to make small talk and good friends.

Still, when she talks about the difference in wages between baseball workers and baseball players, it takes her breath away.

"We sacrifice a lot so they can play," she said. "It's an injustice that we kill ourselves to make these balls perfect, and with one home run, they're gone."