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IN THE SHADOW OF THE SOUK

IMPERATIVES FOR CREATING VALUE-ADDED AGRICULTURAL EXPORTS FROM MOROCCO



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IN THE SHADOW OF THE SOUK

IMPERATIVES FOR CREATING VALUE-ADDED AGRICULTURAL EXPORTS FROM MOROCCO

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By DAI

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Morocco Economic Competitiveness Program

8, rue du Rif

Souissi

10 000 Rabat

Morocco

Tel: (212) 05 37 63 05 59

Fax: (212) 05 37 63 05 61

andrew_watson@dai.com

<http://www.mec.ma>

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EXECUTIVE SUMMARY

PROJECT OBJECTIVE

The Morocco Economic Competitiveness Program (MEC) is a four-year USAID economic growth program that takes a multisectoral approach to reduce barriers to productivity, trade and investment in Morocco. The Program has three components: (i) improving the economic enabling environment, (ii) using water sustainably for agricultural growth, and (iii) strengthening workforce development.

MEC is tasked with trade development in specific regions of Morocco – Oriental and Doukkala-Abda. The target export sector is primarily agriculture where low cost labor, good soil and early harvest give Morocco a competitive advantage over other Northern Hemisphere producers. Furthermore, the U.S. free trade tariff exemptions also contribute to Moroccan trade potential. However, converting export potential into a reality for Moroccan farmers in low-income areas requires more than preferable tariffs and a favorable climate. The export readiness gap that often exists in developing countries requires more focused attention on non-tariff barriers such as finance, packaging, cold chain, and marketing.

The purpose of this project is to identify opportunities to expand Moroccan exports to the U.S. utilizing agricultural products from the target MEC regions - Oriental and Doukkala-Abda (DA). The emphasis of this project is on identifying potential new value-added agricultural products, identifying challenges to developing new products, and making recommendations to address those challenges.

APPROACH AND DELIVERABLES

There are hundreds of agricultural commodities being produced in Oriental and Doukkala-Abda. Add to those agricultural commodities all the potential derived processed food products and the number of potential products to evaluate becomes limitless.

The approach used in this study is very market driven. Trade statistics were used as an indicator of market potential for established products. For new-to-market products, trade statistics are of limited value to assess potential. In these cases, market testing carried out under this contract as well as sales of related products were used to evaluate potential.

This is the final of three reports. The first interim report provided a review of past USAID efforts and current exports from Morocco and the target MEC regions to the U.S. The second interim report recommended six product areas that showed U.S. potential based on current trade statistics and competitive import offerings (see table below). This third and final report summarizes meetings held with potential exporters in those six key product areas and makes recommendations for follow-up action.

SUMMARY & RECOMMENDATIONS

There is a \$2.2b market in the U.S. for ethnic processed foods. This market has continued to grow at over 5%/yr even during the recent recession. Sixty-four percent of that market for Hispanic foods while Middle Eastern foods make up 1-2%. It is Mr. Nussbaum's contention, backed up by third party trend analysts, that now is the time to leverage Morocco's rich and well-recognized cuisine into products that will be suitable for U.S. consumers. The challenge is that the domestic Moroccan

market for shelf-stable Moroccan processed foods is not developed. All of Morocco's wonderful culinary innovation and transformation happens inside Moroccan homes every night. Now is the time to adopt that process in the factory and deliver those finished, value-added products for the rest of the world to enjoy.

The challenge is to develop Moroccan based products to market into this growing demand for ethnic processed foods. This can be done but it will require a type of "moon launch" moment where all the stakeholders - export promotion agencies, entrepreneurs, food science institutions, logistics providers, packaging technologists, etc. - all work together to develop a Moroccan processed food industry reliant on innovation as opposed to just price and quality. More than anything, this requires a change in mindset from those in the agro-business industry from a simple commodity supplier to a agricultural product developer. As referenced in the title of this report, agricultural producers must shift away from a souk mentality where raw or semi-processed product is proudly but simply displayed at a hopefully competitive price alongside many similar products. In a globalized economy, however, the souk has become infinite and only the global low cost producers survive.

To transcend this souk mentality requires a shift towards product innovation. The country must bring new products that the world has not seen before. Morocco has the culinary base to do that. This report describes several real world examples currently underway, including new grilling seasonings, consumer-friendly packaging for *harissa*, almond milk and an entirely new product concept - a couscous sauce based on Moroccan *tajine*.

SIX PRODUCT TYPES SHOWING EXPORT MARKET POTENTIAL

1. Tomato Powder/Spice Mixes
2. Dried Apricots
3. Blood Orange/Clementine Juice
4. Almond Milk
5. Tajine Cooking Sauces
6. Harissa

I. TOMATO POWDER/ SPICE MIXES

Tomato powder (HS #0712907400) was identified in Report I as one of the leading processed agricultural exports from Morocco to the U.S. The raw materials for this processed product, tomatoes, are grown in both DA and Oriental. There is also a small but stable U.S. import demand for this product. Meeting these market criteria warranted further investigation into expanding Morocco tomato powder exports to the U.S.

Tomato powder is used to make a full range of value added products including tomato sauces, soups, marinades and rubs. Imported tonnage for the past three years is shown on Table I below. Total imported tonnage has dropped off dramatically from 4,700 tons in 2007 down 41% to 2,800 tons in 2009. Unfortunately, most of that market loss was at the expense of Moroccan producers. Moroccan market share fell by approximately 50% in two years. The reasons for this drop-off were unclear. One spice analyst interview attributed the drop to an overall reduction in tomato powder demand on the food service side as a result of fewer people dining out.

Table I. U.S. Imports of Tomato Powder by Country of Origin (kg)

Country	2007 (kg)	Market Share 2007	2008 (Kg)	Market Share 2008	2009 (Kg)	Market Share 2009
Morocco	2,468,632	53%	933,128	23%	695,856	24%
Spain	768,482	17%	1,147,289	29%	676,600	24%
Israel	694,171	15%	772,128	19%	583,614	21%
Switzerland	190,849	4%	642,735	16%	554,909	20%
China	386,548	8%	456,438	11%	276,124	10%
Turkey	107,580	2%	59,487	1%	18,199	1%
Italy	10,860	0%	0	0%	15,900	1%
Cameroon	0	0%	0	0%	19,150	1%
TOTAL	4,651,910	100%	4,011,205	100%	2,840,352	100%

Table 2 shows the top shippers and buyers of imported tomato powder. These ten companies make up 80% of the entire trade. The only Moroccan producer, Lukus, sells almost exclusively to Ludwig Mueller. Attempts to contact Ludwig Mueller on several occasions to discuss ways to expand market share or develop demand were met with disinterest. There was no interest in expanding to a wider network of Moroccan producers. Attempts were made to contact Lukus over a 3 month period. Author received no return calls.

Table 2. Top Foreign Shippers and U.S. Buyers of Tomato Powder

Company/Producer	Country of Origin
Compania Industrial Del Lukus	Morocco
Obipektin Ag	Switzerland
Agraz	Spain
Transformaciones Agrícolas De	Spain
Cham Food Products Israel Ltd	Israel
Xinjiang Tunhe Investment Co Ltd	China

Top 5 US Importer/Buyer of Tomato Powder to the US

Importer/Buyer	US Location
McCormick Ingredients	Maryland, USA
Ludwig Mueller Co.	NY, USA
Newlyweds Foods Springdale Division	Chicago, IL
Agusa	California, USA
Unilever	Unilever, USA
Sun Ray International Corporation	California, USA

Follow-Up Meeting with Lukus

On December 13th, 2010, author and Mr. Fouad Rachidi met with Mr. Taher Sellam, Trading Manager of Lukus at their headquarters in Larache. Mr. Taher discussed that they have been

exporting to the U.S. for over 30 years to both McCormick and Ludwig Mueller, and directly to General Mills. He conceded that exports to the U.S. have been dropping mostly due to poor overall economic conditions in the U.S. He said their plan to increase sales and plant utilization was to diversify geographically to new markets, such as Japan and China.

He also said the Board of Directors for the company understood that geographic diversification alone was insufficient to provide export growth. They have set up an entire research division for new product development. We enquired as to what products had been developed and the answer was an unequivocal "None." Mr. Taher stated that they would be interested in finding directions for new product development.

We presented a variety of products where Lukus' tomato powder was being used. For example, this Old El Paso (General Mills) taco kit sells very well in Wal-Mart and uses Lukus tomato powder as part of the base seasoning.¹



¹ According to store managers, they sell on average about 36 kits a week in every Wal-Mart. At \$3.50/bx and over 4,000 stores, that's roughly \$30m in annual sales.

McCormick provides many examples of what is being done with the tomato powder once it leaves Morocco. Recently they launched an entire line of seasonings directed specifically at grilling. Below is the screen shot of the grill spice mix line web page with the "Master the Flame, Master the Flavor" theme. This great tagline plays appeals directly to the male who subconsciously wants to feel as if he is the captain of a ship when standing at the grill! And now McCormick delivers a collection of spices that the home chef can use to take command! And those spices include Moroccan tomato powder.



The many products in the Grill Mate(R) line contain tomato powder as a base ingredient. For example, the most popular product of the line is the Barbecue Seasoning, which contains Moroccan tomato powder.

Home / Products / Grill Mates® Barbecue Seasoning

Grill Mates® Barbecue Seasoning



FLAVOR You Can See! Shake on this sweet, smoky and bold blend of spices for a classic barbecue flavor on chicken, pork or steak.

USAGE
Shake 1 tablespoon seasoning per 1 pound of chicken, ribs, pork, wings or steak before grilling or broiling.

INGREDIENTS
BROWN SUGAR, SALT, SPICES (INCLUDING RED PEPPER), TOMATO, GARLIC, ONION, RED BELL PEPPERS, PARSLEY, EXTRACTIVES OF PAPRIKA, ACETIC ACID, AND NATURAL HICKORY SMOKE FLAVOR.

SERVING SIZE
1/4 tsp. (0.8g)
Servings per container about 106

AVAILABLE SIZE
3.00 ounces, UPC 5210015848

NUTRITION INFORMATION
Calories:0 Fat:0 g Cholesterol: 0 mg Protein: 0 g Sodium: 85 mg Carbohydrates: 0 g Fiber: 0 g

Furthermore, part of McCormick's marketing strategy is to promote various ethnic cuisines and then provide products that support those recipes. For example, here is their Asian screen shot. The top

message is "Transport Your Taste Buds to the Far East" to provide the main meal preparer of the household with a bit of excitement and variety. On the side are secondary messages such as "Meals in 30 minutes," "Healthy Cooking," and "Under \$3." All key consumer drivers of convenience, health, and value. The products developed to support this initiative include a season-based broth and Asian Seafood Sauce.

ASIAN

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- Baking
- Desserts
- Grilling
- Italian
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Meals in 30 Minutes

Healthy Cooking

Under \$3



Transport your taste buds to the Far East with our Asian recipe collection

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- Asian-Style Marinade for Chicken Grilled Under a Brick
- Asian Vegetables and Noodles with Peanut Sauce
- Crunchy Asian Slaw
- Slow Cookers Asian-Style Beef
- Asian Refrigerator Pickles
- Asian Chicken Skewers
- Grilled Shrimp with Asian Pesto
- Asian Tuna with Toasted Sesame
- Asian Refrigerator Pickles

Ginger Honey Glazed Salmon

View recipe »

Asian Chicken and Vegetables in Gingered Broth



You'd never guess this Asian-inspired dish of succulent chicken and colorful vegetables in a ginger-spiked broth is baked in aluminum foil packets in the oven.

View recipe »

Asian Seafood Sauce



This blend of soy sauce, white wine, garlic, sesame and ginger is a versatile way to add flavor to seafood while grilling, baking and broiling.

Find out more »

Not only has McCormick done this for Asian cuisine but Mexican and Italian cuisine as well.



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Shake up your everyday meals with zesty flavors from south of the border

BLACK BEAN & RICE SALAD »

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- Mexican Rice
- Mexican Chocolate Brownies
- Mexican Coffee
- Mexican Chicken
- Mexican-Style Corn on the Cob
- Slow Cookers Spicy Mexican Pork Stew
- Mexican-Style Meat Loaf
- Bag 'n Season® Mexican Pot Roast
- Black Bean and Corn Salsa

View all recipes »

Fiesta Tacos



View recipe »

Mexican Coffee



Flavored with cinnamon, chocolate and vanilla, Mexican Coffee is an absolute treat! Serve with whipped cream sprinkled with cinnamon.

View recipe »

Taco Seasoning Mix



This blend of authentic Mexican seasonings will create a fiesta of flavor.

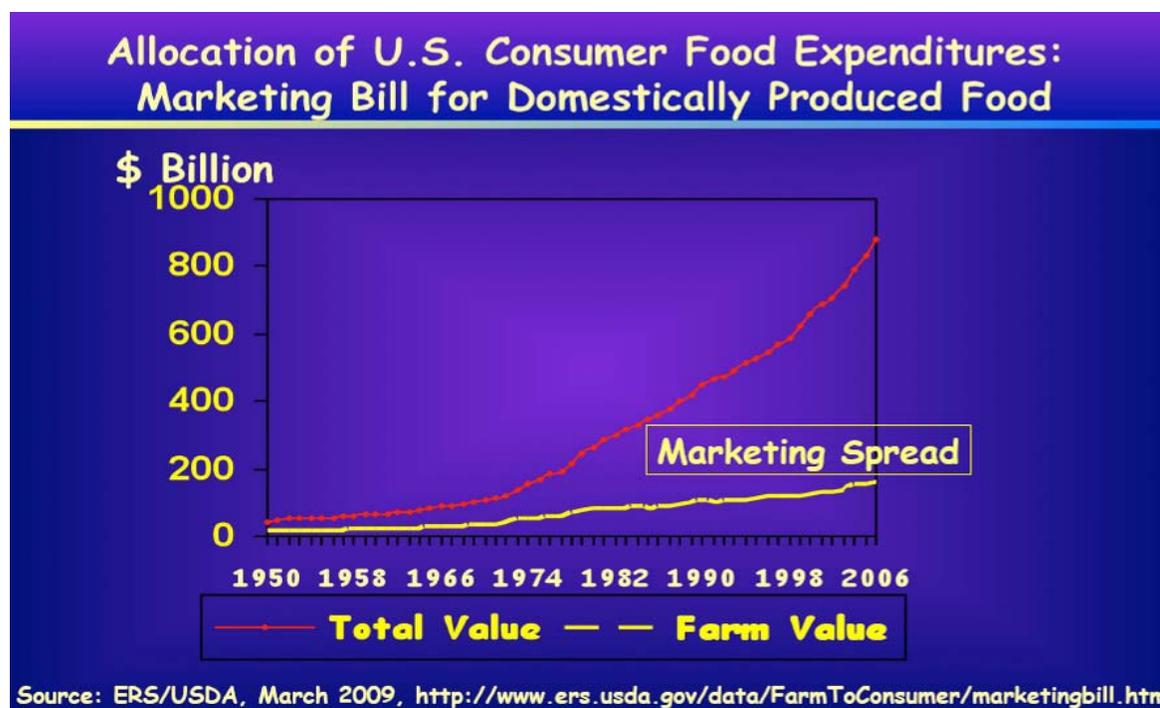
Find out more »

Why not for Moroccan cuisine?

For example, why not expand the business relationships between Lukus and McCormick to develop a complete Moroccan product line. Lukus could, theoretically, leverage its 35-year relationship with McCormick and develop the line. Lukus would provide the base list of Moroccan recipes, and the necessary spice products to support those recipes exactly as the Mexican line is presented above.

The Lukus/McCormick idea is only one example. There are many companies in the spice or soup mix business in the U.S. and partners in Morocco that might be interested in such a line. This, however, involves the thorny issue of joint business development partnerships. Moroccan products, however good, need marketing support, and joint partnerships are one way to mitigate those marketing expenses.

It's not just Moroccan products that need good marketing support – EVERY product on U.S. grocery shelves requires it. The graph below shows the increasing role marketing plays in the U.S. grocery market. The ratio of retail price to farm gate price for domestic U.S. agricultural products has almost tripled from 1.5-2 to 5 in the last 50 years. Marketing, as defined here, is essentially everything that happens after the agricultural raw material passes the farm gate - processing, packaging, shipping, and the more traditional concept of marketing (media buys, web, promotions, etc.).



The point is that moving a product from the farm to the shelf requires a lot of resources, resources that many established Moroccan food processing firms simply do not have or don't want to allocate to building U.S. markets. Small innovative start-up firms find it even more daunting. What is the solution?

Ultimately, to penetrate all of the U.S. markets requires either a well-capitalized marketing partner to penetrate markets faster, or a self-financed, small, targeted effort to build accounts slowly and step by step. It is the strong recommendation of this report for Moroccan firms to always contemplate a sequential combination of both "go-it-alone" and developing partnerships. Moroccan export development policy should be finding ways to make Moroccan firms better business partners.

Lukus has had some reported experience with partnerships for developing salsa products, but the partnerships did not work out. The sticking point was reportedly that parties could not work out an equitable arrangement on sharing product and market development costs. Lukus felt the risk for the reward was too high. This is by far the most common reason partnerships do not work out: distrust over the risk and rewards allocated to both sides of the partnership.

In the fantasy world of global processed food markets, a giant such as McCormick would decide on its own that a Moroccan line of products is the way to go. They would search out Moroccan suppliers and those suppliers would then enjoy some kind of contract, having made no effort at all. Orders would then be placed, the Moroccan firm would produce to specification, containers would be shipped, the product would be properly marketed, it becomes a huge success, and the export business at the Moroccan firm grows. Good quality jobs are provided Morocco and everyone is happy.

Now back to reality.

Scenarios such as the one described above are so rare that only a fool would plan on it. Typically, the internal product-development teams of large firms are swamped with a thousand ideas and there is a long vetting process to determine what product makes sense for the company to develop. Ideas are expensive to develop, and the cost of failure is high. Large firms are continuously looking for ways to lower the cost of product development and increase their probability of success.

Unless there is a serious internal champion on those product development management teams, Moroccan products may not be high on anyone's list. A case must be made, a concept must be proven.

The best way Moroccan firms can be seen on the radar of large firms is by proving themselves in the market. This is the "Go-it-Alone" stage. Moroccan firms may have a product idea, such as a line of grilling spices based on Moroccan cuisine. In this scenario, the Moroccan firms spend their own dollars investing in developing the product because they've done their homework and believe there is a niche for the product in the U.S. There is no one in the U.S. waiting with a purchasing contract. They've had success in Morocco, perhaps some interest in Europe, and now they want to test the market in the U.S.

