Mars Invested In Cocoa's Future

With a commitment to using only sustainably grown cocoa by 2020, Mars Chocolate is combining science and farmer outreach to achieve this goal.

DEMAND FOR COCOA is projected to outstrip supply by one million metric tons by 2020 if sustainability isn't addressed in cocoa production and farming sectors, according to Andy Harner, global cocoa vice-president for Mars Global Chocolate.

This was driven home further by Fiona Dawson, president of Mars Chocolate UK, who said during a lecture titled "A Sustainable Future" that persistent poverty and political conflicts are putting severe pressure on Ivory Coast growing regions, adding that if the farmers at the start of the supply chain are in trouble, then ultimately so is the whole industry. She went on to reiterate the possibility of a one million metric ton shortfall by 2020.

In an effort to combat projected cocoa shortages in the coming years, Mars, Inc. has pledged to use only 100 percent certified sustainable cocoa by 2020. During 2012, Mars committed to sourcing 20 percent of its cocoa supply from certified sustainable sources, a goal the company says it is on pace to exceed.

Mars expects to purchase nearly 90,000 metric tons of certified cocoa, based on current buying arrangements, making it the largest user of certified cocoa worldwide, the company claims.

This goal is part of a 2009 initiative to incrementally introduce certified sustainable cocoa into its supply chain. Since making the commitment, the company says it has met its goals each year.

To help reach its sustainability goals, Mars has partnered with the Rainforest Alliance, UTZ Certified and Fairtrade International to ensure the cocoa beans it uses are produced in a way that benefits farmers and respects the environment. Mars works with the three certification agencies to ensure the volume required is met, according to Harner. The company has committed to sourcing 100,000 metric tons from Rainforest Alliance and UTZ Certified by 2020.

To facilitate the sustainable growing of cocoa, the company launched the Sustainable Cocoa Initiative, an umbrella term used to describe a number of Mars-sponsored programs, Harner says. Part of the initiative is the company's Vision for Change program (known as V4C), introduced in 2010, which is based in southwest Ivory Coast and aims to work directly with cocoa farmers.

"Nearly two-thirds of cocoa comes from West Africa, where yields are flat or declining and rejections because of bean quality are at record highs," Harner says, noting processors and national export standards determine acceptable quality.

The V4C looks to increase farmer incomes by improving crop productivity from 400 kilograms per hectare to 1.5 metric tons by 2020. The increased yield plans, facilitated through better plant genetics, also focuses on improving bean quality.

"It starts with the farmers; if we can help them be more productive it will raise incomes, help communities and result in higher yields," Harner explains of the V4C initiative. "But solutions need to be sector-wide, and we plan to expand impact by working with the industry."

The program also will help give locals the ability to channel additional public and private funds into development projects to improve their communities, including upgrades to the country's highways, which will ease the burden on transporting beans from remote regions. While the V4C is helping source funding for community projects, Harner says Mars is not directly working on transportation programs.

The sustainability program aims to address effective environmental management tactics including reversing soil nutrient loss, proper usage of pest and disease control products and resource management. For example, the company sets up demonstration plots to show the before and after of applying good agricultural practices at its Cocoa Development Centers (CDC), which serve as distribution and training hubs.

"Members of surrounding villages witness the benefits and transfer the knowledge to others with the support of the CDCs and the World Agroforestry Center," Harner explains.

Mars plans to run the V4C program through 2020, initially in Ivory Coast's Soubré region, the country's primary cocoa-producing area.

"The greatest challenge is the transferring of

technology," Harner says, explaining that technology includes the distribution of cocoa trees that are more disease-resistant and have higher yields, which benefit from the mapping of the cocoa genome.

Mapping of the genome is one of the most important breakthroughs, as it will lead to better plant genetics, according to Mars.

Through genetic mapping the company is able to identify desirable traits in plants such as disease resistance and improved yields, which will result in greater sustainability and higher income for the farmers, Mars says. *(See Fall 2011 issue of the* ***NCA Journal*** *for an article on mapping the cocoa genome.)*

Above: A successfully grafted tree begins to show pod development. Below: Farmers take part in a training session at one of Mars Chocolate's Cocoa Development Centers in Ivory Coast.

"Some of the challenges facing these farmers aren't too different from 100 years ago," Harner says. "It is just on a larger magnitude. With the right interventions, we can triple yields, but going forward the solutions have to be made to scale."

Promoting the transfer of technology to more farmers in Ivory Coast, the company is building 75 CDCs to reach 150,000 farmers by 2020 and expects to have 25 centers running by the end of this year. Each center can reach about 2,000 farmers, Harner claims.

"A majority of cocoa farmers and farming communities are in rural and remote regions, we have the knowledge to triple yields, but how do you transfer that technology to millions of farmers at scale?" he asks.

Andy Harner, global cocoa vice-president for Mars Global Chocolate, with a trainee in Ivory Coast.

One of the key components of the technology transfer is demonstrating the latest plant-grafting techniques, which allow for cocoa trees to begin bearing fruit much sooner than the traditional growth cycle, according to Harner.

