

California's Drought and Almond Breeze

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The long week of departmental meetings has finally come to an end. Exhausted from the long discussions, John O'Shaughnessy drops into the arms of his comfortable office chair. Wheeling over to the window, he looks out in the distance at the dry patches along the mountain side, evidence of the drought that has been plaguing California. After all, the drought has been a hot topic in the meetings this week. No one had concrete evidence on whether the end was nigh. Gathering his belongings to leave for the weekend, which he hopes would bring some moments of relaxation, his computer chimes and as though taunting him says "you've got mail!" What could it be? This week was exhausting enough. He only hopes the weekend didn't follow suit. His position as the General Manager of the Consumer Products Division of Blue Diamond Growers could be very demanding at times.

The email's subject line brings a sigh of relief; it is a reminder about the annual cooperative-wide retreat for managers and heads. Yes, it is another meeting but this time it is far away from the dry lands of California. He could do with a change of place, pace and scenery. It is obvious that the drought would be one of the burning points at the retreat, as it has been for the past two years. The managers and heads reports would focus on the intensity and persistency of the beleaguering drought and how it affects operations. The drought topic was inevitable, however, O'Shaughnessy and his team wanted to bring a positive twist to their presentation.



As head of the consumer products division, discussing innovative products, pricing and market share were his forte. So while others may present on efficiencies and farm matters on how to maintain quality and tonnage of almonds in the present environmental conditions, he will present on maintaining and growing the market share of Blue Diamond’s products, specifically the Almond Breeze line. The Almond Breeze line was ranked number one among American almond milk consumers and the “#1 preferred non-diary milk” from its inception until recent years.ⁱ As shown in *Figure 1* below, sales continue to grow for the almond milk line. However, the uncertainties on the length of the drought and the post effects on the almond production and the byproducts is a lurking concern among the heads. O’Shaughnessy and his team wants to ensure that Blue Diamond Growers rises above the drought and lives up to their name as “The Almond People” in all its product offering; especially reclaiming the crown as the preferred product in the almond milk category in the US.

Figure 1

Crop year	Chilled Almond Breeze sales growth
2011-12	59%
2012-13	74%
2013-14	46%

Source: Blue Diamond Annual reports <http://www.bluediamond.com/news>

The retreat is only three weeks away and the department has been continuously busy preparing reports and brainstorming for the presentation that O’Shaughnessy would deliver at the retreat; hence the many meetings this week. The team, while considering the possible setback the drought condition has caused and may continue to cause, needs to settle on a plan



of action that is realistic and fit for presenting at the cooperative-wide retreat on how to retain and expand the market share of the Almond Breeze line.

Blue Diamond Growers

Blue Diamond Growers is a privately held Sacramento based cooperative known as “The Almond People” that has been in business for over 100 years. The cooperative was established in 1910 and claims to be the world’s largest.ⁱⁱ Operations include growing, processing and marketing of almonds. The cooperative is instrumental to the establishment of almonds as a major export crop in California. Blue Diamond Growers is known for its various almond-based offerings such as roasted almond snacks under its Blue Diamond brand and almond milk under the Almond Breeze brand. Recently, they have added other products that are gaining momentum such as Nut Thins and add-on products to popular yogurt brands, for example. With the wide spread offerings of almond based products, Blue Diamond generates approximately \$1 billion in sales annually.

As forerunner in the refrigerated almond milk industry, Blue Diamond’s line of almond milk, Almond Breeze, was the number one brand in the industry. That title has slipped away recently as Silk Pure Almond Milk takes the leadⁱⁱⁱ. However, as *Figure 1* portrays, the demand for almond milk does not seem to be decreasing in the near future so there is hope to reclaim their initial spot in the industry. As expected, the cost of production has been on the rise because of the drought. In addition, the prices of almonds on the market are constantly increasing. The constant rise in the cost of the staple raw material of almond milk is as a result of the gap between global supply and demand. As a result, O’Shaughnessy and his team are concerned about keeping consumers interested in their almond milk line. It is not so much an immediate concern as increases in demand for the product is being realized annually.