If at this point the Moroccan company were to approach a company such as McCormick and were lucky enough to have a fifteen minute meeting, the potential partner might say, "Ok, the product development cost and marketing costs is \$4m. How do you propose to share that expense? You certainly were not expecting us to shoulder all that cost, were you?" If the Moroccan firm has no answer, the meeting and the opportunity will quickly end.

Now imagine that a year has passed and during that time the Moroccan company decided to "go-it-alone," and was able to support enough marketing in the U.S. to serve two or three small chain retailers in the upper Northeast U.S. With a modest marketing budget, merchandising on the bottom shelf and aggressive product demonstrations, perhaps the Moroccan producer was able to sell 35 units a week per store over a 10 store chain over a 52 week period. Now the meeting with McCormick is completely different. The product concept has some proof of success with U.S. consumers, the risk is lower for both sides, and maybe, just maybe, McCormick decides to give the product a regional trial. To be sure, there will be the same cost allocation discussion, but the Moroccan firm will be in a much better negotiating position having expended the resources to prove the concept, even in a very limited way. McCormick knows that if they turn down the opportunity, the Moroccan company will be knocking on the doors of McCormick's competitors making the same pitch.

This is a much better way to develop exports than attending the Fancy Food Show and hoping a company comes along and shows interest. It is also insufficient to simply obtain shelf space in a small chain with little marketing support and no follow through. Neither of those strategies helps those Moroccan firms prove their case. A more systematic approach to product placement, marketing support, and feedback is needed to determine the viability of any product's export potential.

Examples of Meal-Based Products Found in Morocco

There are examples of food product development catering to the Moroccan market. Mr. Nussbaum visited several grocery stores in Casablanca to sample available seasoning products that could be produced in Morocco and exported. In the Marjane chain, we found several interesting products.

Nestle, through its Maggi soup brand, has an entire line of meal mix/seasoning products as shown below. The marketing messages include ease of use and reduced preparation time just such as in the U.S.



The marketing messages are prioritized as follows:

Features and Benefits

- QUALITY: Delicious home-style taste every time.
- CONVENIENCE: Saves time and labor. Easy to store!
- CONSISTENCY: Dependable performance and quality.
- EASY TO PREPARE: No thawing! Simply add water.
- DRY STORAGE: Provides flexibility – more freezer room for other products.
- PROFITABILITY: Low food cost. Reduced storage and labor costs. No waste.

Moroccan producers and product developers need to also think along these lines when developing products – not only for international markets, but for domestic markets as well.

Another example of prepared meal product developed for the Moroccan market is shown below. This product was developed for Moroccan market and it is produced in Morocco. The question remains if Moroccans who produced this product, and others such as them, can find a way to capture more of the value chain for themselves or develop strategies with giants such as Knorr or Unilever to bring other Moroccan-made products to global markets.



Below is a perfect example of a Moroccan producer in need of a partner. Mr. Nussbaum picked up this "grilling powder" in Marjane Casablanca.



This is a mix of coriander, cumin, ginger, and other spices. Mr. Nussbaum retained the sample for testing. As soon as the packet was open, a wonderful aroma filled the kitchen. Author prepared grilled chicken and lamb and served the meal to professional Chefs in New Orleans. The tasters were unanimous that this grilling powder was fantastic - better than anything McCormick puts out. The taste was less processed and more natural, as if the spices had been picked, dried, and blended that morning. The packaging and the labeling were terrible. This product, as good as it is, is not sellable, and to be fair, not designed for export to the U.S.

If the producer of this product could obtain some support with labeling and the necessary quality control assurances to make the product export-ready for the U.S. market. It then would also be beneficial if this company could apply for some assistance to actually test market the product in the

U.S. in some small way. Again, this does not mean going to the Fancy Food Show, or at least not *only* going to the Fancy Food Show. It means getting on shelf space with sufficient marketing support for a specific period of time where the viability of the product could be tested and proven.

As this product was a late addition to the study, there was not enough time to meet with the Moroccan producers. Furthermore we know they are a small company in Meknès, not in our target regions.

One spice company in Oriental, Inter-Epices, with the Rama brand line of ground spices (shown below) is currently exporting and looking to do more. Inter-Epices does not, however, have grill or cooking spice mixes.



In this situation, Madrinego has the formulation but not the export experience, and Inter-Epices has the packaging and export experience, but not the product. This could be the basis of a partnership. However, can these two Moroccan companies work together? Could a contract be put in place that protects and rewards the interests of both sides? Could one side simply license or procure the services of the other? As of this writing, those questions are completely unknown, but the difficulty of establishing business partnerships in Morocco is somewhat legendary.

Partnerships and the "Trust Effect"

There is a definite lack of trust found even between Moroccan firms, let alone between foreign and Moroccan firms². Unfortunately, international trade is heavily built on trust. Yes, there are laws and courts, but if there is a problem, then transaction costs can skyrocket and easily wipe out any

² Over the last 15 years, Mr. Nussbaum has worked with several Moroccan firms and has found that, without exception, Moroccan nationals living in the U.S. hold a deep suspicion about business efforts by their countrymen. Much more so than Mr. Nussbaum observed doing business in Iran, Jordan, Egypt, or Turkey. This has a chilling effect on business because, as an international business manager, one assumes the Moroccan nationals know the culture best and for some reason those suspicions are justified. This collective "mistrust" needs to be worked on.

potential gains. And if there is little faith in the legal system to efficiently and fairly arbitrate business issues, both sides will go just go back to what they were doing. This mistrust creates an environment of high risk, the exact opposite of what is needed for creative development of new products. Furthermore, and this is the very key point, to increase value chain capture by small and medium sized Moroccan firms, partnerships will be required to have access to expensive specialty equipment, personnel, marketing expertise, export compliance, etc... The truth is that developing new products is inherently risky even under the best conditions. Failure rate of new products is high whether you are General Mills or a Mom-and-Pop Yogurt Company. Managing risk is the name of the game. In order to spread the financial risk, new product development requires partnerships. Moroccan firms must be as good at forming and managing partnerships as they are at building their own core business, if they are to succeed in creating new and exportable agricultural products.

Partnerships can only be built if the civil code and commercial code that enforces partnership contracts are effective (keep transaction costs low). It is way beyond the scope of this project to review commercial code to determine its efficacy. It is only recommended that a review of the civil code related to partnership formation, dissolution, and dispute management is conducted with an eye towards helping to reduce business risk and transaction cost. For example, a heavier reliance on mediation as opposed to formal court proceedings helps to keep costs low for both sides.

Summary of Challenges for Tomato Powder/Spice Mixes

Moroccan producers of Tomato Powder as well as other semi-processed agricultural product have a difficult time competing in distant export markets.

As globalization continues, there will be more entrants and more downward pressure on price, further eroding Moroccan competitive position.

Morocco is not alone in feeling this pressure. U.S. producers are feeling the squeeze from Mexico, China, and Canada. Chile, once dominant, is being squeezed by lower cost Peru, and Central America. All producer nations are continuously looking for ways to better compete.

Given even the theoretical achievements that could be made, Morocco would have a hard time competing as a supplier of bulk tomato powder nation to distant markets.

Economies of scale are such that even zero-tariff trade agreements would not be enough to provide a sustainable competitive advantage for Moroccan agricultural products in the U.S. unless there was some kind of value-added component.

In light of the challenges described above, a new strategy that focuses on Morocco's unique and well-known cuisine and less on its cost efficient production may provide better long term export growth, especially for small and medium businesses.

Recommendations for Tomato Powder/Spice Mixes

Partnering

Partnerships are a valuable and viable way to interact with distant markets. As obvious as this appears, it is very difficult to build enough trust to make a partnership work. There have been several high profile U.S.-Moroccan Partnerships that have dissolved due to feelings of inequitable distribution of risks and rewards. This problem is not endemic to Morocco/U.S. relations. Every business partnership faces these challenges. Adding an international component simply makes it all the more difficult.

For tomato powder, in particular, Mr. Nussbaum recommends that McCormick/General Mills should be approached regarding the development of a line of Moroccan products. The same outreach should be done with other large brands such as Nestle and Knorr.

Preparation and positioning are critical when meeting with any potential multi-national partner. At least 5 or 6 products should be pitched to support a Moroccan cuisine theme. In a perfect world, those products should already have some kind of track record. They should be packed and produced in Morocco, exported to the U.S. and tested in ACTUAL retail settings in some small U.S. market(s). If the concept is successful in a small market with limited marketing resources, then the success becomes a question of scale, which then becomes interesting for the large multi-nationals. It also shows that the Moroccan manufacturer has an understanding of the entire process, including the marketing necessary to achieve consumer interest and acceptance.

2. DRIED APRICOTS

Drop dried apricots from further consideration.

Follow up - This option still remains closed until INRA provides an alternative path.

3. BLOOD ORANGE/CLEMENTINE JUICE

Clementines and blood oranges (sanguine) are the top agricultural exports from the Oriental region (none are grown in DA). EACCE reports show sanguine exports growing by 16% per year from 2005-2008. According to the EACCE, Clementine exports declined 5% over that same period but the tonnage exported is by far the highest for any product in the region.

Exporters in Oriental were contacted to investigate ways to expand this export flow. The Clementines exported from Oriental go mainly to Western Europe. They either ship the refrigerated container through Tangiers or they simply load the refrigerated truck on a ferry at Nador. The packer we met with in Berkane said there is an approximately 30% rejection rate on the sorting line for exportable quality fruit. Rejections were due mostly to small size or exterior blemishes. The rejected fruit is then sold in domestic markets at a 75-85% discount to the price they could earn exporting. The range of domestic prices for this fruit is between .5-2 dhs/kg. There is significant economic incentive to find higher value-added opportunities for these low-grade fruit. Juicing is one such option.

Oriental has little or no juicing capacity that Mr. Nussbaum could locate. Currently, fruit would have to be shipped west to one of the five major juice processing facilities. The distance to one of these juice processors would be an additional 400-500km which would make Oriental produce relatively expensive compared to blood orange/Clementines grown in Agadir or Gharb. However, juice plants often operate well below capacity because of a lack of affordable supply. Farmers are reasonably focused on delivering their produce to the higher-priced fresh fruit market. A question that should be answered is whether the juice-grade produce from Oriental can be shipped to the existing juicing facilities profitably for all parties.

Mr. Aboubakr El Asri, DAI Regional Manager for Oriental, is covered a plan by one of the five processors, Moroccan Food Products (MFP), to begin a feasibility study of a juice plant in Oriental. The feasibility of such a facility heavily depends on the market for the output concentrates and juice.

We met with Mr. Adnane Eulj, Directeur Chargé de Missions, MFP. MFP is not looking at building a juice facility in Oriental. They want to plant blood oranges if there is a guaranteed contract. MFP has 300 hectares, and suggests 60 hectares for blood oranges. Mr. Eulj agreed that the target use for blood oranges will be for juicing, but noted that the blood orange juice market is very limited, even overseas. The key to developing profitable blood orange production in Oriental is finding good export markets.

Testing the U.S. Market for Blood Orange/Clementine Juice Concentrate

It is important to recognize the link between marketing and market size. From Interim Report 2: "...the market opportunity for Blood Orange juice in the U.S. is really a function of the level of sustained marketing support to create it. With little marketing support, the market is probably where it is now, about \$200k. With significant marketing resources, the market could reach the level of other antioxidant-rich shelf stable juices - from over \$200m for grape juices to \$5-\$10m for some of the more exotic pomegranate, cranberry, blueberry, acai, and mangosteen juices."

Currently there are only a few juice producers in the U.S. pushing either Clementine or blood orange juice. Six years ago, Tropicana, a Coca-Cola company with ~\$400m in juice sales, tried to launch a blood orange juice product for the U.S. mass market. They called it "Sangiunello" because they were afraid that the word "blood" and "juice" would put off U.S. consumers. They cancelled the line after a short trial because the supply was too limited and the demand too small. This is an excellent indication of a niche opportunity - when the opportunity is too small for large firms to exploit.

Wade Groetsch is the president of Noble Juices. Noble Juice is currently the only national juice brand that carries both a blood orange and a Clementine juice. Mr. Groetsch saw the niche opportunity for blood orange in 2004 and purchased all of Tropicana's blood orange inventory and started Noble Juice. The marketing strategy for Noble Juice is to bring in and retail high quality niche juices.

Noble Juice - Blood Orange Juice

The image is a screenshot of the Noble Juice website's product page for Blood Orange Juice. The website has a green and orange color scheme. At the top, it says "SINCE 1927 Noble Organic" on the left and "SINCE 1927 Noble 100% Pure" on the right. The main headline is "FRESH. RESPONSIBLE. NOW." with the tagline "Refreshing Juice. Responsibly Packaged." below it. A navigation bar includes links for Home, About Us, Earth Friendly Bottle, Products, Healthy Living, Press Room, Recipes, and Contact Us. On the left, a yellow box lists "All Natural Juices" with options: Tangerine, Tangerine Guava Mango, Tangerine Cranberry, Blood Orange Juice, Tangerine Clementine, and Super Red Grapefruit. The central focus is a bottle of Noble Blood Orange Juice. The bottle label features a blood orange slice and text: "Noble 100% Pure", "NOT FROM CONCENTRATE", "Great Source of Antioxidants", "BLOOD ORANGE JUICE", "All Natural Earth Friendly", and "12 FL OZ (348mL)". To the right of the bottle, the heading "Blood Orange Juice" is followed by a descriptive paragraph: "A Sicilian Delight! From its Sicilian heritage Blood Orange Juice is an antioxidant rich, Italian citrus specialty. This gourmet fruit, celebrated for its tart and tangy flavor, delivers all the vitamins and nutrients found naturally in oranges. Live the good life, drink to your health." Below this is a bulleted list of benefits: "100% Pure Juice", "No Added Sugar", "Great Source of Antioxidants", "Strengthens your immune system", "Heart Healthy", and "Cancer Fighting". At the bottom left of the page, a copyright notice reads "Copyright © 2010 NobleJuice.com. All rights reserved."

Noble Juice - Clementine Juice

The image shows a screenshot of the Noble Juice website. At the top, the slogan "FRESH. RESPONSIBLE. NOW." is displayed in large green letters, with "Refreshing Juice. Responsibly Packaged." underneath. The website is branded with "Noble Organic" on the left and "Noble 100% Pure" on the right, both with "SINCE 1927" above them. A navigation bar includes links for Home, About Us, Earth Friendly Bottle, Products, Healthy Living, Press Room, Recipes, and Contact Us. A sidebar on the left lists "All Natural Juices" with options: Tangerine, Tangerine Guava Mango, Tangerine Cranberry, Blood Orange Juice, Tangerine Clementine, and Super Red Grapefruit. The main content area features a bottle of "Noble 100% Pure Tangerine Clementine Juice" with a green cap and a label that says "Great Source of Antioxidants" and "All Natural Earth Friendly". To the right of the bottle, the text reads: "Worldly Taste Noble brings the unique, sweet taste of freshly squeezed Spanish Clementines to this flavorful juice. Our pure 100% juice infuses your body with all natural antioxidants and vitamins. Enjoy this Mediterranean treat!" Below this is a bulleted list of benefits: 100% Pure Juice, No Added Water, No Added Sugar, Great Source of Antioxidants such as Vitamin C, Good Source of Folate & Potassium, Strengthens your immune system, Heart Healthy, and Cancer Fighting. At the bottom left of the page, a copyright notice states: "Copyright © 2010 NobleJuice.com. All rights reserved."

MEC contacted Mr. Groetsch and he was very interested in Moroccan supplies of blood orange and Clementine concentrates. He confirmed that they obtain their blood orange concentrates from both Sicily and Florida, depending on price, but both tend to be quite expensive. He also stated that they source their Clementine concentrate from Spain.

Mr. Groetsch provided frozen concentrate specifications in terms of brix, acidity, and color. We provided those specifications to MFP and received ex-works pricing. Mr. Nussbaum presented ex-works pricing to Noble Juices and received a "soft" acceptance, meaning that samples would be needed to test for quality. MFP is prepared and shipped frozen concentrate samples of both blood orange and Clementine for review by Noble Juice. Another juice producer in Agadir also prepared samples of frozen Clementine concentrate for review.

Results of the Sample Review

1. Blood orange - the flavor is good, but there are two problems:

1. There is a lot of hesperetin in the concentrate, which results in white flakes in the juice. Because it's heavier than juice it tends to settle on the bottom and consumers see it as "contaminant." This typically happens when the evaporator used to make the concentrate is not maintained as frequently (every 8-24 hours). It was the highest level of hesperetin in a sample that the buyer had ever seen, but with more regular maintenance it's an easy fix. This was echoed from the producer, MFP that it was an easy fix.

2. The color of the juice is the bigger factor. In the U.S. the color needs to be a darker "cherry red". The color on the Moroccan juice is closer to tomato soup - a much lighter cream color of red. This color profile would be rejected as an unblended juice. They would have to use it as a 5-10% blend...which would require storage and blending...which would mean they would offer a much lower price than was requested. On the other hand, if there was a different juice with a color that

was deeper red, and the hesperetin levels remediated, they could pay the requested price, approximately.

Discussions with MFP concluded that darker red fruit was available in more southern parts of the country. The buyer interest remains high and darker fruit will be sought after and, if found, additional samples will be shipped. Final delivered price has not been discussed, only ex-works pricing has been offered by producers. We will investigate transportation costs and what, if any, third party verification and financing is needed.

2. Clementine

The two Clementine juice samples were of sufficient quality but pricing was a problem. The prices offered ex-works were about what the buyer would pay for delivered juice. This is a wide price gap. The problem is that there has been a recent expansion of domestic Clementine production putting downward pressure on prices. For example, Paramount, Inc., the largest land owners in California, has invested heavily in Clementine production and some of that production is just starting to come on line with this year's harvest.

Paramount is the same producer that supplies Pom Wonderful all its pomegranates. It is possible the reason that Paramount is planting more Clementines is that there could be a significant Clementine product launch, similar to Pom Wonderful, in the next year or two. This is unconfirmed. However, if there is a big media push for a Clementine product launch that will help create demand that Moroccan producers could sell in to. At this time, the only thing known for sure is that Clementine pricing is soft because of a large volume coming out of California relative to demand. Clementine juice markets in the U.S. do not appear to be a good opportunity in the short run, but should be carefully monitored to determine what industry leaders such as Paramount plan to do and to position Moroccan Clementine products accordingly.

Summary of Challenges for Blood Orange/Clementine Juice

Clementine exports from Oriental have been in decline, creating pressure to increase sales or margins.

A high percentage (~30%) of Clementines is unsuitable for fresh fruit export, resulting in much lower prices on the domestic Moroccan market.