"We grow and develop plants to be grafted to existing root stock, so instead of waiting five to seven years a plant can start developing pods within one year," he says.

"Some farmers are putting these techniques to use already and they are working. This is developing excitement and leading more farmers to buy into the CDC model," Harner explains.

In addition to showing grafting techniques, development centers offer guidance on soil fertility, good agriculture practices, and disease and pest resistance.

To help support the centers and reach more farmers, privately owned businesses that distribute planting materials, called Cocoa Village Centers (CVC), are being planned for communities too far away to access a development center.

"We need to demonstrate the success of CDCs before expanding to the village centers," Harner explains, adding despite this Mars plans to have 10 village centers running by the end of 2012.

The company says once the success of the CDC model has been demonstrated it will expand the project to other cocoa-growing regions.

SECURING THE SUPPLY CHAIN

While Mars is leading the V4C program in Ivory Coast, Harner says it is the duty of the industry as a whole to work together to solve the possibility of cocoa demand outstripping supply in the coming years. Putting this idea into practice, Mars has been working with the country's government, non-governmental organizations and other groups conducting cocoa research and outreach.

For example, a recent study, conducted by French agriculture researcher CIRAD and partially funded by Mars, found that proper fertilizer use can double cocoa yield on degraded farms with mature trees.

The study showed fertilizer increased cocoa production by 20 percent in the first year with a major jump occurring in subsequent years. When put into practice in Duekué, Ivory Coast, the region saw average yields go from 765 kilograms per hectare without fertilizer to 1,890 kilograms per hectare in two years.

In 2010, Mars signed a memorandum of understanding with the Ivorian government, establishing a basis for ongoing partnerships. This included provisions for working with the country's agricultural departments to help implement the V4C program.

Further, the company partnered with the World Agroforestry Center (ICRAF) to bring added expertise and resources to its programs. The organization focuses on consistency, training and quality, according to Harner, adding Mars works directly with ICRAF, which has memorandums of understanding with Ivorian research and development groups, to help implement its programs

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in the country and run development centers.

"Specifically, the World Agroforestry Center runs day-to-day operations including building CDCs, training farmers, establishing baseline measurements, working with communities and measuring impact," Harner explains.

This past June the company showed its willingness to partner with organizations striving for sustainability with the signing of The Leadership Compact, convened by the University of Cambridge Programme for Sustainable Leadership.

The initiative focuses not only on cocoa sustainability, but on all natural resources while working to lessen environmental footprints, and by signing the agreement, Mars has committed to operate within the limits of natural systems, develop rigorous and realistic targets and plans, and identify and address the effects on people and the environment from production and consumption of its products.

"Working with the CDCs is not a Mars-only initiative; it is meant to be a holistic approach comprising agreement and support with the government, farmers and people doing research on cocoa," Harner says. "It is time for the industry to approach this in a large-scale manner rather than as one-off programs." **NCA**

PROJECTED COCOA DEFICIT WOULD HURT INDUSTRY, ECONOMY

IF SUSTAINABILITY is not addressed in cocoa-growing regions, crop yields will decrease, prices could spike, and the quality of both beans and finished products will diminish, according to Andy Harner, global cocoa vice-president for Mars Global Chocolate.

For an industry dependent on the ingredient, neglecting a sustainable supply chain would not only increase manufacturers' input costs, but also would impact the condition of the final product as unsustainable farming results in lower-quality beans, according to Harner.

However, implementing improvements to the cocoa supply chain takes considerable time, he notes, adding that initiatives need to be sector-wide to be effective. "The Mars Sustainable Cocoa Initiative is based on a holistic approach, so we see the risks holistically as well," he adds.

This urgency is magnified in countries that depend on the cocoa supply as a staple of their economy. For example, in Ivory Coast the cocoa sector represents 10 percent of the gross domestic product and 40 percent of the country's exports, he explains, adding: "Because six million people depend on income from cocoa, a downfall of the cocoa sector would have a severe impact."

Lower productivity means lower wages, and as farmer incomes fall so will their ability to invest in fertilizers, pesticides, new plant materials and land, resulting in further declining yields and poor-quality beans.

In addition, as wages decline, prospective farmers migrate to cities to find employment. Lower incomes also further limit social services available in growing communities including health care and school fees, according to Mars.

Declining cocoa sectors also impact the environment by causing further deforestation as land is cleared to make way for other crops. This leads to increased exposure to pests and disease, while poor and improper farming techniques cause declining soil fertility and the loss of biodiversity, further reducing yields and lowering cocoa bean quality.

With two-thirds of the world's cocoa coming from West Africa, it is obvious why so much attention is given to reviving the region's cocoa sector. However, Mars also has implemented sustainability initiatives in cocoa-growing regions across the globe. For example, the company is working in Brazil to revive the country's once-vibrant cocoa industry. To this end, the Mars Center for Cocoa Science was established on Brazil's northeast coast to introduce advanced farming techniques and improved cocoa tree genetics. *(See Cocoa: A Fragile Treasure in the May/June 2012 issue of Candy & Snack TODAY for more on Mars' Brazil program.)* **NCA**