However, if the increases in production costs are to be continuously passed on to customers, there is a point at which they may retaliate which is what Blue Diamond Growers wants to counteract as much as possible.

Almond Milk Market

In 2009 Blue Diamond entered the refrigerated almond milk market and it became a major success. As a result, there was a surge in the US demand for almond milk and also attracted competition in the almond milk market. Almond milk has become the preferred dairy milk substitute for many Americans and other milk consumers around the world. Consumers are bombarded with an assortment of dairy milk alternatives; however the thicker and creamier almond milk has won their hearts. *Figure 2* below shows the yearly growth in demand of milk alternatives in the US which is said to be spearheaded by the almond milk. In addition to the positive attention due to the taste and thickness, almond milk has been marketed towards the health conscious especially those who are transitioning to a vegan lifestyle, calorie and cholesterol watchers, protein seekers and lactose intolerant. The milk alternative has diverse uses because of its similar consistency to dairy milk. It is available in a variety of flavors and is consumed with cereal, added to smoothies and recipes, used as creamers for coffees, or any other use for milk. In recent times the higher domestic prices of milk have also fueled some of the demand for milk alternatives like almond milk. The demand for almond milk is constantly on the rise both domestically and globally due to the craze over research that almonds are heart healthy and beneficial to diabetics. The almond milk industry has been enjoying a constant increase in revenue.

Figure 2



Source: <http://qz.com/407281/not-even-a-drought-can-hold-down-the-mighty-almond-milk/>

As the craze and demand for almond milk intensifies it would make sense to significantly boost supply. However, the supply of the staple ingredient- almonds- is not as bountiful as the demand. Almonds endure a delicate growth process and require the right temperatures and water conditions for successful production. This is the reason why the suppliers of almonds are concentrated in select locations around the world which can act as a hindrance for speedy adaptation to demand. In the United States, California is the home of the almond farms that produce almonds for domestic and global supply. See Appendix for Exhibit 1 which portrays the global distribution of the California-based almonds.

US Almond Production

Almond production has become a major contributor to the US economy especially that of the State of California. Almonds arrived from Spain in the mid-1700s. The cold wet winters and, hot and dry summers, typical within California, provide the near perfect atmosphere for almond plants to thrive and produce bountifully. From the late 1970s California became the

major global provider of almonds expanding over the years to approximately 800,000 acres of land devoted to almonds.^{iv} Currently the state produces 82% of the world's almonds, thus the majority of almonds produced in the US are for export (*see Exhibit 1*). In 2012 almonds become the number one agricultural export for the state, about 70 % of almond production, amounting to \$2.5 billion.^v Export figures are as high as 1.3 billion pounds of almonds.^{vi} Farmers enduring harder times with other crops switched over to almond to gain the benefits of the higher prices and increasing demand potential.

The typical harvest scene at an almond orchard would include trucks with giant metal forceps that grab the trunk of the trees and violently shake the nuts off the tree. Sweepers would then follow to gather the nuts in orderly heaps among the rows of trees. Finally, the harvester hoovers them up.^{vii} The production of almonds has become a very profitable business because of the high value placed on the nuts by consumers due to its health benefits. To keep up with increasing demands farmers are planting more and more trees even in areas known to be drier than usual. Technological developments have allowed for improved irrigation techniques that have enabled the transformation of desert land such as the Westlands in Central Valley to farms.^{viii} Farmers enjoy higher prices due to the limited global supply to match the demands. Becoming an almond farmer is an investment because unlike other farmers who reap returns in a relatively short time, almond plants require three to four years after planting to be harvested. The trees have a life span of 20-25 years.