Oriental lacks any juicing facilities, making it difficult to consider value-added products such as fresh juice or concentrates.

Recommendations for Blood Orange/Clementine Juice

Explore the Economics of Juicing in Remote Facilities

A brief study should be undertaken to confirm the cost and logistical consideration of shipping Oriental sanguine fruit to juicing facilities elsewhere in Morocco.

Ensure Smooth International Transactions

The most critical recommendation for growing the Moroccan blood orange and Clementine opportunity is to make sure that any pending transactions developed as part of this contract go smoothly.

If a stable demand is developed over the long term, at least one firm, MFP, would be interested in planting up to 60 Ha of blood orange in Oriental.

To make that happen, MFP wants a long-term supply contract.

To obtain a long-term supply contract, this first test transaction must go well, which requires support. Having support on these first transactions is critical to getting a potential long term relationship off to a good start.

The required transactional support includes:

1. Ensuring the frozen juice samples reach buyers in good form;
2. Soliciting buyer feedback on quality, color, or taste concerns;
3. Brokering pricing and delivery terms;
4. Staying on top of any shipments and paperwork necessary to clear U.S. Customs;
5. Act as a third party arbitrator should something go wrong;
6. Possibly provide trade finance should parties request it;

In short, author is offering to provide assistance to ensure this first transaction, help smooth out any issues that arise and report back as the transaction progresses.

Should the transaction be successful, author will assist Moroccan producers to secure a long term supply contract.

Other Blood Orange-Derived Value Added Products

The focus of this blood orange/Clementine effort has been on finding opportunities for blood orange/Clementine juice concentrates. This is the best short-term, value-added product opportunity as the product is already produced and demand is growing. In the longer term, however, there are additional value-added products that Moroccan producers may want to consider developing. These include:

1. Glazes and sauces using blood orange as a flavoring;
2. Body Care Products - for example, there is an Italian company/brand, Tocca, which sells a line of blood orange related body products.



ACCESSORIES

BATH & BODY

- BODY WASHES
- MOISTURIZERS
- SOAPS
- BODY SCRUBS
- GIFT SETS

FINE

FRAGRANCES

GIFT/TRAVEL SETS

HOME

FRAGRANCE

LAUNDRY

DELICATE

LIP GLOSS

SUN/SPF

Home / Tocca Beauty / Bath & Body / Moisturizers / [Stella Crema Da Corpo, Blood Orange Body Lotion \(8oz\)](#)



[CLICK TO ENLARGE](#)

**Stella Crema Da Corpo,
Blood Orange Body Lotion
(8oz)**
\$28.00

A nourishing all-over body cream that is enriched with sweet almond oil, oat kernel extract, honey and shea butter. Applied generously all over the body after a bath or shower, Crema Da Corpo perfectly moisturizes and soothes dry and sensitive skin. Leaves your skin delicately scented of sweet Italian blood orange.

QUANTITY:

[Add to wish list](#)

[ADD TO BAG](#)

TUSCAN BLOOD ORANGE

In this delectable blend, juicy and spicy Blood Orange is offset with subtle Strawberry Italian Sweet Orange. An orange connoisseur's dream.



BODY BUTTER TUBE

Smell incredible with our nourishing and anti-oxidant rich ingredients. Our body butter helps fight signs of aging while adding deep moisture and protection. Made with nature's best moisturizers - shea butter, almond oil and safflower oil - Pacifica's paraben-free Body Butter is a skin must-have. Now available in tubes in our best-selling fragrances, making them easy to take with you anywhere.

Size: 8 oz. tube

Price: \$18.00

Item #: 53027

Qty.

[+ Add to Cart](#)

One possible idea is to combine the blood orange with argan oil as a basis for an anti-aging/wrinkle cosmetic line body lotion or facial cream.

Marketing expenses required to bring cosmetic products to the U.S. market are high. Again, the approach would be to find a way to develop and test such a product in the market in order to attract the necessary investment to fully achieve market penetration.

3. Candles, Perfumes and Other Lifestyle Products – Requiring simple facilities and relatively little investment in product development, these types of products could yield some level of value-added sales for Moroccan producers.


Tocca Beauty

ACCESSORIES

BATH & BODY

FINE FRAGRANCES

GIFT/TRAVEL SETS

HOME FRAGRANCE

- DELUXE CANDLES
- HOLIDAY CANDLES
- LARGE CANDLES
- TRAVEL CANDLES
- GIFT SETS

LAUNDRY DELICATE

LIP GLOSS

Home / Tocca Beauty / Home Fragrance / Travel Candles / [Stella Candelina, Blood Orange \(2.85oz\)](#)



Stella Candelina, Blood Orange (2.85oz)

\$16.00

The slightly sweet, never bitter and always fresh scent of blood orange – widely recognized as one of the finest gifts of nature. Packaged with its own Tocca matchbook. Approximate burn time: 20 hours.

QUANTITY:

[Add to wish list](#)

ADD TO BAG

CLICK TO ENLARGE

TUSCAN BLOOD ORANGE

In this delectable blend, juicy and spicy Blood Orange is offset with subtle Strawberry Italian Sweet Orange. An orange connoisseur's dream.



TUSCAN BLOOD ORANGE PERFECT FRAGRANCE COLLECTION

The Perfect Fragrance set includes body butter, spray perfume and a solid perfume - great for travel. A \$49.00 value for \$35.00

Price: \$35.00 (\$49.00 Value)

Item #: 50008

Qty. + Add to Cart

Recommendations for Other Blood Orange-Derived Value-Added Products

Explore the U.S. Bulk Frozen Juice Concentrate Market

1. Determine if current Moroccan juice processors can deliver bulk frozen concentrate to the U.S. and other juice buyers as a high-quality but lower-cost provider than producers in Sicily, Florida, or California.
2. Make that determination by representing actual sell offers to actual buyers and seeing if transactions occur.
3. If transactions do not occur, it will be critical to determine exactly why they failed - cost, quality, terms, etc. That process has already begun with the samples and presented as described above between MFP and Noble Juice.
4. Develop a strategy based on the results of attempted/actual transactions for how best to improve Moroccan competitive position.

Develop a Line of Juice Products for Direct Specialty Retail Sales in the U.S.

In the medium to longer term, as a way of increasing value chain capture, develop a retail specialty juice of blood orange and Clementine juices that is export-ready for the U.S. in terms of price, packaging and regulatory compliance.

Explore Other Lifestyle Product Opportunities (Candles, Perfumes, etc.)

Begin to explore other uses of blood orange essence in either perfumes, soaps, cosmetics or other lifestyle products.

4. VALUE-ADDED ALMOND PRODUCTS: ALMOND MILK

The case for developing almond milk was introduced in Interim Report 1 and further developed in Interim Report 2. New information from Information Resources, Inc. (IRI) a data company that collects sales data at the grocery retail level, estimates almond milk sales in the U.S. were \$104m in 2010. More importantly, the almond milk product category is growing unbelievably fast. Consumer preferences for a healthy and good-tasting dairy alternative with no cholesterol, gluten, and saturated fats are driving demand. According to IRI, the market leader, Blue Diamond, had sales that grew from 1.1m in 2008 to 10.3m in 2009 to 57.8m in 2010 in mainstream supermarkets, excluding Wal-Mart. That is an average annual sales growth rate of greater than 2500% over the last 2-3 years.

The purpose of this task was to determine if Moroccan almond producers – in particular almond producers from Oriental – could produce an almond product to target this explosive market growth. The keys to the feasibility of a Moroccan almond milk are 1) developing realistic Moroccan-based cost estimates for the raw materials identified in Table 8 below, 2) determining what packaging would be best suited for export, 3) finding a pilot-test facility to produce samples of Moroccan based product, and 4) getting approval or "intent to purchase" letters from buyers.

Table 8. Unit Cost Development for Almond Milk

Amount (kg)	Ingredient	Price of Ingredient (mt)	Cost/kg of product	% of Cost
1	treated water		\$ -	0%
0.15	almond butter*		\$ 0.200	46%
0.045	potassium citrate	1500 mt	1.5 \$ 0.068	15%
0.03	non-hydroxylated soy lecithin	4000 mt	4 \$ 0.120	27%
0.003	Carrageenan gum	3800 mt	3.8 \$ 0.011	3%
0.0015	Vanilla	20000 mt	20 \$ 0.030	7%
0.0075	Tapioca starch	800 mt	0.8 \$ 0.006	1%
0.0225	salt	50 mt	0.05 \$ 0.001	0%
0.00375	Tricalcium phosphate	800 mt	0.8 \$ 0.003	1%
		Total	\$ 0.439	100%

1. MEC has yet to confirm Moroccan pricing on the ingredient list. Further investigation is needed to establish unit costs.

2. There are basically two options for packing almond milk - refrigerated and aseptic. Refrigerated is least costly and easier to set up. The downside is that it requires a cold production/distribution chain and has a short shelf life. Aseptic is twice as expensive and very complicated to set up, but is very easy to ship and has a 12 month shelf life. In addition, getting an aseptic product on the shelf is much easier at the retail level because it does not require scarce refrigerated space. Because getting an aseptic product actually on the shelf is easier for the reasons mentioned, we focused the investigation on finding suitable aseptic packaging.

Aseptic Packaging for Almond Milk



Real almonds, water, vanilla and that's about it, really.

We find that combining simple, whole ingredients without artificial fillers or additives is what makes our Unsweetened Almond Vanilla taste so delicious. No added sugar necessary. Care for a splash in coffee or tea? How about on your morning cereal or for baking? Pour yourself a cold one. You'll be hooked in no time.

NUTRITION INFO EMAIL THIS, OR  

Almond Breeze® Original

Almond Breeze® is a non-dairy beverage made from real almonds, all natural, smooth and creamy with a hint of almonds. Almond Breeze® is a great tasting non-dairy beverage without the thin, chalky after taste of rice and soy beverages.

Enjoy Almond Breeze® chilled by the glass and on your cereal. You will love how it froths in coffee drinks, enhances fruit smoothies, and blends cup for cup in your favorite recipes.

- Gluten, cholesterol and lactose free
- Excellent source of calcium, vitamins D & E
- Good source of vitamin A
- A refreshing alternative to soy and rice non-dairy beverages

Order a case of 12 - 32oz containers today!



Your price: \$22.95

Ship to:

Me

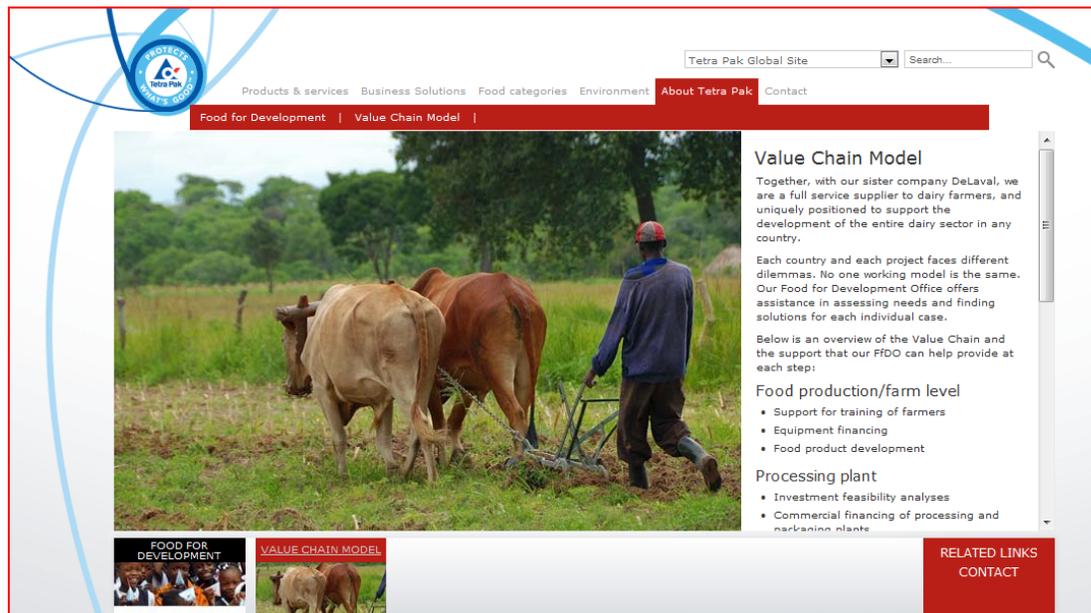
Enter Quantity



The world-leader in aseptic packaging is Tetra Pak. All of the almond milk sold in the U.S. is sold in Tetra Pak packaging (see samples above). As part of this contract, author contacted Tetra Pak in Switzerland, Sweden, and Casablanca to determine how Tetra Pak might help Oriental almond farmers/processors package their product in a way that would be acceptable to global/U.S. markets.

Tetra Pak is very interested in helping farmers and processors in developing countries. They use the famous Gillette Razor business model - where Gillette, a metal fabricator, gave away men's shavers at a loss but more than made up for it by selling the replacement blades. Tetra Pak will help finance packaging equipment, will help find co-packers, will help develop product formulation, and will help with creative packaging design – all to have the prospective clients buy their packaging material over the long term. Tetra Pak needs to be better utilized as a partner to help bring new Moroccan

products into global markets. The screen shot below shows the Value Chain Model support that Tetra Pak brings to farmers/processors in developing countries.



Mr. Nussbaum and Mr. Fouad Rachidi held a meeting with Mohamed Nedjar, Key Account Manager for the Tetra Pak office in Casablanca. Mr. Nedjar was very candid and helpful. Tetra Pak is looking to aggressively expand in Morocco and is very open to assisting start-ups or new product ventures. The volume to justify a new Tetra Pak packaging plant is upwards of 15 million units packed. This is a much higher volume than most start-up or new product test volumes. The key to cost effective packaging for low-volumes is finding an existing plant and sharing time on the line - or co-packing. There are two Tetra Pak facilities in Morocco that do co-packing. Tetra Pak protects the identities of those facilities but has offered to help coordinate new product packaging with those facilities. To begin the co-packing evaluation, Tetra Pak requires product chemical composition, flow rates, temperatures, seasonality, and volumes.

Mr. Nussbaum and Mr. Fouad Rachidi met with Leyth Zniber of Diana Holding/Zniber Group. As one of the leading food/beverage manufacturers in Morocco, Mr. Zniber had some significant experience with going aseptic in glass bottles. He was clear that the human resources to run an aseptic plant in Morocco were very scarce. "We spent a lot of money on foreign technical advisors and we still didn't get it running smoothly." He cautioned against using aseptic packaging in Morocco and that we should re-consider refrigerated product.

This is the challenge for Morocco. To compete in a global marketplace requires the shipment of Moroccan products over long distances. The product has to be either inherently stable (as in aseptic) or kept in a refrigerated environment that consistently ensures stability. Ultimately, however, it comes down to marketing. If Moroccan producers do not meet the technical challenges of aseptic packing, and they don't have large marketing budgets necessary to penetrate crowded and highly competitive refrigerated retail, the products simply will not succeed. As one New York retailer put it, "If Moroccan almond milk producers want to try and push Blue Diamond out of my refrigerated case; they better have the TV campaign and the sales volume to back it up. On the other hand, if they

can stay out in ambient conditions on an end -cap, I might give them a try if the packaging is good, price is right, and the product is interesting.³"

Effort was expended to find the key component, the specialized grinder that achieves the particle size necessary (45 microns) when processing almonds into the fine almond paste necessary to produce the milk. Mr. Nussbaum held a meeting in New Orleans with Craig Fasken, Regional Manager of Urschel Laboratories, the U.S. equipment company that makes the Comitrol 1700 grinding mill. This is the same equipment used by Blue Diamond to produce Almond Breeze (r), the leading brand of almond milk in the U.S. Urschel has a regional office in France, which covers service to North Africa. After a week of research, they found two Moroccan firms that had purchased the Comitrol 1700 but would not provide the names. They did, however, on our behalf, contact both Moroccan firms about co-processing opportunities. Both firms are in the fish industry and use the equipment to grind fish for some purpose. Neither company was interested in allowing test runs to produce the almond paste necessary to produce the almond milk.

Without the ability to do test runs and provide sample product, no customer is willing, of course, to produce a letter of intent to purchase, or, more concretely, sign a hard contract. No one on the Moroccan side is willing to jump in and invest \$500k - \$1m in physical plant without concrete assurances that the output will be purchased. Without samples and supply contracts, both U.S. buyers and potential Moroccan producers are reasonably risk averse, and the new product idea will not be developed further. The only way to continue progress on this type of new product is to develop a strategy that reduces the risk on both sides.

One way to do that is to find a contract manufacturer in the U.S. to process Moroccan almonds into milk. Contract manufacturers in this product category are kept highly confidential because of the highly competitive nature of the business. Author has learned of one almond milk producer in New Jersey that is producing almond milk on a contract basis. The name would not be divulged as the companies with the main almond milk brands in the marketplace consider suppliers as highly proprietary information. However, MEC has made in-roads and is close to identifying this contract manufacturer. There is no guarantee that this contract manufacturer would consider working for a Moroccan formulator/brand, as it might violate conditions of their current supply contract.

However, once this New Jersey manufacturer is identified, it is recommended to determine if there is 1) any interest in sourcing the large Moroccan almonds, and 2) whether they would be interested in setting up a factory in Morocco to possibly serve Moroccan/European and Gulf State markets.

³ Conversation with Dan Stein, Grocery Manager, Stop&Shop Retail, Rhinebeck, New York, December 29th, 2010.

Almond Farms in Oriental



Meeting with Almond Farmers in Oriental to Show and Discuss Almond Milk



Other Value Added Almond Products

In addition to almond milk, there are many new uses for almonds in 21st century food processing. Advances in almond processing are reducing costs and opening up new uses for ground and liquefied nuts to perform technical roles in recipes. [Almonds](#), rich in protein, carbohydrates and healthy oils have potential to be used as emulsifiers or to enhance the texture of food products without necessarily playing centre stage in the product's identity.

While these innovative uses for almonds have been largely untapped by the mainstream food industry, interest is growing as new industrial processing techniques begin to bring down costs.

Health-conscious U.S. consumers are propelling the demand for “functional food” products that promote better health, increase longevity and enhance quality of life. Foods fortified with nutritional and disease-preventing ingredients are invigorating the U.S. food industry.

Almonds, a natural powerhouse of phytonutrients and health benefits, are likely to attract further exploration by food and food technology companies interested in taking advantage of this escalating demand in the marketplace.

It is critical for the Moroccan enterprises to use experts/ liaisons to separate viable strategic opportunities from trends that may fizzle out. This document lists new product / trade opportunities for almonds from Morocco.

Any new product or ingredient has potential challenges and risks. Success of any new almond-based product development for U.S. markets will require a systematic understanding of the U.S. consumer drivers for these products.

Identifying Opportunities for Moroccan Almonds in Prepared Foods and Drinks

Almond-Based Beverages

1. Forecast to be the fastest-growing global segment
2. Forecast to assume the largest share of the fortified and enhanced food market (56 percent in 2013)

Key drivers:

1. Consumer preference for convenience
2. Consumer preference for versatility
3. Relative ease of creating tasty products
4. Availability of innovative packaging
5. Beverages are easier to formulate than foods

Almond-Based Packaged Foods

1. Forecast to gain increasing acceptance across the global front as more and more cultures adopt the concept of almond-based ingredients in prepared foods
2. Domestically, packaged foods are gaining greater share with advances in packaging technologies and increasingly sophisticated food preparation techniques that allow for greater authenticity.

Key drivers:

1. Consumer preference for convenience
2. Global preference for variety
3. Market need for portion control
4. Consumer demand for authenticity and quality
5. Accessibility and ease in preparation
6. Food and nutrition for the whole family
7. Cost control during tough economic times

Specific opportunities abound for almonds – whole, slivered, blanched, flour, milk, etc – across the board in prepared foods. These include:

1. Soups and gravies, salad dressings, yogurts, creamers, and fermented probiotic products
2. Snack foods including hand held foods, portable foods, and convenient snacks
3. Baked goods – bread, sweet goods, and savory bakery items
4. Packaged dinners – frozen, instant, microwavable, and shelf-stable

5. Desserts – frozen, ice cream, novelties, baked goods, and ethnic specialties
6. Confectionery – chocolate and non-chocolate based sweets and candies
7. Condiments – as pickled almonds for consumption in bars and as a novelty item in gourmet outlets (Moroccan almonds have the potential to stand out from the smaller American counterpart)
8. Industrial – As prepared thickeners, coatings, breadings, crusts, flour and starch replacer; as a nutrient dense replacement of empty fillers; as a nutrient dense processing aid and extender; as a base for almond oil extraction in emerging international operations such as IFFCO in the Middle East; and using almond-cake (spent from oil extraction) as the basis for fabricated cereal and ice cream type of ingredients.
9. Foodservice and specialty grocery: green almonds – in vacuum packed / freezer packs
10. Culinary schools – one of the best ways to garner loyalty from chefs is to familiarize them with the product when they are in the learning mode. Offering Moroccan almonds to culinary schools as part of the educational program can go a long way to ensure their introduction into the commerce by chefs.
11. Other possibilities include mayonnaise, salad dressings, and sandwich fillings. Almonds provide the emulsifying properties to ‘clean’ the label of artificial emulsifiers avoided by health conscious consumers.

Blue Diamond is aggressively taking advantage and helping to drive the almond-derived product market. Their list of almond-based products include different flavorings of almond nuts as a snack, different style packaging such as the 100 calorie packs to go after the diet market, almond butter as alternative to peanut butter, and crackers called Nut Thins that utilize almond flour as the baking ingredient for people with gluten allergies (see below). Each of these products is designed for a specific market, but each taking advantage of the same health properties that almonds offer as an ingredient. Moroccan producers may be able to develop something similar to all these products and test in local markets, or develop entirely new products. The key is that if Moroccan producers want to move up the value chain, they must learn to innovate.

 <p>Traditional Flavors The flavors that put Blue Diamond® Almonds on the tables and in the hearts of America are as delicious as ever.</p> <p>View Details</p>	 <p>Bold Flavors They'll kick you in the taste buds and keep you comin' back for more!</p> <p>View Details</p>	 <p>Oven Roasted Baked to perfection with no added oil.</p> <p>View Details</p>
 <p>100 Calorie Packs* A convenient way to enjoy the healthful benefits and wholesome flavor of premium Blue Diamond Almonds.</p> <p>View Details</p>	 <p>Almond Breeze® All natural, smooth and creamy, our great-tasting nondairy beverage is made from real almonds.</p> <p>View Details</p>	 <p>Nut Thins® All natural, baked nut crackers-wheat and gluten free! Try all six crunchy flavors.</p> <p>View Details</p>
 <p>Cooking & Baking Almonds Boost the flavor and nutrition of your favorite recipes with high-quality Blue Diamond® Almonds.</p> <p>View Details</p>	 <p>Almond Butter All natural, delicious on toast or a bagel, the perfect way to start your day.</p> <p>View Details</p>	

Example of New Almond Derived Product Hitting Arab Markets

One Moroccan beverage producer responded to the almond milk idea by showing us a product they had one sample of - an Almond Juice Drink. They picked up this sample from a trader in Libya who was possibly looking for a producer in Morocco, and certainly buyers in Morocco. The trader provided no data on the market for this product in Libya or in the Gulf States. It's very interesting to note that the label is in English and there is no mention whatsoever about the health benefits of an almond "milk" such as no cholesterol and no saturated fats. It's the exact same product as seen in non-Arab markets but it is being marketed an entirely different way. Investigating the potential for this product in the Arab world could be done, but is outside of the scope of the current project.

Almond Juice from Korea for Arab Markets





Summary of Challenges for Value-Added Almond Products

While the market for value-added almond products (such as almond milk) may be very attractive, the technical, logistical and capital requirements for developing and producing new Moroccan products can be significant.

The market for value-added almond products (particularly as a functional food ingredient) is rapidly evolving and is subject to shifting science and preferences among consumers.

Recommendations for Value-Added Almond Products

Develop a Partnership for Aseptic Packaging

As discussed above, the most immediate (and perhaps best long-term) opportunity for value-added almond products is in the form of a stable almond milk product. It is a very high growth market as seen by sales of Blue Diamond, Silk, and 365 Whole Foods brand over the last several years. To compete in this market, Moroccan producers would have to produce an aseptic shelf-stable product. This allows a long shelf life and does not require cold chain. However, producing aseptic almond milk is technically difficult and expensive. Limited technical and capital resources in Morocco make it imperative that appropriate partnerships be established to advance aseptic product and market development. Simply put, for Moroccan producers to reach distant markets such as the U.S., requires shelf stability.

As an easy first step, one strategy might be to develop an almond milk product for local markets. Currently in the markets there are soy-milk dairy alternatives. If Moroccan health trends follow U.S. health trends, there may be a local market to develop a soy free, gluten free, cholesterol free, saturated fat-free dairy alternative. This product could be a refrigerated product, not requiring aseptic technology since the transport distances are not so great.

Determine Best Non-Beverage Value-Added Product Targets

To determine which specific almond product might prove to be the most advantageous for Moroccan producers requires not only a market evaluation but specialized food ingredient expertise. Author has reviewed the expertise of many experts through his affiliation with the Institute of Food Technology and has found an excellent candidate for further investigation of Moroccan almond potential - Dr. Kantha Shelke. Dr. Shelke is the Editor-at-Large for Functional Ingredients Magazine and has lead R&D efforts with Pillsbury, Haagen-Dazs, Burger King, and Continental Bakery. Moreover, author selected her as a candidate to assist the MEC program goals further because she was the technical advisor to the California Almond Board and entrusted to develop new almond-based products for California Almond farmers. Author interviewed Dr. Shelke to determine her level of interest and ability to assist Moroccan almond farmers and found both her interest and ability very high. Author recommends that she be retained to review Moroccan almonds in Oriental and develop a set of almond-based products to pursue.

5. TAJINI - VALUE-ADDED MOROCCAN CUISINE DERIVED PRODUCTS

Morocco has a deep and, more importantly, unique culinary history. The Spanish and French have influenced the cuisine but the real roots are from the indigenous Berbers and Arabs. Many of the spices such as cumin, paprika, and turmeric were introduced by the Arabs and there is a long-standing tradition of cooking meat with fruit such as dates and figs. It is the marrying of fruit with meat and spices used to enhanced flavorings (as opposed to masking meat flavors) that differentiates Moroccan cuisine from other cuisine in the region and in the world.

Moroccan tajines are an example of this unique pairing of meat and fruit. Tajines often combine lamb or chicken with a medley of ingredients or seasonings: olives, quinces, apples, pears, apricots, raisins, prunes, dates, nuts, with fresh or preserved lemons, with or without honey, with or without a complexity of spices. Traditional spices that are used to flavor tajines include ground cinnamon, saffron, ginger, turmeric, cumin, paprika, pepper, as well as the famous spice blend *Ras el Hanout*. Some famous tajine dishes are *mqualli* or *mshermel* (both are pairings of chicken, olives and citrus

fruits, though preparation methods differ), *kefta* (meatballs in an egg and tomato sauce), and *mrouzia* (lamb, raisins and almonds).

The challenge to developing elements of Moroccan cuisine for export is that very few of these products are produced commercially. There is amazing creativity being served up every night in the homes of Moroccans, but that is where it stays. Very few Moroccans would go out to eat Moroccan food at a local restaurant. As one Moroccan explained succinctly, "Why would I go out to eat to pay for something I can get better at home?" And the thought of buying pre-packaged Moroccan cuisine elements at a grocery store is almost offensive to many Moroccans, at least of a certain generation. This may be changing in younger urban areas where both husband and wife work and the time to prepare meals from scratch is simply not there. This shift towards increasing usage of prepared foods has occurred in urban areas in India, Turkey, and Iran⁴.

Ethnic Food Demand in the U.S.

Spending by U.S. consumers on ethnic foods continues to surge, even in the midst of a down economy. The future of the market looks strong, as manufacturers and restaurants capitalize on consumers' increased interest and willingness to experiment. A Mintel⁵ report based on product scanner data shows sales of ethnic foods have climbed steadily since 2004, set to reach a record high of \$2.2 billion in 2009. In addition, Mintel forecasts solid growth of nearly 20% from 2010-14.

Mexican/Hispanic foods represent the largest segment of the ethnic foods market with nearly two-thirds (62%) of sales. Asian and Indian food segments are driving the market's growth, with 11% and 35% growth, respectively, from 2006-08.

According to the Mintel customer survey of Americans regarding purchases of ethnic foods, income is one of the strongest predictors of ethnic food cooking. Ninety-two percent of respondents with household incomes more than \$150k have cooked ethnic food in the past month. Young adults are also among the most adventurous when it comes to global cuisines. Some 91% of respondents aged 18-24 have cooked ethnic food in the same timeframe. Again it's the young, mostly urban population with growing incomes that are driving demand in this segment.

In addition to the growing diversity of the population, a resurgence in cooking and product innovation are helping to drive sales. Due to the economic downturn, the growing popularity of cooking shows and a rise in international travel, more Americans are classifying themselves as 'cooking enthusiasts' and are having fun with cooking and experimenting with new flavors and foods.

Two-thirds of respondents in the study prefer to cook their ethnic meals 'from scratch', while the remaining third of consumers prefer ethnic foods that require less time and preparation, therefore opting for meal solutions or heat-and-serve meals. Meal solutions are defined as more than a single ingredient (such as a single spice or preserved lemon) and would include a sauce or pre-mixed spices with a carbohydrate, vegetables or, in some cases, canned proteins. According to the Mintel report, the meal solution/heat and serve segment of the ethnic food market is between \$700-\$800m and growing between 10-13%.

U.S. Demand for Moroccan Meal Solutions

⁴ The basis for this statement was from Mr. Nussbaum's participation in a culinary forum following the U.S. premier of the excellent documentary film "Iranian Cookbook" (2010) by director Mohammed Shirvani at the Traverse City Film Festival. Chefs and culinary historians from India, Turkey, and Iran all testified to the changing cooking habits of the younger generation toward the use of more time-saving prepared foods.

⁵ Mintel International, Ethnic Foods in the U.S. September 2009. Author realizes the heavy reliance on a 2009 Mintel report. However, the customer surveys and product-level scanner data needed to estimate this market segment cost, just by itself, more than the entire budget for this project. Author will continue to rely on this and other market reports to cost effectively develop findings and recommendations.

As described above, there is a large and growing demand for ethnic meal solutions in the U.S. However, this opportunity cannot be mapped on to Moroccan producers/products without further qualification. Waves of immigrants have brought their food with them, and the number of immigrants from a particular ethnic group roughly influences the penetration rate of their particular cuisines. Yet, if this were the only market driver, we might expect the U.S. to have far more Irish and German food sellers and far fewer sushi and Thai restaurants. Therefore, it is clear that there are additional factors that influence the penetration and success of different culinary styles and trends. Taste and health/nutrition issues are also critical when it comes to ethnic food choices among U.S. consumers. And this is the point - where are potential Moroccan products likely to stack up against other ethnic foods in terms of popularity in the U.S.? This is very difficult to measure on a large scale as there currently are very few Moroccan products in U.S. main street grocery chains⁶ where sales figures can be compared⁷. The approach to evaluating market potential for an entirely new product is even more speculative and qualitative and, in the end, requires actual product testing in the market place before demand is reasonably known. However, part of the preliminary evaluation of opportunity of retail product is to examine how the same product is being received in other culinary circles such as restaurants, cook books, celebrity chefs, cooking shows, etc.

In 2009, the Center for Culinary Development published a Culinary Trend Mapping Report - Emerging Global Cuisines⁸. They conduct a Five Stage Culinary Trend Mapping analysis. This is shown below:

Culinary Trend Mapping

Stage 1

The ingredient, dish and/or cooking technique appears at upscale dining establishments, ethnic and popular independent restaurants blessed with creative chefs and diners with adventurous palates. "Where was the first time you tried wasabi?"

Stage 2

The item is featured in specialty consumer-oriented food channels such as *Food & Wine* and *Bon Appétit* magazines, The Food Network plus retail stores such as Sur la Table that target culinary professionals and serious home chefs.

Stage 3

The item begins to appear in mainstream chain restaurants – Applebee's or Chili's – as well as retail stores such as Williams-Sonoma that target recreational cooks.

Stage 4

The women's magazines and family-oriented publications – *Family Circle*, *Better Homes and Gardens* – pick up the buzz.

Stage 5

Finally, the trend makes its way to quick service restaurant menus and is either starting to appear or is having an increased presence on grocery store shelves

⁶ Main Street channels refer to retail environments that provide the majority of its skus (general grocery items) not specific to one ethnic group. This group is made up of the national grocery chains, regional chains, and independent stores that make up the bulk of U.S. grocery item distribution and retail. These stores may have an international aisle or section, but the majority of the products are non-ethnic based.

⁷ There are staples such as olive oil, capers, preserved lemons, and some canned fish - but no meal solutions.

⁸ Culinary Trend Mapping Report, Volume 6, No. 3, 2009, Center for Culinary Development.

Although this report is very qualitative, the conclusions are nevertheless very interesting and relevant for Moroccan producers.

There are five emerging global cuisines that have great potential. They are cuisines generating excitement with adventurous diners, restaurant chefs, food editors, celebrity chefs and cookbook writers. Although we are tracking other great global cuisines as well (such as Indian) the following five cuisines have exciting and novel elements that are well suited for product development right now because these elements translate so well.

- **Peruvian** – The Latin American cuisine getting the most attention right now for unique versions of familiar ingredients, such as corn, potatoes and chilies, and its cross-cultural fusion nature.
- **Moroccan** – This North African cuisine is loaded with healthful Mediterranean ingredients that are composed into spice-enhanced, flavorful dishes with a “craveable” savory-sweet flavor profile.
- **Korean** – The next Asian cuisine to make inroads in the U.S., Korean is a gutsier, full-flavored version of Japanese, with familiar ingredients such as soy, ginger, beef and cabbage, yet heightened flavors. The interactivity of Korean is also a selling point for Gen Y.
- **Japanese** – There’s more to Japanese than sushi as American diners discover the core flavors and foods of this seafood-based cuisine. The healthfulness can’t be beat.
- **New Southern** – This American regional cuisine has received a makeover by chefs inspired by local ingredients and traditional food-ways. Lightened, sophisticated and artisan foods are in the spotlight in America right now as we celebrate our own food heritage.

Moroccan Cuisine Unfamiliar But Interesting for American Consumers

Although most Americans may be unfamiliar with Moroccan food, examples of this intensely flavored cuisine recently have been showing up on the pages of culinary magazines and on the menus of chain restaurants, causing foodies and many foodservice chefs sit up and take notice. Moroccan cuisine is based on healthy ingredients: grains, olive oil, lean proteins, fruits, vegetables and spices. And while healthful, it also manages to be very rich, flavorful and satisfying, incorporating elements of Middle Eastern, African and Mediterranean cooking. Many dishes combine both sweet and savory elements, with key ingredients including lamb, couscous, raisins, honey, olives, ginger, parsley, chili peppers, lemon, mint and cilantro.

The key to Moroccan food success and crossover potential lies in its distinctive take on foods and cooking techniques that Americans already love: ingredients such as semolina pasta, olives, citrus and cinnamon, along with cooking techniques such as stewing, roasting and grilling. Moreover, the fruit flavors of many Moroccan dishes are a good match with an American palate accustomed to sweets.

The Culinary report shows the summary of stages of various Moroccan food products and compared them to other emerging global cuisines. The one correction/update needed is that couscous has definitely hit Stage 5 - there are couscous products in almost all mainstream grocery stores.

**Trend Summary:
Emerging Global Cuisines**

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Stages	Peruvian	Moroccan	Korean	Japanese	New Southern
Stage 1 Fine Dining, Ethnic and Independent Restaurants	Chodo Anticuchos Causas	Chermoula Ras el hanout	Ssam Bi bim bap	Dashi	Heritage grits
Stage 2 Specialty Food Publications, Sur La Table, Food Network	Pisco Aji amarillo	Preserved lemon	Kimchi Kalbi	Tonkatsu Ponzu	Country ham
Stage 3 Williams-Sonoma Chain Restaurants	Ceviche Pollo a la brasa	Harissa	Korean fried chicken	Togarashi	Chicken and waffles
Stage 4 Mainstream Magazines	Quinoa	Tagines Couscous	Tart frozen yogurt	Miso	Red velvet cake
Stage 5 QSR Menus and Mainstream Grocery Stores				Edamame	Biscuits Barbeque

North Africa's Cuisine on the Move

While Moroccan food, with its intense flavorings and exotic connotations, has long intrigued adventurous American diners, Moroccan dishes are now becoming more familiar within the American culinary vocabulary. The word "Moroccan" still carries exotic connotations, but these days exotic doesn't mean inaccessible, making Moroccan a boon for restaurateurs and food manufacturers.