Almond Milk Producers

Almond milk has acquired two thirds share of the plant based milk alternatives in the US.^{ix} Many brands have joined the almond milk band wagon to take advantage of the craze, to gain market share and premium prices. The infiltration of private label offerings into the



almond milk market is increasing as well; such as Whole Foods and Trader Joes. Below, *Figure 3* shows the top refrigerated almond milk brand with their corresponding sales figures. WhiteWave's Silk and Blue Diamond's Almond Breeze have gained popularity among consumers. The rivalry is compared to that of Coke and Pepsi.

Figure 3

	DOLLAR SALES	% CHANGE VS. PRIOR YEAR	MARKET SHARE	% CHANGE VS. PRIOR YEAR
Silk Pure Almond	\$371,408,352	7.6	41.6	-6.3
Blue Diamond Almond Breeze	\$336,585,408	17.8	37.7	-1.9
Private label	\$98,538,728	91.2	11.0	3.9
Silk Pure Almond Light	\$31,791,226	48.1	3.6	0.6
Silk	\$29,386,372	423.8	3.3	2.5
Category total*	\$892,243,520	23.9	100.0	-

*Includes brands not listed.

Source: <http://arcane.lynchburg.edu:2048/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=103613243&site=eds-live&scope=site>

Silk produced by WhiteWave is currently the top demanded brand of almond milk.

WhiteWave Foods, known for its Silk soy milk, added almond milk to its Silk plant-based beverage segment. Silk Pure Almond milk was introduced in January 2010 following Blue Diamonds release and success in 2009.^x Following the successful introduction, Silk Pure Almond sales were reported to increase more than 500% in 2010 and 69% in 2011. On the other hand, Almond Breeze sales saw a boost of 240% and 59% within the same time period.^{xi} WhiteWave Foods estimates that the almond milk caters for over half of its current plant-milk market with soy milk, its once leading plant based milk product, now representing only 35%.^{xii} In 2014, the first quarter sales of Silk almond milk in the US rose 52% from the



previous year.^{xiii} See Exhibit 2 detailing the percentage changes in Silk Almond Milk sales over the time period 2013-14.

California's Season of Drought

During the last four years, California has been going through a historic dry spell. From 2011, the drought has gotten progressively worse as farmers and residents of California compete for the limited water sources available. As public knowledge about the water intensity of California's number one export crop (almonds) come to light many are blaming the nuts for the drought conditions that are being experienced. Almonds are thirsty little nuts that require 1.1 gallons of water to grow a single nut.^{xiv} Although, they are not the thirstiest plants, the wide spread emphasis on almond production in the already dry State appears to be a great choice to list as the culprit. The almond farms consume 10% of California's agricultural water. However, agriculture is a major part of California so it is expected that large amount of water would be consumed. In the Mic article, *To Save Drought-Ridden California*, Doug Carlson, the spokesperson of the California Department of Water Resources shared that agriculture consumes about 80% of the state's water.^{xv} As expected, activists, bloggers and others looking for someone or something to blame during this stressful drought period have settled on the almond industry.

In 2014, California's governor Brown issued a state of emergency as the water sources fell below their record lows. The California State Water Project has followed suit and have decided to no longer allocate water for agriculture.^{xvi} This further increases the pressure on farmers to find means of irrigation. Some farmers have resorted to allowing their land to go fallow. Thus, losing on their investments since the almond trees known for their long lives and still in their bearing age are uprooted and left to die. Others are forced to either purchase



water from other areas or rely on ground water. Neither method would amount to significant amounts of water and would require substantial funding but it would help farmers sustain their livelihoods and crops.

As a result of the water shortage, the price of water for irrigation has skyrocketed. Jim Jasper, an almond farmer in the Stanislaus Country, shares with Ibarra from Capital Public Radio the reality of the matter. The lowest bid for the irrigation water in the area was around \$2000 an acre foot compared to the normal bid price of \$55. The highest bid was \$2200 an acre foot. The high price is not affordable for many farmers. He continued to share that seventy-five growers bid but only eleven could afford the price.^{xvii} This is evidence of the increasing costs farmer who choose to remain in operation during the drought may incur.