The key to Moroccan food interest is that it combines three unique drivers. Moroccan foods are exotic with different spices than most Americans use every day, yet many of the dishes take the form of a savory sauce poured with stewed beef or chicken poured over a starch. This formulation has the component of a comfort food. The aromatic sweet spices such as cardamom and cinnamon contribute to the comfort food effect. And, finally, the ingredients are fresh and natural giving it the qualities of a healthy food. In summary, main Moroccan dishes have the qualities of a healthy and exotic comfort food – an increasingly valuable combination.

In the following pages, each of the Moroccan products and their "stages" as determined by the Culinary Development Center are detailed with commentary.

Moroccan Dishes in Stage I



Moroccan
Where are they now?

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Stage	Dish	Description	Sightings
1	Chermoula	A sauce and marinade traditionally made from olive oil, lemon juice, garlic, coriander, cumin, salt, parsley, paprika and pepper; often used as a seasoning for grilling meat and fish.	New York's Bistro Truck (a mobile truck serving lunch daily) offers sandwiches (lamb merguez, chicken brochette, lamb brochette or skirt steak) spread with a roasted-tomato and caramelized-onion chermoula. Diners at San Francisco restaurant Aziza can order a starter of hen egg with chermoula and crispy bears.
1	Ras el hanout	A spice blend that has no definitive recipe, but instead is the premium, and secret, blend of a spice shop, thus the translation "top of the shop." Common spices include cardamom, paprika, cloves, coriander, nutmeg, cinnamon, curmin, turmeric, ginger and pepper, as well as dried/powdered roots, and crushed flowers and berries.	Oleana restaurant in Cambridge, MA sells a packaged version of its own housemade ras el hanout. <i>Bon Appétit</i> featured a recipe for chicken with figs in ras el hanout and couscous in its September 2009 issue.






Stage I - Chermoula and Ras el Hanout

Chermoula could be a very popular product from the health-exotic-comfort food triad. There are no packed *Chermoula* sauces being produced in Morocco that MEC is aware of. Formulation and food stability testing would have to be initialized from scratch.

Ras el Hanout is produced commercially by many manufacturers in Morocco and can be purchased in a few Middle Eastern stores in Los Angeles. A medium-term marketing support program would need to be developed for this product to be successful. This program would have to involve heavy sampling and instructional information for educating home cooks on how the product could be used. A public relations campaign including more articles in food magazines and cooking shows would help immensely.

Stages 2 and 3 - Preserved Lemon and Harissa

As shown below, the study references Mustapha's Fine Foods (Seattle, WA) and their preserved lemon product. Preserved lemon is getting some traction in culinary circles and chefs are beginning to use it outside of just traditional Moroccan dishes. The packaging developed by Mustapha is excellent. Mustapha could be supported to expand market penetration into more mainstream grocery chains. However, this product will always be a higher-cost specialty item that will have low volume unless some new recipes and applications are developed and popularized. *Harissa*, on the other hand, could be used in a wide variety of Moroccan and non-Moroccan dishes. The challenge would be differentiating it from other tomato/pepper sauces exploiting the cumin/paprika flavor notes.

Moroccan Dishes in Stage 2 and 3



Moroccan

Where are they now?

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	Stage	Dish	Description	Sightings
	2	Preserved lemon	Lemons that have been pickled in salt and their own juices. The pulp and seeds are usually discarded and the peel is used to flavor dishes like tagines.	<p>At Bar Jules in San Francisco, chef Jessica Boncutter makes a dish of lamb with preserved lemons. Restaurant Eugene in Atlanta offers a side dish of braised baby leeks with preserved lemon and salmon roe.</p> <p>Until recently, recipes on epicurious.com using preserved lemon were reserved for traditional Moroccan dishes like tagines. But in 2008 and 2009, preserved lemon popped up in more innovative fusion recipes, like Spicy Crab Spaghettini with Preserved Lemon and Harissa-Onion Hot Dogs with Preserved-Lemon Relish.</p> <p>Preserved lemons are available from Mustapha's Fine Foods of Morocco (1 jar for \$7.95).</p>
	3	Harissa	A spicy red sauce or paste that can be made with hot or sweet peppers, olive oil, garlic, cumin, paprika and cilantro. Moroccans add it to soups, stews and couscous, spread it on sandwiches, and use it as a marinade and dip.	<p>At Bourbon Steak in Detroit, the Heritage Turkey Burger is topped with harissa aioli.</p> <p>Whole Foods has a recipe for North African-Style Grilled Vegetable Salad with Harissa on its website; a similar salad is sold in stores.</p> <p>Williams-Sonoma sells jarred harissa.</p>

Stage 4 - Tajines

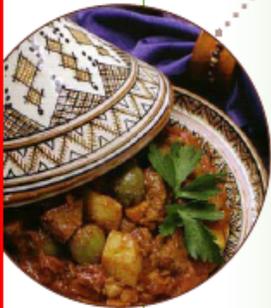
Tajines perfectly embody the healthy-exotic-comfort food aspect so desirable in Moroccan food. As pointed out below, tajine has made it to Better Homes and Gardens (publication) and Organic Bistro (food producer) has a tajine-based frozen entrée. Any market size estimate for this product would be largely speculative and would be heavily dependent on the level of marketing support received. Tajine is virtually unknown to most Americans so the only viable near-term strategy for a packaged product would be in ethnic channels or ethnic neighborhoods where the product would already be familiar. To cross-over to Main Street shoppers would require an marketing support campaign that would involve more in-store sampling than PR. Most cooking shows or cooking books/articles would not use jarred sauces as an ingredient. Media campaigns in print magazines where tajines were being highlighted would be effective if sustained and combined with sustained in-store sampling.

Moroccan Dishes in Stage 4



Moroccan
Where are they now?

Stage	Dish	Description	Sightings
4	Tagines	<p>The word tagine refers both to a terracotta pot with conical lid for slow cooking of meats and vegetables, and the finished dish made in the pot. Tagines are a staple of Morocco, Tunisia and Algeria. The pot's conical lid allows steam from the cooking dish to circulate without escaping, resulting in a very moist stew-like finished dish.</p>	<p>At Marrakesh Restaurant at Florida's Epcot Center, diners feast on the Mogador Fish Tagine—fish stewed with olives, preserved lemon, potatoes, green peppers and chermoula.</p> <p><i>Better Homes and Gardens'</i> website features a Chicken and Squash Tagine recipe, and also offers clay tagines for sale for \$49.99.</p> <p>Organic Bistro has a line of frozen meals that are organic, low-glycemic and gluten-free, including a Moroccan Spiced Chicken, with an apricot-cinnamon tagine sauce, chickpea-almond pilaf and a blend of carrots and green beans.</p> <p>Ikea, the Swedish-based global retailer of home products, offers an anodized aluminum tagine for \$59.99.</p>




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There is one Moroccan producer of packaged tajine – Tajini (www.tajini.com). This producer was identified as an exhibitor at SIAM Mekkès 2010. This product is discussed in detail in the following section.

Stage 4 - Couscous

As stated earlier, couscous should really be considered as a Stage 5 product – widely available in mainstream grocery stores. This product is found at high end stores such as Whole Foods and low-end stores such as Target and Winn-Dixie. This is probably the most well-known Moroccan processed food, although many Americans would not identify couscous as Moroccan, but vaguely Middle Eastern, as there are many varieties coming from Israel, Lebanon, and even U.S. produced.

There are many couscous producers in Morocco, but the one with U.S. distribution is Dari, imported by Sahadi, Inc (Queens, NY).

Couscous Stage 4

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Moroccan

Where are they now?

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4

Stage	Dish	Description	Sightings
4	Couscous	Couscous is made from semolina flour (the same flour used for pasta) mixed with water, dried and steamed.	<p>Taste of Home has several couscous recipes on its website, including Mango Couscous with Salmon, Curried Apricot Couscous and Couscous-Stuffed Mushrooms.</p> <p>Companies like Near East and Nile Spice have sold packaged couscous since the 1960s, but others continue to enter the market. Bob's Red Mill, the whole grains specialist, has recently introduced packaged Golden Couscous, marketed as "Quick Cooking Moroccan Pasta."</p> <p>Target's Archer Farms Entrée Kits line includes a Moroccan-Inspired Apricot Currant Whole Wheat Couscous with chicken and aromatic spices that is ready to heat and serve in less than 30 minutes.</p>

The bridge to mainstream America

As is the case with Peruvian cuisine, the crossover potential of Moroccan food lies in its exotic takes on cooking techniques and flavors that are already American favorites: techniques like stewing, roasting and grilling, and foods and flavors like semolina pasta, olives and olive oil, citrus fruits, raisins, hot spices and cinnamon.

The fruit flavors of many Moroccan dishes appeal to an American palate tending to sweets, but also to a growing appreciation for complex sweet and savory combinations, an area in which Southeast Asian-style dishes have already blazed the trail. Moreover, now that couscous has gotten Morocco's foot past America's culinary door,

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To illustrate the point of confusion over country of origin, the table below shows the market size and country of origin breakdown of U.S. couscous imports. Couscous is currently an approximately \$10m/year import market growing overall by about 13%. Canada is the market leader with a 53% market share, followed by Israel and France. Morocco is ranked 4th, exporting only ~\$200k worth of couscous to the U.S. The upside is that Moroccan imports have doubled from \$108k from 2007 to \$258k in 2009 and 2010 looks to be on track for over \$300k. This large annual average growth rate of 66% is due mainly to starting with small volumes to begin with but does indicate sustained sales.

Table 9. Couscous Imports into the U.S. (\$ Value), Country of Origin Market Share and Growth

Rank	Country	2007	2008	2009	2010	TOTAL	Cumm Market Share	07-'09 Growth
1	Canada	\$3,720,545	\$5,779,300	\$5,107,248	\$4,148,574	\$18,755,667	53%	19%
2	Israel	\$1,639,991	\$2,419,021	\$2,076,655	\$2,394,622	\$8,530,289	24%	13%
3	France	\$1,494,216	\$1,536,260	\$1,588,169	\$955,942	\$5,574,587	16%	3%
4	Morocco	\$108,964	\$314,182	\$253,067	\$258,083	\$934,296	3%	66%
5	Tunisia	\$128,852	\$34,013	\$57,517	\$95,121	\$315,503	1%	-28%
6	Italy	\$62,715	\$290,402	\$208,284	\$84,214	\$645,615	2%	116%
7	Other	\$349,903	\$140,759	\$180,000	\$106,247	\$776,909	\$0	-24%
	TOTAL	\$7,505,186	\$10,513,937	\$9,470,940	\$8,042,803	\$35,532,866	100%	13%

Product Recommendations from the Culinary Development Center

The Culinary Development Center made three specific product recommendations;

1. Aromatic simmer sauces for make-at-home tajines,
2. Couscous-based pasta salads for prepared food counters,
3. Harissa mayonnaise for French Fry dips or hamburgers (or lamb burgers).

VALUE-ADDED FOOD PRODUCT DEVELOPMENT IN MOROCCO

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Of the three, the tajine sauce and *harissa* mayonnaise lend themselves more readily to exportable shelf-stable products. Couscous pasta salads may not hold up well in transit and would be much better prepared "day of" for a deli counter. We don't want to leave couscous as it is extremely well known to U.S. consumers. Americans are used to preparing it at home, and, when combined with sauces to make a meal, it lends itself directly to the comfort factor so attractive to American consumers.

Because there is already one producer of the packed shelf-stable tajine sauce and it's really the center piece of Moroccan cuisine that hits all three drivers - healthy/exotic/comfort - we investigated this product more thoroughly. The idea is to determine the market potential not only in ethnic channels but cross over to mainstream channels. This product would be the first Moroccan packed meal option and represents a move up the food processing value-added curve for Moroccan producers.

Tajini - Developing a Tajine Sauce

The market potential for a tajine sauce addressed in this report has been completely qualitative up to this point. There is some evidence that Moroccan cuisine is an emerging cuisine in the U.S. and that tajine sauce represents a center point of that cuisine. However, the only true test of product acceptance is whether U.S. consumers actually exchange their dollars for the product. For such a test, actual product was needed.

Author first found a Moroccan tajine producer in May 2010 at the SIAM/Meknès exhibition with DAI COP Andrew Watson. It was one of the few value-added products on the floor of the entire showcase of Moroccan agriculturally based products. Furthermore, the success of any retail packed product depends HEAVILY on marketing support. The owners of Tajini had active sampling underway within a sophisticated and unique booth. They had professional marketing materials and a developed brand. It was clear that these producers understood marketing requirements. In Mr. Nussbaum's 15+ years developing products in developing countries, simply identifying (or cultivating) producers who have some sense of marketing requirements represents half the battle towards successful commercialization.

Example of Moroccan Based Valued-Added Food Product - Tajini Tajine Sauces



"**Young** adults are driving the interest in ethnic foods in the USA and their adventurous eating is introducing foods from around the world to their family and friends. In 2009, ethnic foods set a record at \$2.2 billion in sales, even in a down economy. Moroccan cuisine is characterized by the same rich spiced sauces that are winning consumers' palates in Indian and Thai foods and we foresee Moroccan foods as one of the next exotic culinary experiences."

CEO, Larry Johnson,



Production, Market Introduction and Expansion to Exports

Tajini brand sauces are produced and packed in a contracted plant with ISO/HACCP certification in the area of Meknès. The plan is to construct another production facility in between Temara and Rabat starting early 2011. (Investors for the facility are all Moroccan).

TAI, a private, U.S.-based business development consulting firm, signed a business agreement to represent Tajini in the U.S. for a period of six (6) months. The agreement is included as Appendix A. Key conditions of the agreement are as follows:

1. TAI will have exclusive representation for 6 months, but if a larger importer shows interest, TAI will help facilitate those transactions.
2. TAI will provide marketing support including sales calls, sales facilitation, warehousing, logistics, customs clearing, sampling, label review and changes, point-of-sale material, etc...
3. Tajini will provide product on consignment at agreed up on prices.
4. Tajini will open up bidding opportunities for raw materials to producers in Oriental and Doukkala-Abda regions. Tajini is not under any obligation to purchase product of lower quality or higher price, but must in good faith evaluate bids and provide feedback on those bids to help producers in the region better compete.

Agreement item 4 above is a pathway for producers in MEC areas to participate in U.S. export markets. There are no U.S. exports from either region to the U.S. and supplying this value-added processor is the first step in becoming export-ready. For example, producers will have to work with the sauce manufacturer to ensure ISO/HACCP compliance. Raw materials used in the sauce are listed in Exhibit B. In the future, if the sauce is successful, Oriental/DA producers may decide to manufacture their own sauce or other value-added products for export and will have a model to work from.

The contract between TAI and Tajini was executed as part of this project and on November 15th and will extend beyond the life of the current contract. The contract is included in Appendix I. TAI is committed to supporting U.S. market penetration for Tajini through at least June, 2011.

Food Emporium Product Demonstrations

The first order of business was to test the product with U.S. consumers to determine what changes may need to be made. Fortunately, Tajini has arranged through Export Maroc to have a trial market test in several Food Emporium stores in New York from October to November. The product arrived, was placed on shelves with other Moroccan products and was advertised in store circulars. The challenge was that any product sitting on a store shelf will generally stay on the shelf if

consumers are unfamiliar with it. Furthermore, there was no feedback information being collected as to the reaction that U.S. consumers were having to the product.



The Tajini product demonstration and shopper survey being conducted in Food Emporium, Manhattan, November 2010.

Author arranged to do five in-store demonstrations for the purposes of collecting reactions from U.S. consumers on the product and its four different flavors. A short survey instrument was developed and utilized to collect basic information about consumer drivers for heat-serve sauces and collecting open-ended opinions regarding the product. The demonstrations were conducted in the Manhattan Food Emporium stores. Manhattanites are arguably more sophisticated and exposed to more cultural diversity than anywhere in the U.S. The demographic probably has a bias towards greater knowledge of other cultures than would be found in the majority of retail settings in the U.S. due to the fact that almost all cultures are represented in NYC and they are all living in very close proximity to each other.

We collected 40 surveys in two of the five days of product demonstrations as allowed by the retailer. This sample size is small and is intended to provide a gross indicator of consumer opinion. There were key results also obtained beyond the written survey almost immediately. The most important result was that many of the customers immediately disliked *the fish and green olive and lemon sauces tested*. In Europe, the salty and strong flavors of green olives are accepted while in the U.S. they are not nearly as popular. Tasters began to move away from the demonstration stand and it was so bad that we decided after the first day of tastings not to use those flavors⁹. TAI will not import those flavors into the U.S. without changes to the formulation. The flavors we continued to test were the yellow/raisin sauce and the tomato red onion sauce.

Survey Results

Chart 2 shows that not everyone uses pre-packaged simmer sauces regularly, but 45% do.

⁹ Note: The person doing the cooking was Moroccan with 20 years experience preparing food. He noted that he could probably have gotten better results with a full kitchen and the right fish to combine with the fish sauce, or a different meat. But in essence that was the point - it should be very easy to prepare these sauces well so it was decided to pull those flavors.

Chart 2. Percentage of Respondents that Use Pre-Packed Simmer Sauces In Their Normal Meal Rotation

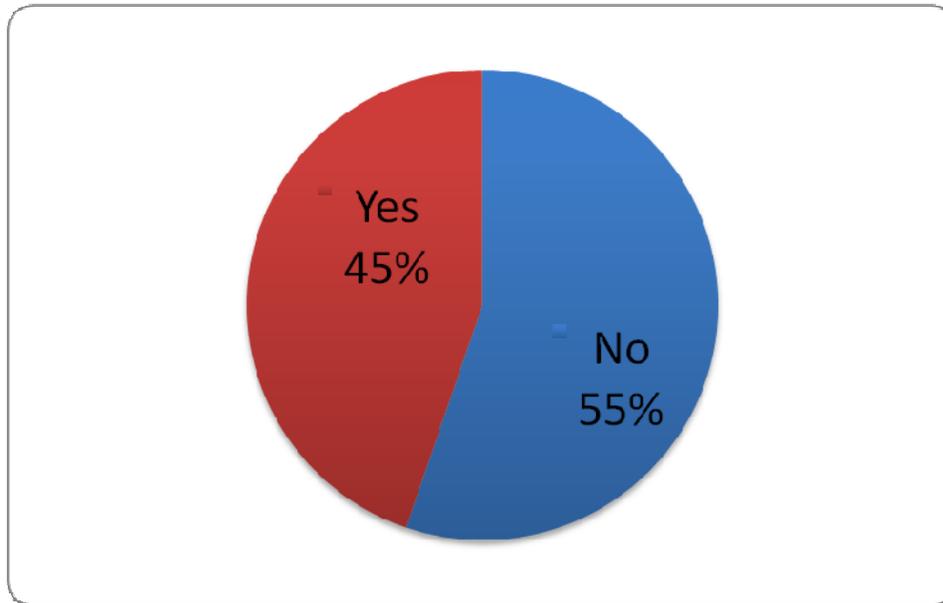


Chart 3 shows the sauces used by regular simmer sauce users. 50% of them regularly use a pasta sauce and 25% use a curry sauce. We were surprised that chili sauces were not more common and that curry sauce was as high as it was given the relative market share of the two products across the country. There is chili sauce in EVERY supermarket in the U.S., whereas only higher end stores carry curry sauces. This result may show the influence of conducting this test in Manhattan where curry eaters may outnumber chili eaters.