More and more farmers are resorting to underground water by digging deeper wells and new wells. The guardian discloses that a recent report from the University of California reveals that farmers spent \$500 million to pump underground water to help cope with the drought. Unfortunately, underground water digging comes with its negative consequences. A water scientist at NASA Jet Propulsion Laboratory, Jay Famiglietti, expressed that in a normal year 33% of California's water comes from underground. However, with the drought conditions, that number increased to 75%.^{xviii} Constant draining of the underground water causes the loss of moisture beneath the surface and compacting of soil that can result in the sinking of the ground. Some locations have already experienced this sinking effect. Exhibit 3 shows how the almond farms are becoming drier and some may be over pumped. If the drought situation is prolonged the state of California will have extensive recovering to endure due to its major role in the US and global agriculture supply. It is understandable the fear exhibited by the



residents, through their blogs and negative publicity of the almond industry, about the lasting damage that could be realized because of the drought and extensive measures by farmers to sustain their crops.

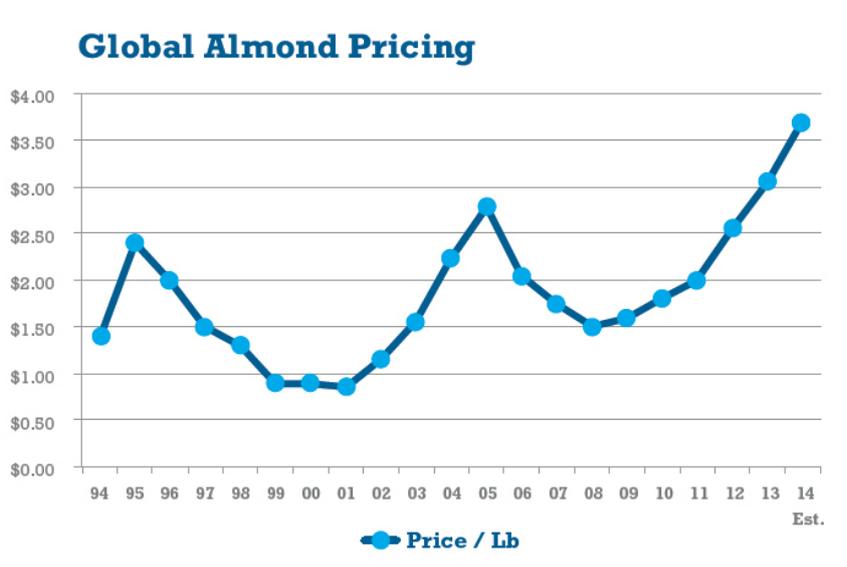
Almond Prices

Consumers of agricultural products, including almonds, have seen a hike in prices due to the additional costs of producing under the drought circumstances. The drought conditions result in smaller yields and smaller sized almonds. In addition, farmers concerned for the quantity and quality of the subsequent nut yield are storing some current yield as a safety net. Buyers aware of the possibility that there can be future decreases in quality and quantity flock to purchase the current goods. A higher demand is realized while suppliers are less willing to supply, thereby further affecting prices.^{xix} Overall, the drought has aided in the shortage of supply of almonds thus further increasing the prices received per pound. 2014 figures show that the export prices were an average of \$3.34 a pound which was about 41 cents higher than the previous year. Domestically, almond milk producers also experience an increase in the staple raw material of their products. The producer of Almond Dream milk paid \$3.50 for a pound of almonds in March 2014 compared to \$2.70 in March 2013.^{xx} Like other producers the company responded by issuing a price increase on its product.

However, the price increases for almonds is not new to the industry. The increase in global demand, especially in china, has surpassed supply and resulted in the price hike over the years. Figure 4 shows the global price trend of almonds over the period 1994-2014 with noticeable price hikes. California is the major contributor to the world supply of almonds. Therefore, the drought condition has brought about concern and another contributor to the potential hikes in prices. Prices have been escalating since 2009 but steeper increases are noticed during the drought period 2011-14.