Chart 3. Of Those Respondents Who Use Simmer Sauces Regularly, What Sauces Are They Using?

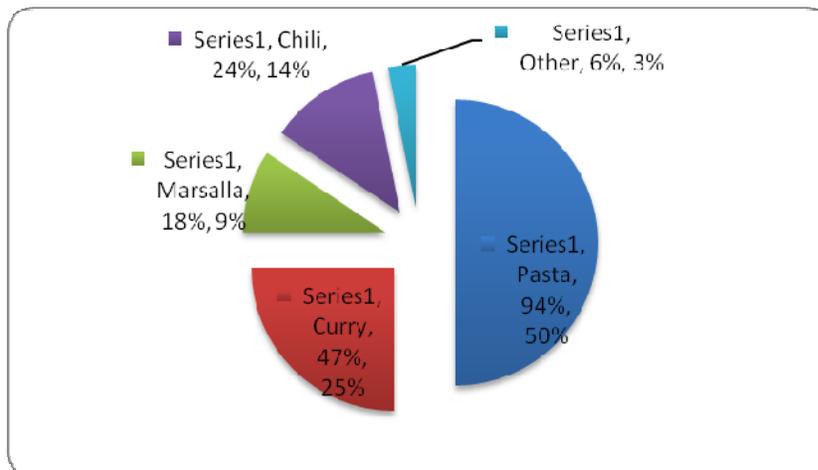


Chart 4 shows the key drivers for purchasing simmer sauces. Convenience is clearly the number one driver which is not a surprise. What is surprising is that variety is the number two driver. This means that consumers are looking to packaged simmer sauces as a way to break up the monotony of what they are usually cooking. This plays well into the idea of the "exotic-ness" of Moroccan food. Consumers are not looking or expecting that the packaged simmer sauces are necessarily as healthy or economical compared to other meal choices. When only those that regularly used simmer sauces were selected, the results were almost identical. 46% considered convenience as key, but value increased from 9% to 12%. This result makes sense; if you are regularly purchasing something, price becomes more important.

Chart 4. Consumer Drivers for Purchasing Simmer Sauces

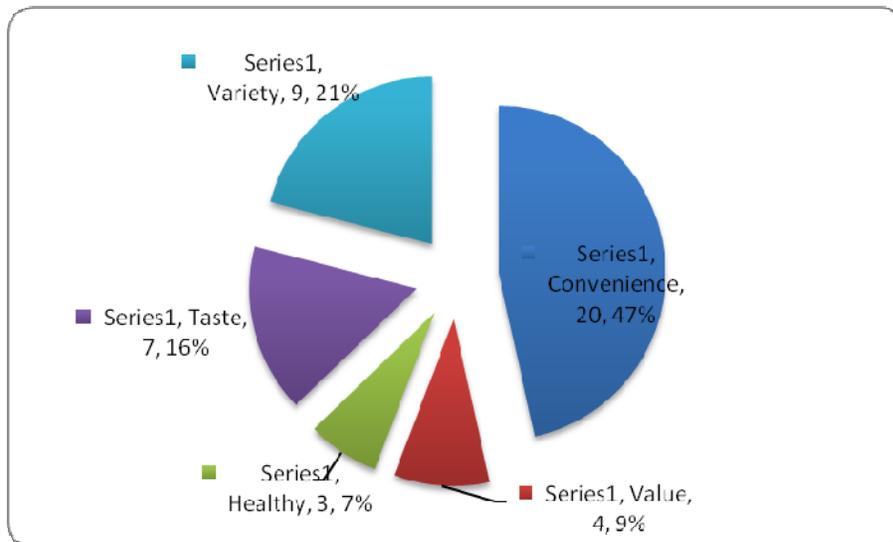
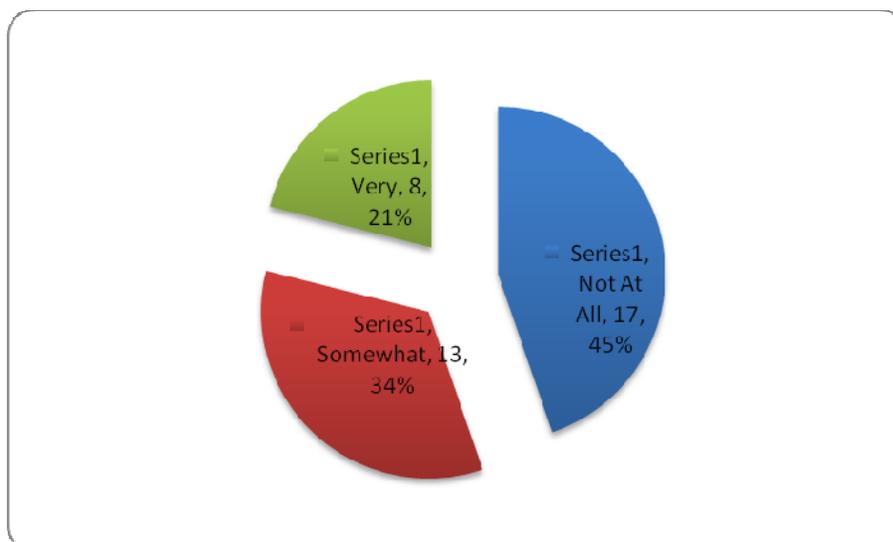


Chart 5 provides a sense of how familiar U.S. shoppers, at least in Manhattan, are with Moroccan cuisine. This is completely a self-evaluation. As shown, over 50% of all the respondents were either "somewhat" or "very" familiar with Moroccan cuisine. This might be where the Manhattan bias could play a role. U.S. shoppers in less urban and multi-cultural environments may not be as familiar. There are, however, other areas such as Boston, Detroit, Los Angeles with large North African populations that would score possibly higher. Multi-city testing would have to be done to make broad national generalizations, but this data does indicate awareness of Moroccan cuisine in NYC. However, even in New York, the most culturally aware city in the U.S., 45% are "Not At All" aware of Moroccan cuisine. This result cuts both ways. It means that there is some familiarity to sell into with Moroccan products. It also means that to cross-over into mainstream retail, a sustained marketing support and education about Moroccan cuisine would be necessary.

Chart 5. How Familiar Are Shoppers with Moroccan Cuisine?



Drilling down a bit deeper, respondents were asked about their familiarity with tajine prior to this product demonstration. As shown on Chart 6, most Americans are completely unfamiliar with tajine sauce. Chart 7 shows an interesting result. When those respondents who classified themselves as "very" familiar with Moroccan cuisine were asked if they were familiar with tajine, 75% said "No"! We are not sure which part of Moroccan cuisine they are "very" familiar with but it does indicate that the

concept of 'tajine' is unfamiliar and a label and marketing material highlighting tajine may not receive much consumer response without an commensurate level of marketing and consumer education.

Chart 6. Are You Familiar with Tajine? - All Respondents

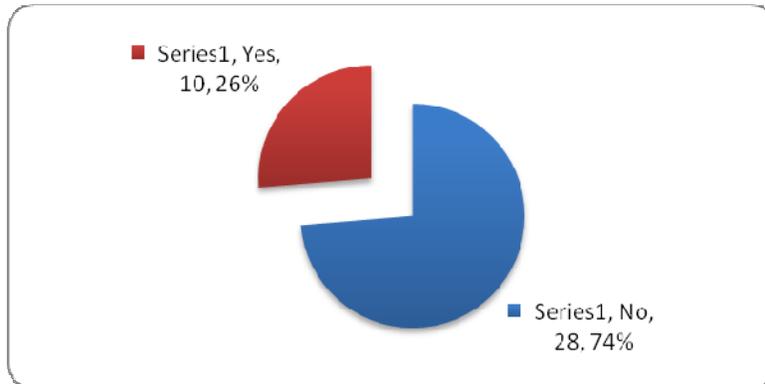


Chart 7. Are You Familiar with Tajine? Only Respondents "Very" familiar with Moroccan Cuisine

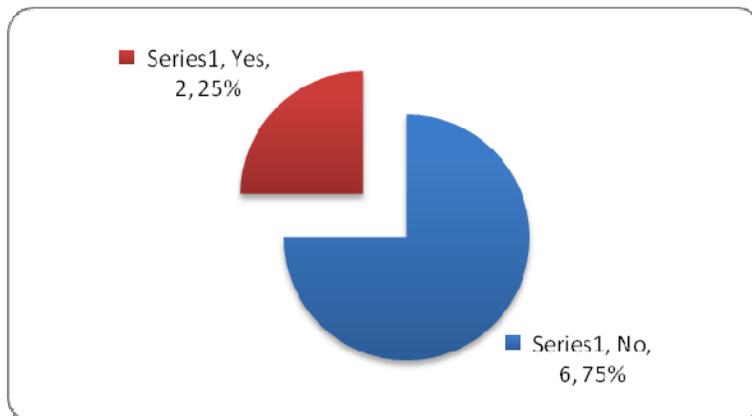
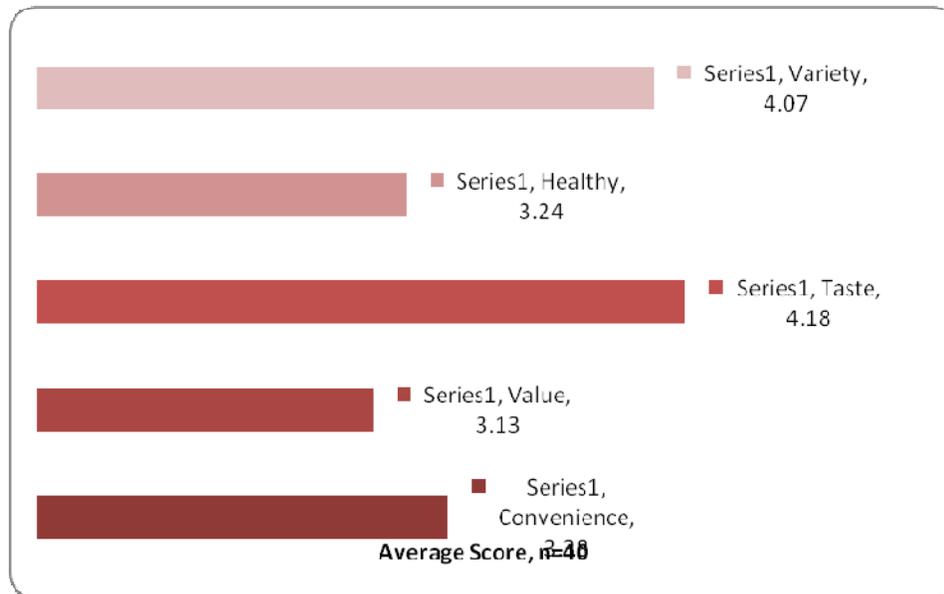


Chart 8 shows how Tajini scored on key consumer drivers on a scale from 1 (low) to 5 (high). Taste ranked the highest at a score of 4.18, followed by Variety (4.07). On a five point scale, those are very respectable scores over a sample size of 40. Where Tajini did less well is on Healthy, Value, and Convenience with scores in the low 3's. Remembering Chart 3 (shown again below), convenience was the number one driver for purchasing simmer sauces, yet consumers perceived Tajini as only a low "3" in terms of convenience.

Chart 8. Scoring of Tajini on Key Consumer Drivers

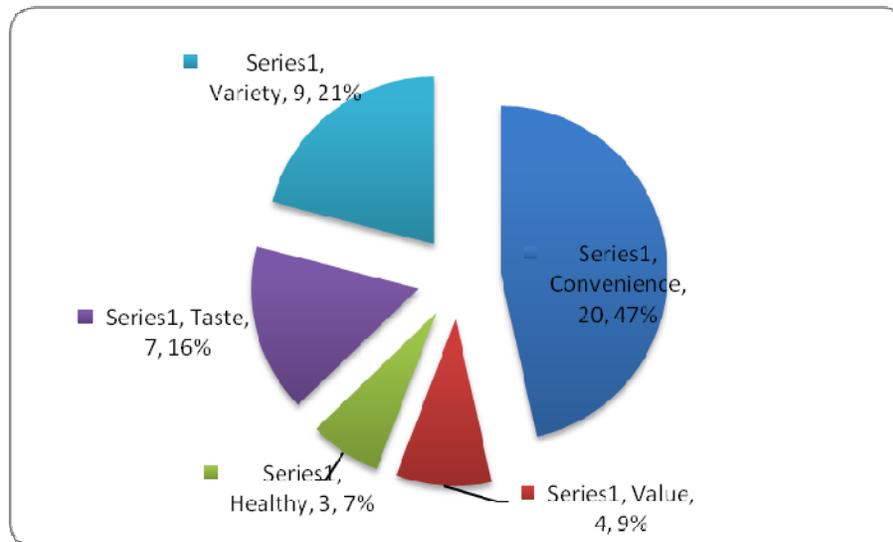


This is an important finding. Yes, there is nothing simpler than heating up a pan with sauce. Yet, for some reason, shoppers we tested perceived some additional hassle factor - cooking the couscous, or selecting and cooking the meat. It is uncertain as to the exact reason. More importantly than the reason itself is that it can't be emphasized enough how regimented consumers tend to be and how any required change in behavior is viewed very negatively. The fact is that consumers are very busy and they don't always have time to figure out something new. A new sauce they've never tried before presents a risk. The good news is that the problem is merely a perception problem because in reality there is no change required: cooking a Tajini meal is as simple as cooking pasta with spaghetti sauce¹⁰. This fact must to be part of the messaging around the Tajini product in order for it to be successful.

Taste and variety scored high for the Tajini sauce and those are the next important drivers (see Chart 3). The product itself lines up with what consumers want. However, the labeling for the product, as opposed to the sampling of the product, does not readily convey a delicious or exotic meal. Before bringing to the U.S. we will recommend a label change to be more enticing - along the lines of the actual product.

¹⁰ To make the point, Kristen Mackel, Head of Division, Mintel New Products, stated in her International Food Technology session June10, 2010 Chicago, "Factors for New Product Success", that requiring a change in consumer behavior is a "deal killer" for new products. The example cited was a new delivery system for milk. A large milk brand decided to reduce the cost to the consumer by offering a reusable carton and sell the milk in polypropylene bags that fit the carton. The bags were much cheaper and allowed a 15% savings to the consumer which is significant on a weekly staple. People are stuck in their ways and they refused to accept the idea of simply buying milk bags and cutting the top. Product was pulled only after a 6 week trial. The same product failed in the UK.

Chart 3. Consumer Drivers for Purchasing Simmer Sauces (repeat)



Although 'healthy' was one of the least important drivers for purchasing simmer sauces according to our survey, as a product developer, 'healthy' simply has to be an aspect of any new product. As the Center for Culinary Development pointed out above, Moroccan cuisine was on the rise in part because of its healthy Mediterranean-such as ingredients. This fact needs to be exploited, not down played. There were concerns voiced by shoppers that modified corn starch and vegetable oil were unhealthful ingredients and should be traded up for something more “natural” and less “processed.”

And finally 'value' was a concern as the Tajini products scored relatively low. There is a question whether this needs to be addressed or not. If most consumers are not shopping for value when it comes to purchasing simmer sauces, then market acceptance may not be influenced by positioning the product as a more "value" type product. What is missing in this argument is the value of the shopper's time. "Convenience" is a key driver precisely because people are short on time and desire to substitute their income for time in food preparation. Purchasing a more processed product may be more expensive than buying all the ingredients and making it the product from scratch. (Not necessarily so if waste is factored in.), but the time savings is huge. To address the "value" issue in messaging, the answer may not be to reduce price, but instead to highlight the time savings.

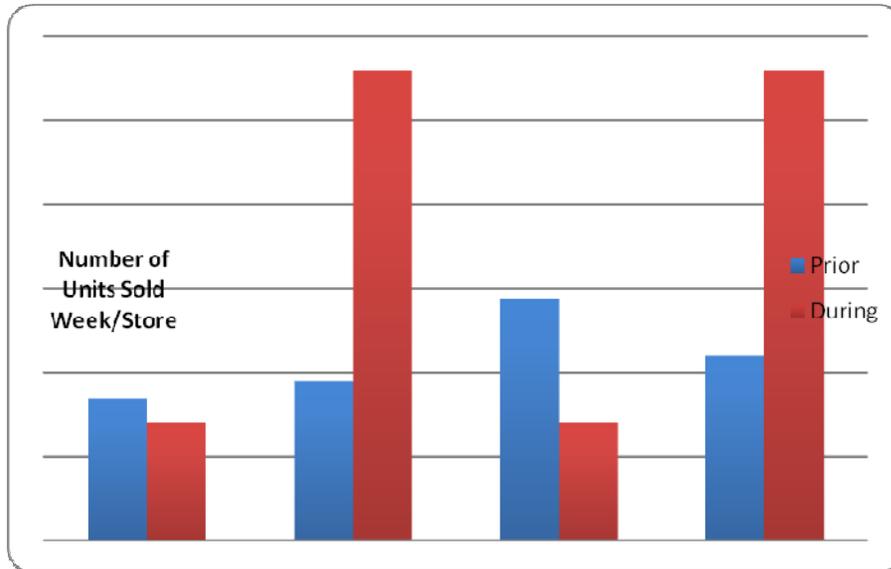
Food Emporium provided sales data for the five stores before and after the product demonstrations. The data is included in Appendix 2. Standard movement reports for retailers are done on a weekly basis for each store. Chart 10 compares the weekly equivalent of units sold per store prior to the demonstration and during. The prior was based on sales data from five stores over 40 days and the During was based on sales from the same five stores over a period of the 5 days during which the demonstrations were taking place¹¹. Some advertising was being done PRIOR as part a Maroc Export promotional program.

This comparison is only relevant for the Raisin and Tomato based sauces as the other sauces were not promoted during the demonstration period. What clearly stands out is the bump in sales for the two products demonstrated, almost tripling sales of the two flavors. HOWEVER, one has to be very careful extrapolating to any market potential based on these results. What would have been a problem is if during the demonstration period there was NO bump in sales. Fortunately, that was not

¹¹ Demos were only conducted in one store for one day. The store manager would not provide single day sales but only sales over the "demo" period.

the case. This bump suggests that if a sustained demonstration program is developed, it is possible to sell 4-6 units a week per store. Again, will this pulse die off completely after demos stop, or even if they continue? That answer is UNKNOWN. A much longer test period and effort would be required to make any definitive conclusions.

Chart 10. Comparison of Weekly Equivalent Units of Tajini Sold PRIOR and DURING Product Demonstrations by Flavor



Messaging Examples

Reviewing competitive offerings can help help to refine and improve messaging and gain a sense of sales volume at the store level. Below are three ethnic examples from Wal-Mart that are aimed squarely at the \$2.2billion prepared meal, main-street market. These examples are not simmer sauces per se, but represent ethnic meal solutions that the Tajini product is really competing with.



1. Thai Kitchen - Original Pad Thai - the most well known Thai dish. Take a look at the visual priority. First is THAI kitchen - clearly an ethnic dish. Then second is "Original Pad Thai" - the most well known Thai dish served in American restaurants. Third, the package says "Stir-Fry Rice Noodles" and then in smaller text "with sauce." The emphasis is on the carbohydrate, not the sauce and the cover is a photo of the meal. "Ready in 15 minutes" on the box targets the convenience driver for these kind of packed foods. Also, "Gluten Free" gives it a sense of healthiness. The Wal-Mart manager indicated that they sell about 6 of these a week on average per store. \$2.18/unit two servings.

This is imported by Simply Asia Foods, LLC Berkeley



2. A Taste of Thai - peanut noodles. Again the visual priority is THAI, then Peanut Noodles, then convenience ("microwave or stovetop" - you can just put the box into the microwave ready in 2 minutes.) "Reduced Sodium/ Gluten Free" hits the health driver. This one has a slightly higher price at \$2.32 and says its two servings. But the portions are small. Wal-Mart sells 4 units/week/store.

Produced for Andre Prost, Inc,
Old Saybrook, CT



3. Old El Paso - Taco Dinner Kit. The largest segment of the ethnic foods market, Mexican/Hispanic foods, is responsible for 62% of sales. Here is one example of the most popular cross-over Hispanic product - the ever exciting taco. There is a bit of ethnic design elements with the Spanish tiles to get at that variety driver, but Ethnicity is lower in visual priority as compared to the previous examples. It's the photo of the product that is the number one priority, making it clear in an instant what this product is all about. This product hits the convenience drivers. "Ready in 20 minutes" Add Meat & Toppings sounds very convenient. Even the use of bright primary colors in simple shapes with the icons - shells, sauce, seasoning - makes it look very easy, such as a school child could put this meal together. Interestingly, there is NO HEALTH claim. Instead they target a "Social Benefit" driver and put a box top to earn cash for your school. This is targeted at moms/dads shopping with school-age kids at home. \$2.38/unit for 6 servings, which is a great value. They sell 36 units/week/store, far more than the previous examples.

Old El Paso is a General Mills company

Summary of Challenges for Tajini Products

Although awareness of ethnic cuisines, including Moroccan, is growing in the U.S., familiarity with specific Moroccan dishes is currently limited.

Current packaging does not take adequately incorporate or exploit key consumer drivers.

Some minor ingredient changes may be warranted.

Some level of marketing and consumer education program is necessary for significant market penetration and long-term sales success.

Recommendations for Tajini Products

The Tajini product is an exciting product that highlights Moroccan creativity and culture. It really is the first of its kind coming from Morocco. It has done well penetrating domestic Moroccan urban markets and has made in-roads into Europe. Both accomplishments should be applauded as neither are easy. Penetrating the U.S. market will take a patient and sustained effort that is not guaranteed to succeed. If the Moroccan agricultural development strategy is to increase the role of value-added food processing, this pilot is right on target. It is true that this is a tiny player attempting to penetrate a sizable market within the U.S. with very heavy competition. If exports of this product ever got to \$10m in the U.S. it would be a complete miracle. But the steps taken towards that goal - assessing the market, re-designing the product from an American consumer perspective, getting the first sales, establishing first distribution, and the ever important re-orders - would provide an invaluable experience for Moroccan exports. This is especially true if the product can move away from specialty or ethnic channels and cross-over into mainstream national grocery chains. The fact that this success would open up bidding opportunities for producers in the MEC target regions is also a step for those producers in rural areas to participate in a new value-added export opportunity.

To move forward, specific recommendations are:

1. Re-design the packaging and label for U.S. markets;
2. Once re-packaged, re-test in different areas of the country to have a better feel of consumer interest in demographically diverse areas;
3. Begin to design a public relations/advertising campaign to introduce the product to influencers;
4. Determine which retailers will merchandise the product the best and pursue offering reasonable and sustained marketing support;
5. Negotiate with distributors who serve those retailers for logistic support.

Tajini Follow Through

Mr. Nussbaum and his design team developed an entirely new product concept for this project - Couscous Sauce. The idea is simple - U.S. consumers have no idea what "tajine" is so the idea is to simply sell them what we do know: couscous. As seen in our survey and reinforced by the Culinary Trend Mapping, and by the market fact that couscous sells in almost every grocery store in the U.S. While couscous is sold in every grocery store in the U.S., tajine is sold in exactly zero of those stores. To sell "tajine" would require an extremely expensive marketing and education campaign focused on broad media exposure, cooking show appearances and other high-profile exposures.

It is true that "tajine" sauce could succeed in U.S. ethnic market channels. There is a large ethnic population familiar with North African cuisine that would know and recognize what tajine is. Mr. Nussbaum, however, strongly urges to resist the easier sale in this particular case and to go for the mass market.

Why? Because the volume and pricing premiums will be higher in the mass market than in the ethnic channels. It's true that the pricing would be even better if this product packaging was designed for the high-end specialty food shops. This is the approach that Mustapha Foods has used: low-volume, high pricing. This business strategy makes perfect sense for his small business to maximize profits. However, we have another business objective which is to ultimately raise incomes in our target areas of Doukkala-Abda and Oriental. To achieve this objective, we need to create demand for his product on a larger scale.

The idea of a couscous sauce was designed to do just that. We understand this concept might make many Moroccan s cringe! Fortunately, we are not selling couscous sauce to Moroccans! The core of the issue is how differently Americans and Moroccans view couscous. Moroccans view couscous as a

complete dish served with a wide variety of vegetables - a fantastic meal. Americans view couscous as a side dish, a carbohydrate that complements the center-of-the-plate protein. Simply put, Americans view couscous as rice or pasta (without the sauce). Italians have a similar problem with "Spaghetti Sauce." There is no such thing in Italy. The closest thing is called "Bolognese" sauce, where tagliatelle (noodle) pasta is served with it. According to the Accademia Italiana della Cucina, "Although Spaghetti alla Bolognese is very popular outside of Italy, *it never existed in Bologna.*"

Cuisine is a living thing. It is the natural evolution of cuisine, such as language or music, to change as it is introduced and used by new cultures and people. Just ask the French or the British!

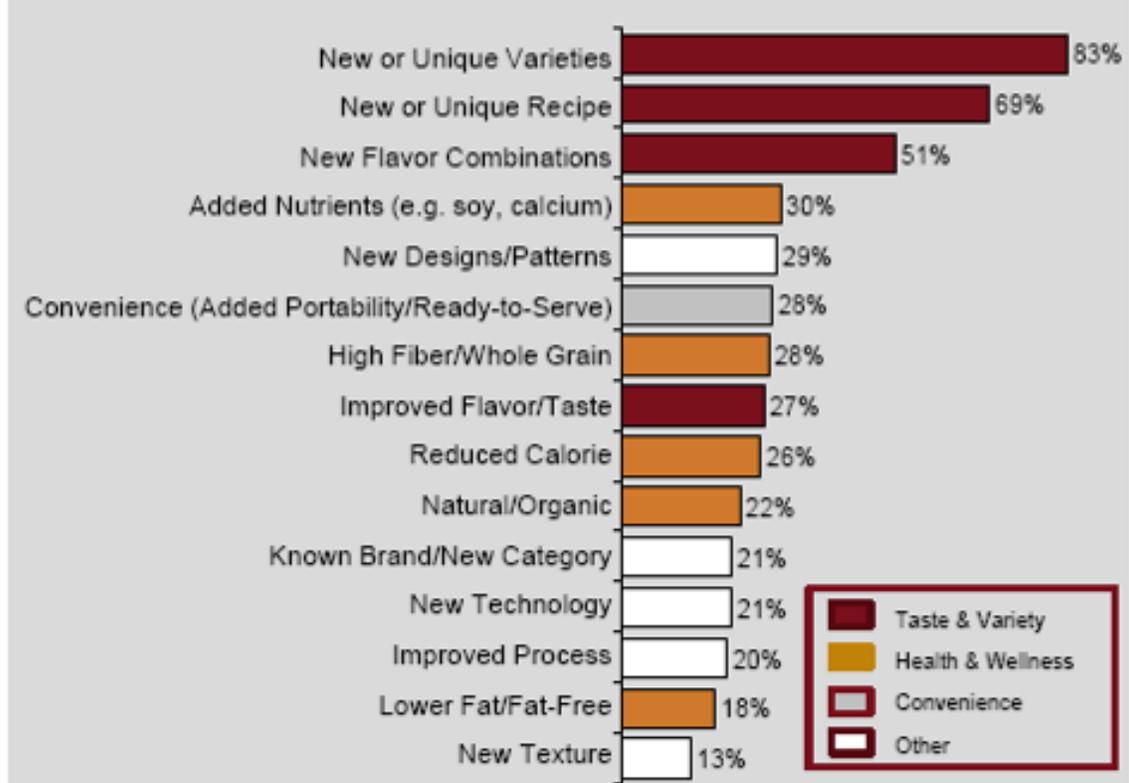
How will Americans modify Moroccan cuisine to make it their own? The same way we do it with every other culture's cuisine - we reduce the spiciness (heat) and we keep it simple. No Mexican, Chinese, Italian, or Indian would ever eat the American version of those foods found in the mass market. But the important point to remember is that the "ethnic" processed product market in the U.S. is \$2.2billion in 2009 and growing at just over 5%, during a recession¹². It was one of the few food categories showing any signs of life in recent years for U.S. food retail.

The table below shows what traits successful new products have in common for the launch years 2007-2008. This data should be updated when budget allows. "New or Unique Varieties, Recipes, and Flavor Combinations" were common to the majority of successfully launched food and beverage products in general. New flavor combinations are far more important than factors such as "Organic" or "Natural" or "Low Fat."

Across all new food and beverage products, convenience was not so common to successful products. However if the list of successful products was narrowed to successful heat-and-serve simmer sauces where convenience is the key buying factor, we would have seen a much higher score.

¹² A.C. Nielsen Report

**2008 Food & Beverage New Product Pacesetters: Top 15 Benefits
% of Total Pacesetters Offering Benefit**



Sources: IRI New Product Profiler™, New Products Launched February 2007- January 2008

Taking note that U.S. consumers want new flavors and recipes, convenience, and they use couscous in the same way as pasta, and they have no idea what tajine is, Mr. Nussbaum and his design teamed worked with the manufacturer to develop new product positioning for the tajine sauce. The new labels for a line of four different flavors, in draft form, are shown below:

<p>Nutrition Facts Serving Size 1/2 cup (120g) Servings Per Container 4</p> <table border="1"> <thead> <tr> <th colspan="2">Amount Per Serving</th> <th colspan="2">Calories from Fat 120</th> </tr> <tr> <th colspan="2"></th> <th colspan="2">%Daily Value*</th> </tr> </thead> <tbody> <tr> <td>Calories</td> <td>160</td> <td></td> <td></td> </tr> <tr> <td>Total Fat</td> <td>13g</td> <td>26%</td> <td></td> </tr> <tr> <td>Sodium</td> <td>800mg</td> <td>80%</td> <td></td> </tr> <tr> <td>Total Carbohydrate</td> <td>18g</td> <td>3%</td> <td></td> </tr> <tr> <td>Sugars</td> <td>7g</td> <td></td> <td></td> </tr> <tr> <td>Protein</td> <td>4g</td> <td>8%</td> <td></td> </tr> </tbody> </table> <p>*Percent Daily Values are based on a diet of other people's secrets. Product of Morocco</p> 	Amount Per Serving		Calories from Fat 120				%Daily Value*		Calories	160			Total Fat	13g	26%		Sodium	800mg	80%		Total Carbohydrate	18g	3%		Sugars	7g			Protein	4g	8%		<p>Authentic Tajini Moroccan COUS COUS SAUCE Tomato & Onion Easy & Fast Net Wt. 14.11 Oz. (400 g)</p>	<p>Chef Tajini Says Every night, kitchens across Morocco fill with the exotic aromas of traditional home-cooked dishes. Tajini Cous Cous Sauces bring this authentic and exciting culinary experience direct to your table. And we make it easy!</p>  <p>Serve Tajini Tomato & Onion with traditional braised beef or roasted chicken. Or with fried eggplant or steamed broccoli for vegetarian meals. And don't forget to try all four of our simmer sauces!</p> <p>Easy Cooking: 1 Simmer for 5 minutes. 2 Add cooked meat or veg. 3 Serve over cous cous.</p>	<p>Ingredients: Onions, tomatoes, lemon juice, olive oil, vegetable oil, modified corn starch (GMO free), ginger, spices, tartrazine (coloring). Allergen Info: Gluten free. May contain trace levels of nuts. Imported By: TAJ, Inc. 5500 Prytania St New Orleans, LA 70115 Customer Service: 845-416-0218</p>
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<p>Nutrition Facts Serving Size 1/2 cup (120g) Servings Per Container 4</p> <table border="1"> <thead> <tr> <th colspan="2">Amount Per Serving</th> <th colspan="2">Calories from Fat 50</th> </tr> <tr> <th colspan="2"></th> <th colspan="2">%Daily Value*</th> </tr> </thead> <tbody> <tr> <td>Calories</td> <td>75</td> <td></td> <td></td> </tr> <tr> <td>Total Fat</td> <td>5g</td> <td>10%</td> <td></td> </tr> <tr> <td>Sodium</td> <td>500mg</td> <td>50%</td> <td></td> </tr> <tr> <td>Total Carbohydrate</td> <td>20g</td> <td>1%</td> <td></td> </tr> <tr> <td>Sugars</td> <td>4g</td> <td></td> <td></td> </tr> <tr> <td>Protein</td> <td>2g</td> <td>4%</td> <td></td> </tr> </tbody> </table> <p>*Percent Daily Values are based on a diet of other people's secrets. Product of Morocco</p> 	Amount Per Serving		Calories from Fat 50				%Daily Value*		Calories	75			Total Fat	5g	10%		Sodium	500mg	50%		Total Carbohydrate	20g	1%		Sugars	4g			Protein	2g	4%		<p>Authentic Tajini Moroccan COUS COUS SAUCE Tomato & Pepper Easy & Fast Net Wt. 14.11 Oz. (400 g)</p>	<p>Chef Tajini Says Every night, kitchens across Morocco fill with the exotic aromas of traditional home-cooked dishes. Tajini Cous Cous Sauces bring this authentic and exciting culinary experience direct to your table. And we make it easy!</p>  <p>Serve Tajini Tomato & Pepper with sautéed sole or broiled salmon. Or with asparagus and a sprig of rosemary for an aromatic heart-healthy meal. And don't forget to try all four of our simmer sauces!</p> <p>Easy Cooking: 1 Simmer for 5 minutes. 2 Add cooked meat or veg. 3 Serve over cous cous.</p>	<p>Ingredients: Tomatoes, red pepper, green olives, modified corn starch (GMO free), lemon, olive oil, tomato concentrate, garlic, cumin, spices, aromatic herbs, salt. Allergen Info: Gluten free. May contain trace levels of nuts. Imported By: TAJ, Inc. 5500 Prytania St New Orleans, LA 70115 Customer Service: 845-416-0218</p>
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Anatomy of a Label Design

The objective of any label, especially for a new product, is to do two things- 1) attract attention and 2) change consumer behavior. With food product labeling, it is fairly easy to attract attention, but it is very difficult to change consumer behavior. The corollary to this is that the more consumer behavior required for any given product, the more difficult the marketing challenge. Many new products fail because they require a larger change in consumer behavior - a new way to cook, new spices or complements to buy, different way of having to store or otherwise use. Even though people complain about not having enough variety in their diet, they will only make small changes in their consumer behavior to achieve that variety. This is why the entire strategy of this label is to make this sauce as close to pasta sauce in look, feel, preparation and storage as possible. Pasta sauces are

widely used...and U.S. consumers are very comfortable with this concept. The required consumer behavior change is very small.

Front Label - Cous Cous Sauce is clear and simple and immediately understood that this is a sauce. The font style is critical in that it's "fun" and very easy to read. The picture reinforces the title, sauce going on couscous. The spoon coming off the sauce suggests the action. Many have questioned why not show a beautiful dish of couscous with all the trimmings of a five-star meal. That is missing the point. The wife shopping with three screaming children in tow competing for her attention has about 3 seconds to assess whether this new product is "doable" or will this be a project she has no time for. Keeping the picture of the meal simple convinces her that this is very doable.



When and if she flips the jar to the back label, she is greeted with more friendly and easy images. Without having to read a single word she can figure out that this is a simmer sauce, she can add her own elements, really whatever is in the freezer, and then pour over couscous - just such as pasta that she's made a million times before. The small food graphics in circles to the left show pictures of the proteins and vegetable combinations that could go with the sauce - answering the desire for variety. Finally, and this is important, the ingredient list is up to the right clearly showing what is inside. And to the credit of the manufacturer, it is almost all natural and unprocessed ingredients with the exception of corn starch, which you will find in virtually every sauce. In the very unlikely event that the busy mother finds time to actually read the text, she will see that this is a homemade style sauce from Morocco and more specific cooking suggestions. Also on the back panel is a clear U.S.-based customer service number to answer any questions. In the future, should the product prove to be a success, a website would be developed expressly for the U.S. market and the URL put on the label.

Follow Through Recommendations for the Couscous Sauce

MEC believes that the couscous sauce is the first of many products based on Moroccan cuisine that could be exported to the U.S. It is absolutely true that this product has only a very small niche market – certainly not a market size to transform poverty in rural Morocco. However, it is the innovation that will be transformative. This product was developed in Jamil Benhassain's kitchen based on his mother-in-law's recipes. The company started small and proved the concept in domestic markets. Then he took the product to Europe, invested in marketing and established the product with several key accounts. This entrepreneur, within a developing country setting, developed a new food product, and exported it to high valued export markets. Mr. Benhassain has walked the walk. If this kind of start-up innovation can be developed and supported on a wider scale, this could be the start of a new, innovative, Moroccan processed food industry.