Figure 4



Source: <http://almondinsights.com/almond-prices-new-normal>

Furthermore, it has been noticed that despite the fact that the effects of the price hikes have been passed on to the market place, a hit to demand has not exclusively realized. Almond milk producers are noticing higher earnings per share in recent times despite price increases. However, the concern is: at what point will end consumers not appreciate the hikes in prices and reduce demand for almond milk? Almond milk consumption is still increasing at higher levels than dairy milk. The high cost of the product does not seem to affect consumer preferences because of the high value placed on the product due to the nutritional and health benefits attached. Currently, customers are willing to pay premium prices.



Current Trend in Dairy

Almond milk is an alternative for dairy milk so it is important to compare the events and trends facing the two industries. A current trend that can impact the ceaseless demand for almond milk is the pricing of dairy milk. Recently, the price of dairy has been on the decline. The dive in prices has been attributed to over supply due to increased production coupled with the reductions in export demands. Many farmers are forced to dump higher quantities of excess milk in recent months. According to the Capital Press article, prices in 2014 were at a high of \$23 per hundredweight (cwt) and are expected to fall by \$7 in 2015. Ironically, the high prices were caused by the inability of farmers to meet global demands which incentivized some farmers to invest in technological and physical expansion. Recently, China's preference for milk powder and Russia's sanctions against the US are said to be the cause for the US milk surplus since global demand is severely impacted.^{xxi} The excess milk on the market brought prices down. Exhibit 4 shows the milk production and prices received during the years 2013 -15.

Moreover, the drought situation has its effect on the dairy milk farmers as well. For example, dairy farmers require highly priced feed and some experience increased transportation cost as they relocate cattle in search of pastures for grazing. Farmers are not ecstatic about the current circumstances; lower prices and higher costs caused by the drought means lower or no returns. However, consumers are noticing the drop in milk price as a gallon of milk is expected to fall below \$3 and are showing signs of relief through slight increases in demand (see Figure 1). Dairy milk farmers would prefer if domestic demand increased given the current circumstances they face. It is predicted that dairy farmers' margins will fall to the \$8/cwt



range which is above the federal cutoff point of \$4/cwt.^{xxii} However, smaller farms may be at risk.

Now What?

Blue Diamond Growers unique position as both growers and processors of almond products (almond milk) means that they have to face this issue on every side. To survive the conditions brought about by the drought Blue Diamond needs to make decisions that would allow it to sustain its almond milk brand despite the various forms of backlash. Firstly, the publicity issue, though not specifically directed at Blue Diamond, the growing attack on almond as the culprit for the drought needs to be addressed. As “The Almond People” their forte is being attacked. Some bloggers are beginning to petition boycotts from almond milk because it is identified as a contributor to the drought. This kind of publicity can result in a negative view of the company. In addition, Blue Diamond’s long-time business is almonds therefore to switch to less thirsty crops because of scrutiny, from blogger and concerned citizens, is impractical because almonds are engraved in their mission, vision and strategy. Transparency, reports and other measures from almond milk producers like Blue Diamond on water management and efficiencies to counteract these claims could dampen the brewing effects of the negative publicity; possible dips in demand.

Secondly, supply wise, the almond supply chain for their almond milk production will be more secure than that of other producers since they grow almond. However, there is some concern for the long run effects of the drought on supply. In an interview with a local CBS Sacramento news reporter, Mark Jansen CEO of Blue Diamond shared his concern over the future almond yield, “I’m concerned even right now that there’s UC Davis research on water deprivation that indicates even if we get a normal winter this year, normal rains to accompany



it, that the stress to the almond orchards will last three years.^{xxiii} Almond is their sole business and while the fear of almond supply may not be as grave for them as other producers who may have to compete to purchase an increasingly limited supply of almonds, there is cause for concern. Concern is appropriate especially for the pricing of byproducts of almonds for end users such as their Almond Breeze almond milk because of the increase in production costs.

Blue Diamond Growers, Almond Breeze has been able to increase sales growth annually. The most current data shows that sales grew 74% in 2013.^{xxiv} Also, Jansen pointed out in the article *Almonds Are on Fire* that despite the maturity of the Almond Breeze almond milk brand is still able to generate 40-50% annual sales growth.^{xxv} With the predicted increase in prices, due to the lack of supply worsened by the drought, Blue Diamond Growers should think back on the ways that made them invincible and attractive to the market. Especially, since the increase in costs would not be able to be withheld from consumer of almond milk for a prolonged period of time. Consumers will eventually notice price hikes in the price of almond milk if almond prices continue to increase.

Furthermore, attracting sales is about tapping into the desires of the market and meeting the needs of the customer base. Almond milk is not a new product of the century. It has been around for years and was sold in shelf-stable packages. US consumers have been known to enjoy their milk fresh and chilled. This is why when Blue Diamond Growers refrigerated almond milk packages were introduced to the public it became popular and gained momentum in the almond milk industry.^{xxvi} Other producers such as WhiteWave then followed suit with refrigerated almond milk packages. Blue Diamond realized and understood the wants and preferences of the consumers and was able to exploit that opportunity. To

continue to generate sales in the current condition this is what they need to continue to do. In an attempt to further capture consumers of various lifestyles and preferences the almond milk began to evolve. The almond milk drinkers' options grew to include unsweetened, sweetened, vanilla, chocolate, hint of honey and a barista blend.

As mentioned before, Almond Breeze is in its maturity stage of the product cycle. It is expected that there be declines in demand but that does not necessarily have to become the case. The love of almond does not seem to be fading. Additional ways of maintaining attraction despite potential price changes in the future need to be identified. The health trends and research of the time period can act as a current that the producers can ride; whether it be adding ingredients that promote nutritional value or keeping ingredients as naturally pure and simple as possible (the fresh feel). As seen in recent times, as consumers become more health conscious they begin to investigate product labels. The ingredients that constitute a product are under scrutiny and publicity through social media which can have its toll on a product's demand. Consumers show greater preference for products of pure and natural substance. Almond milk producers need to pay close attention to this as well since this can reduce demand especially at premium prices if consumers are fearful of harmful effects caused by the ingredients used in production. The additive such as Carrageenan, the thickening agent used in some almond milk, is currently causing a stir. Some consumers are resorting to making their own almond milk. This may not drastically affect demand because some almond milk lovers may find it time consuming. However, threats like this and the fear of another less expensive craze with similar benefits surfacing is what should keep producers such as Blue Diamond searching for innovative way to maintain attraction. Differentiation through calculated changes, even though only initially before competitors catch on, will

provide more value. Consumers seek value and quality that they are willing to pay premium prices for.

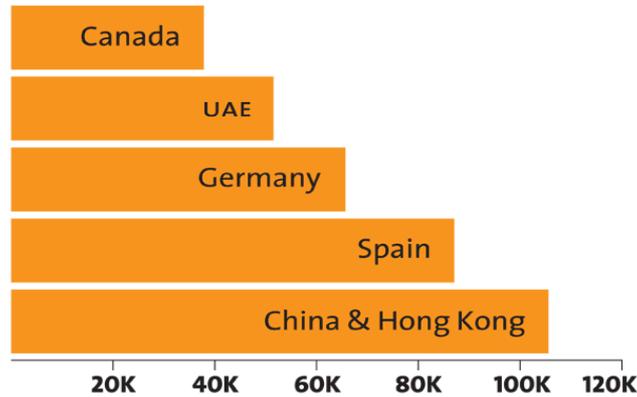
O'Shaughnessy and his team have their work cut out for them. As the time for the retreat quickly approaches, they need to consider all the information at their disposal to formulate the action plan to propel Almond Breeze to the top again and to regain consumers' confidence and keep them satisfied despite the current situation. By identifying the possible challenges posed by the current environmental strain, such as the negative publicity and supply challenges, they can work towards addressing those and other issues that will affect pricing and demand for the product. His presentation should portray how the drought may be just the right force that drives Blue Diamond Growers to refocus on its beginnings and push for not only efficiencies but innovative ways to maintain and generate more market share for its almond milk line. The aim of the action plan is for Blue Diamond Growers to continue to be proud to be "The Almond People" in every sense of the word.



Appendix

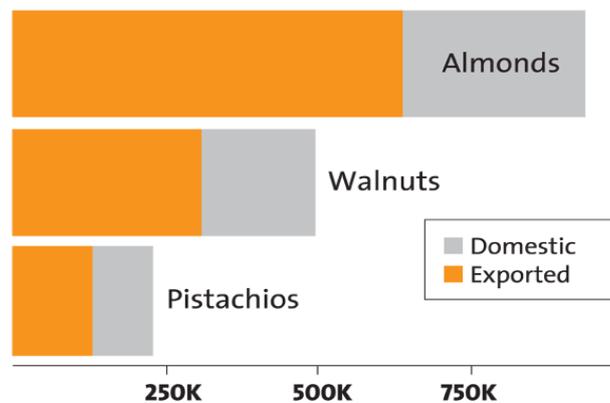
Exhibit 1

Which Countries Import America's Almonds? (for 2013, in tons)



Source: US Department of Agriculture

California Sends Most of Its Nuts Abroad (for 2013, in tons)



Sources: CA Almond Board, CA Walnut Board, Administrative Committee for Pistachios

Mother Jones

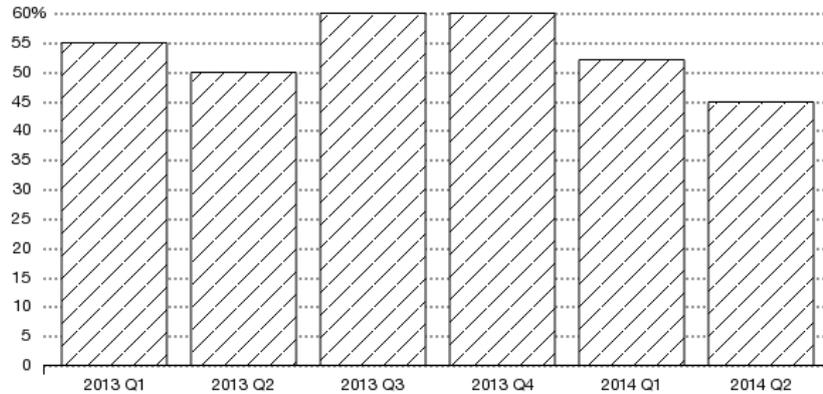
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Exhibit 2

Silk's Almond Milk Sales Soar

Percent change year on year

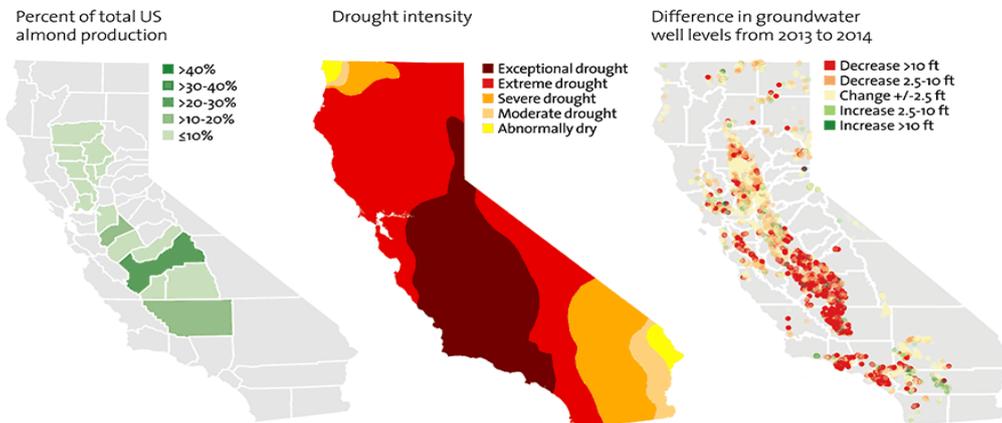


Source: WhiteWave

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Exhibit 3

California's Almond Counties Are Its Driest—and Most Overpumped



Note: The drought map represents the intensity of the drought as of January 6, 2015. The groundwater map shows data currently available from the California Department of Water Resources. Not all wells in California are part of the database. Sources: US Drought Monitor (drought map); California Department of Water Resources (groundwater levels); California County Agricultural Commissioners (crop maps).

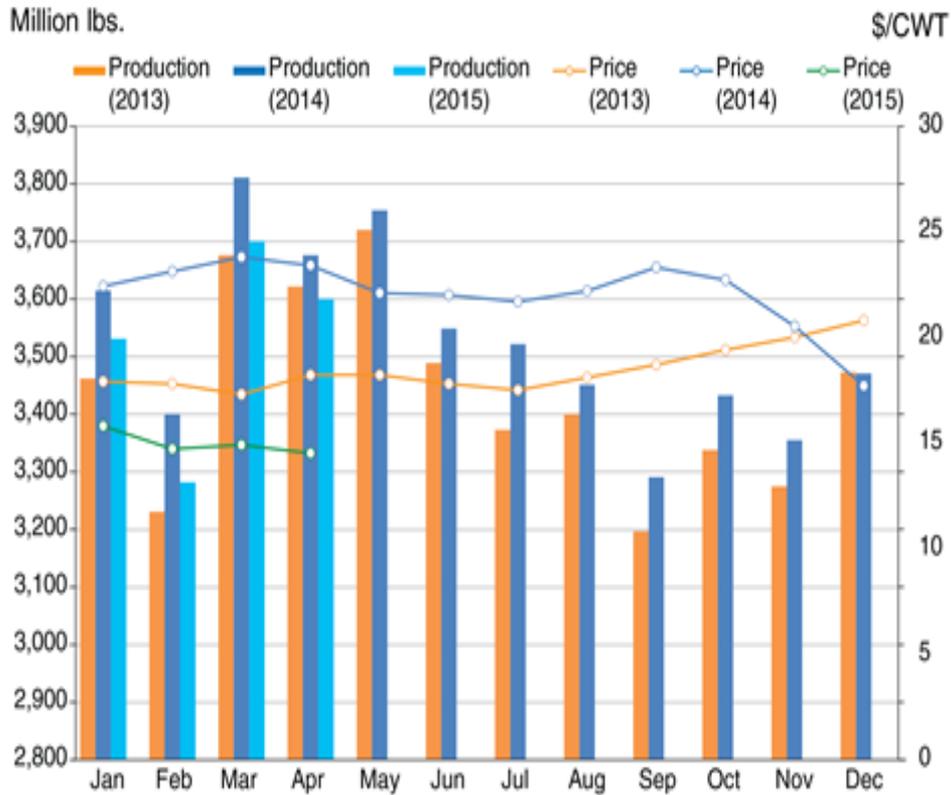
Mother Jones

<http://www.motherjones.com/environment/2015/01/california-drought-almonds-water-use>



Exhibit 4

Figure 2
California milk production and prices received, 2013-2015



Source: USDA, National Agricultural Statistics Service.

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The objective of this case is to bring awareness about the situation facing the almond industry in California and its implications on the almond milk industry. Specific emphasis is placed on almond grower and milk producer Blue Diamond Growers (BDG).

The questions the analyst should be able to answer are:

1. What are the implications of the drought on the almonds/almond industry?
2. What are the implications for the almond milk industry?
3. How sensitive is the almond milk demand to the conditions?
4. How should long time almond experts BDG address the negative publicity about almonds milk?
5. How can BDG maintain and attract demand despite the rising prices?