MR. Nussbaum will assist Tajini to test market the Cous Cous concept in the U.S. Once the labels are complete, the arrangement is that the manufacturer will affix the new label on existing inventory and ship 1-2 pallets to the U.S. on consignment. The U.S. importer will store the product and introduce the product to buyers for test marketing purposes. Feedback will be obtained to determine if and/or how to best exploit U.S. markets. This feedback could result in an entire different packaging and/or product formulation. Whatever the outcome of the test feedback, the objective is to make the necessary modifications and order the first container.

6. HARRISSA -DEVELOPING NEW U.S. CONSUMER-FRIENDLY PACKAGING

Harissa is another Moroccan food product that has some U.S. acceptance. Many Americans love hot sauce. Annual sales of hot sauce in grocery channels are between \$155m and \$185m. *Harissa* has familiar pepper flavor profile, but is different enough with carrot, caraway, and coriander to provide the variety that U.S. consumers are looking for.

One company, Sahadi Fine Foods in Brooklyn, New York is actually importing Moroccan *harissa*. The picture of the product is below.

Moroccan-made *Harissa* Imported by Sahadi Fine Foods, New York



Mr. Nussbaum contacted the Sahadi import manager and discussed possible improvements to the product. The main drawback of this product is the form of packaging. The flavor is excellent and the labeling is engaging. However the pop-top can severely limits its marketing appeal. First off, with a pop-top can, a consumer cannot see the product to better understand what they are getting. This works ok as long as the customer knows the product, i.e. the product is sold in ethnic channels only. However, if the goal, as in the tajine sauce, is to reach a wider U.S. audience, then packaging has to allow the consumer to see this new product. It is a question of building trust with the consumer. Fear of the unknown will prevent purchase.

Second, the can dictates and limits the use. The can is not re-sealable so that means the product has to be used all at once, as in a large dish, in the same way as a tomato paste/sauce. Yes, the consumer can cover the open can with aluminum foil but it doesn't stay as fresh and it's an extra hassle. This is

in contrast to other condiments that are packaged in some type of re-sealable for that improves “usability” and reduces waste.

Third, the can does not allow for flow control - it is all or nothing. A consumer cannot drizzle on a small amount where they want it. They would have to find a spoon and put the sauce where they want it; a hassle compared to other similar products.

So the ideal packaging would be clear, re-sealable, with a flow restriction that allows the consumer to put just the right amount where (and when) they want it.

Huy Fong's best selling product, Sriracha Sauce.



This simple product has taken the U.S. by storm. Starting in Asian ethnic markets and restaurants, current sales of this product are approximately \$30m.

The bottle is made of PET #1 recyclable plastic and the bottle form is produced by a stretch blow-molding machine.

The sriracha sauce is packed in the U.S. (California) but all the packaging material, the plastic and the cap, is shipped from China.



The hot sauce on the left, Crystal, is a leading U.S. hot sauce. It is manufactured just outside of New Orleans. The top under the cap allows only drops at a time to help control for over spicing. Note the Arabic text on this U.S. product means it is bound for the Arab-speaking world, and, in fact, you can find this hot sauce in many places in Casablanca.

In either case, the packaging for U.S. hot sauce is clear, re-sealable, and pour flow controlled - not a can. The import manager agreed that if Moroccan *harissa* sauce could be put in a Sriracha-type bottle, then they would be interested in ordering a volume to test market.

Summary of Challenges for *Harissa* Sauce

While similar hot sauces are very popular in the U.S., *harissa* is relatively unknown.

Existing packaging is unsuitable for the U.S. main stream market.

Recommendations for *Harissa* Sauce

Immediately Pursue Improved Packaging

Because there is a committed buyer for at least a test version of the *harissa* sauce packed in a more consumer-friendly format, this item definitely should be pursued. Mr. Nussbaum was unable within the allotted time provided for this contract, to locate a stretch blow-mold facility within Morocco. Mr. Nussbaum was, however, able to identify PET #1 bottle providers in China.

The next step, should resources be available to do so, would be to investigate the blow-molding capacity within Morocco.

CRITICAL NEXT STEPS TO EXPAND EXPORTS OF VALUE-ADDED AGRICULTURAL PRODUCTS

The Moroccan processed food industry is facing a critical moment in its development. If producers, processors, traders and export development agencies fail to recognize the need to innovate and enrich their product offerings, export growth in much of the Moroccan agriculture sector is likely to remain slow or even decline in the face of other producers who are adapting more effectively to evolving market conditions. With the exception of very few niche products such as Clementines, blood oranges or capers, it is very unlikely that Morocco will ever be a reliable, global, low cost leader in any agricultural product category.

If, however, Moroccan agricultural and economic interests decide to embrace the challenge and the opportunity presented by robust international markets, Morocco can look forward to success that will not only advance Morocco's commercial export and economic development interests but will help bring the nation's rich culinary and cultural heritage to the world. The only way to capture market share in the U.S. is to transform Moroccan agricultural goods into unique and interesting products: products that leverage or exploit the deep vein of Moroccan cuisine. Turning cuisine into product is not easy. It is part art, part science, and part business. More importantly, it requires a certain risk-taking mindset not currently held in the Moroccan food processing industry.

The mindset of a majority of Moroccan food processors is that of a supplier. "Show me a contract, and I will fill it and give you a good price." This is the souk mentality that has functioned perfectly well for centuries. In fact, it's the very point that many Moroccans still go to a souk to purchase fresh produce and prepare fantastic meals at home that has stymied the development of the Moroccan processed food industry. The problem is that the world outside does not operate in such a way. In our harried lives, with husbands and wives both working, and children being shuttled between activities, we don't have time to haggle over prices, or select the best produce, or spend the time to make meals from scratch. It really begs the question of exactly which countries are more "developed!"

Be that as it may, just as Moroccan producers have geared themselves toward domestic "home innovators" for centuries, if they now want to compete in more developed markets, they have to do the innovation and present a more complete product to consumers. They can't simply sell ground cumin - they have to sell complete grill mixes that use the ground cumin as an ingredient. They can't simply supply tomatoes - they have to go upstream and provide exotic meal-based solutions in the form of couscous sauce that incorporates tomatoes. They can't simply sell almonds - they have to figure out a packaging scheme to ship a liquefied version of almonds half way around the globe, maybe with a Moroccan flavor twist of cinnamon and date. It's a big challenge.

At the crux of the challenge is risk management. Suppliers such as Lukus have been exporting tomato powder to the U.S. for thirty-five years. During that time, McCormick has transformed Moroccan tomato powder into everything from Italian meatball soup to Mexican taco sauce. Who better suited

to manage the risk of product development, launch and – let's face it – failure, than a large company with great distribution and significant marketing muscle? But when cheaper Chinese or Mexican or Chilean tomato powder hits the sourcing agent at McCormick, where does that leave the Moroccan farmer? As Lukus is now experiencing, there may be significant risk in new product development, but the status quo as a loyal supplier is not necessarily any safer. There are too many new stalls at the souk with the same product quality and better pricing.

If the reality is that Moroccan agricultural producers are unlikely to develop new products for new markets because of the risk of failure, then policies to enhance the exports of agricultural products should consider ways of reducing this risk. Here is how it can be done:

I. DEVELOP INSTITUTES FOR CONSUMER-END FOOD INNOVATION

There are many excellent institutes and universities that are involved in food processing. These include:

1. IAV-HII - RABAT
2. IAVCHA - AGADIR
3. ENA - Meknès (National school of agriculture)
4. Master Training MSAA -Oujda
5. IFIM - Casablanca: Training Institute (milling industry / cereals and bakery)
6. Private training institute: [ISFORT MAROC](#) Casablanca

The main focus of these training facilities is food processing quality control and innovation in semi-processed agricultural products. Semi-processed products refer to raw agricultural product being refined in some sense, but not combined with other products to produce a final consumer-end product. For example, improvements on the milling of wheat, better olive oil production, more efficient juicing or freezing, etc. all fall under the category of semi-processed agricultural goods. All these institutes provide important training, but they are not preparing students to better position the Moroccan food industry to compete in global markets. Training at those institutes is absolutely necessary, but not sufficient.

To be competitive, the Moroccan food processing industry must do a better job detecting trends in global markets, designing products to meet those trends, test marketing those products, adapting test products to market feedback, and finally finding marketing partners to commercially exploit those products. The training received from the food processing institutes is a bit too narrow and does not include the wider process of product innovation that will make the Moroccan food processing industry more competitive. There needs to be modified or enhanced training to give students the skills they need to match this business reality.

The exact recommended curriculum would require a more detailed evaluation of what the institutes above are currently offering and could realistically grow to include. The curriculum envisioned would be a joint or double degree - either an MBA type program with heavy emphasis on the processed food industry, or a food science master's program with heavy emphasis on global business.

2. HAVE THE FOOD PROCESSING INSTITUTES DOUBLE AS PROCESSED FOOD INCUBATORS

Food entrepreneurs need places and resources to develop product. This concept of a consumer-product food processing institute could be combined with the concept of a small business incubator where entrepreneurs would benefit from critical resources and opportunities to collaborate. This model is used in other industries such as high-tech computing industry where entrepreneurs develop

new computer products by sharing computing facilities and testing equipment to - equipment that otherwise would be too costly to purchase on their own. In the case of agricultural goods, a dual-use teaching facility and small business food product incubator could provide entrepreneurs with the equipment and resources they need at various stages of development.

Stage 1 - Ideation

To develop and validate ideas, entrepreneurs need access to the best available market data. Data such as those provided by Euromonitor, Mintel, A.C. Nielsen, and trade publications from the International Food Technology Association, Salon, Saveur, Specialty Food News, etc., all should be housed in a centralized location and available on-line to fee-paying members of the Incubator. This would connect Moroccan food processing professionals and students to the global marketplace and provide transparency as to which products are working and which products are not. Understanding the market through these information sources reduces the risk of failure.

Stage 2 - Prototype Development

To develop prototypes, entrepreneurs need access to commercial test kitchens with analytical laboratory instruments, grinding, cutting, blending and ovens. They may also need access to certain human capital such as food chemists, chefs, or processing engineers. This stage requires facilities to allow taste testing for formulation and shelf-life stability testing. Ingredient costs and manufacturing constraints can be estimated to determine likely price competitiveness.

Stage 3 - Prototype Packaging Development

When the prototype is complete, the next stage is to develop some packaging and marketing messaging. This requires assistance from food photographers or graphic designers and copy editors. Nutritionist must be consulted regarding health claims of any ingredients. A consumer behavior specialist may also be needed to determine the true psychological drivers behind purchases in similar products. Mock up packaging is developed and tested with consumer panels or experts in the product's target market.

Stage 4 – Small-Scale Production

Once the prototype is in its final form, focus turns to small scale production. Most incubators stop here at the prototype development stage. But because Moroccan producers are so sensitive to risk, it would be highly beneficial if facilities were available to experiment with pilot-scale production issues. The pilot scale would allow for a small level of production suitable for test marketing. Small food entrepreneurs could work with students and professors to actually test run product - good for the students, good for the entrepreneurs. Ultimately, the line would have to include conveyors and larger scale cooking and blending facilities. But a state-of -the-art pilot plant could significantly reduce the risk of innovation.

It is also this stage where all the ISO/HACCP regulations and quality control issues come into play. The incubator facility could provide training in all areas of quality control.

Business resources attached to the incubator can help evaluate test market sales data, distribution and logistics issues, and potential steps to either improve pricing premiums or cut costs.

Stage 5 – Full-Scale Commercial Production

This stage is obviously the culmination of a successful incubation process. In this stage the entrepreneur, having been assisted through the FIC, can then give back to the industry by providing good jobs for graduating students interested in the processed food industry.

A Concrete Example - The Food Innovation Center, Oregon State University

Across the U.S. there are universities focused on agricultural production and processing, much the same as in Morocco. These universities have what is called Agricultural Extension or Agricultural Experiment Stations to provide private farmers and private producers technical expertise to assist

them with issues such as integrated pest management, plant disease control, varietal development, yield improvement, etc.

U.S. farmers are facing many of the same pressures Moroccan farmers are in terms of global competition and also searching for opportunity in value-added products. The state universities and the agricultural extension have changed to include more downstream production assistance. One such example is the Food Innovation Center (FIC) that is part of Oregon State University.



The FIC is a resource for client based Product and Process Development, Packaging Engineering and Shelf Life Studies, and Consumer Sensory Testing. Research work is conducted to develop innovative Processing and Packaging Technologies. The FIC also engages in scholarly research in Agricultural Economics and Marketing. The Agricultural Development and Marketing division of the Oregon Department of Agriculture ([ODA](#)) located at the FIC provides Local, National, and International Marketing Access and Development.

The Food Innovation Center has the following departments to assist food innovation

- Economic and Marketing Research
- Consumer Sensory Testing and Research
- Market Access and Development
- Packaging and Shelf Life Testing

- Processing and Packaging Technologies
- Product Development

From the website:

"We partner with: the Department of Food Science and Technology ([FST](#)) to provide educational programs and subject matter expertise, the Small Business Development Center ([SBDC](#)) to provide start-up business development education for entrepreneurs, Portland Development Commission ([PDC](#)) for grant funding opportunities, Oregon Micro-enterprise Network ([OMEN](#)) working with small enterprises in both rural and urban locations.

The collaborative work at the FIC provides many opportunities for producers, processors, marketers, and entrepreneurs to actualize their food to market goals."

The key point of the FIC is how the program uses a multi-disciplinary approach. The University provides Food Technology expertise - and that goes both ways, it helps food entrepreneurs with technology and provides students an opportunity to participate in the innovation process directly. There are financial resources available to entrepreneurs from the Small Business Development Center and grants from regional development centers. Bringing the technical expertise with financial resources provides the support necessary to have successful food product innovation.

Another example on the East Coast is the Food Innovation Center associated with the New Jersey Agricultural Experiment Station and Rutgers University.

Food Innovation Center

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Incubator Facility and Equipment

The Food Innovation Center has been serving clients from its offices in Bridgeton NJ since 2001, and is now operating from a 23,000 sq. ft food business incubator facility in Bridgeton, which has been operational since October 2008. This new facility greatly expands the capabilities of the Food Innovation Center and **enables Product Design, Development, Analysis, Commercialization, and Ongoing Manufacture of Products for Sale to Retail and Foodservice Markets.**

Photographs that illustrate our current capabilities can be seen below and these will be updated regularly. For more information about the operations of the Rutgers Food Innovation Center and an interactive layout of the incubator facility please click [here](#).



Another example of a food innovation center outside the university example is by agricultural product giant Cargill. Cargill is essentially an agricultural products company with offices in 66 countries and over \$100 billion in annual revenues. Central to their growth strategy is innovation in partnership with food companies. Not only do they work with large companies such as General Mills, Kraft, and Unilever, but they also help innovation in small and medium sized businesses. Arguably, Cargill is one of the most successful agricultural companies in the world and core to that success since 1896 is a strategy of and commitment to innovation - at all points in the supply chain.

Innovation

Innovation is essential to Cargill's intent to be our customers' partner of choice. Over the past decade, we tripled the company's R&D investment, with more than 1,400 technologists sitting alongside their commercial counterparts. We put in place an innovation system that guides how we develop, connect, manage and measure our innovation effectiveness companywide. It helps us codevelop significant new products and processes with key customers. When it comes to nourishing new ideas, we want to be the innovation partner that customers come to first.

As a technology partner, Cargill offers its expertise to food business in the U.S. at its North American Food Innovation Center.

The specialty of the Cargill NA Food Innovation Center is:

- Developing New Ingredients
- Rapidly deliver on concepts, mock-ups, and prototypes
- Provides culinary-based applications offering unique visual, taste and texture appeal
- Develop and scale-up solutions such as ingredient systems or finished products
- Create an integrated supply chain program by drawing upon capabilities in sourcing ingredients and relationship with co-manufacturers and co-packers.

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North American Food Innovation Center

The Food Innovation Center in Minneapolis, Minnesota, United States, is the North American hub of Cargill's global network of food and ingredient research and technology centers. This network provides access to deep technical expertise across Cargill's broad portfolio of ingredients and food systems, as well as to experts in key disciplines, such as sensory science, culinary based-product development and analytical and data analysis.

A place to collaborate directly with Cargill experts

The Minneapolis-based Innovation Center features laboratories and piloting facilities designed to support the development of innovative solutions in:

- Bakery (the Center collaborates with Cargill bakery applications facilities in Atlanta, Portland, Toronto and Vilvoorde, Belgium)
- Beverages
- Snacks, cereals and bars



Bakery product innovation is one of several pursuits at the North American Innovation Center.

Also linked to the Food Innovation Center in Minneapolis are technical centers in:

- Atlanta, where dairy is the focus
- Spiritwood, North Dakota, noted for strong expertise in malting and brewing technologies

Technical assistance at every step

Through our Food Innovation Centers, we can help you:

- Develop new ingredient systems and components
- Rapidly deliver on concepts, mock-ups and prototypes
- Provide culinary-based applications offering unique visual, taste and texture appeal
- Develop and scale up solutions, such as ingredient systems or finished products, and assist with process development and shelf-life testing
- Create an integrated supply chain program by drawing upon our capabilities in sourcing ingredients and relationships with co-manufacturers and co-packers

Cargill has operations in Morocco and has been active in Morocco since 1997. Cargill acquired Degussa's Food Ingredients business, resulting in 130 employees located in three locations — Casablanca, Fes and Essaouira.

The focus of this business is:

- Grain, oilseeds, meals and vegetable oils trading and distribution
- Risk management and technical services
- Specialty food ingredients including texturizers and flavors

Cargill could be a great ally for Moroccan producers and food entrepreneurs. Rural development is a core component of Cargill's Corporate Social Responsibility program. They've invested in agricultural projects raising rural incomes as the objective in Latin America, Asia, and the Middle East. It's quite possible that Cargill would be interested in being a corporate sponsor of a Moroccan Food Innovation Center.

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Corporate Responsibility Report

Learn about Cargill's global corporate responsibility actions.

- Visit the online report - 2010 Corporate Responsibility Report: Growing Together
- Download the report - 2010 Corporate Responsibility Report: Growing Together

Rural development

Improving the livelihoods of people around the world

Our focus on rural development involves improving conditions in non-urban areas, especially where agriculture is prominent in the economy. Our investments can improve livelihoods for rural residents in economically meaningful, environmentally sustainable and socially responsible ways.

Rural development provides us with reliable partners to help our customers succeed. For instance, higher crop yields and quality help ensure a dependable supply of inputs for our processing facilities. Farmers who produce better crops or livestock gain additional income and therefore stand to become better customers for our animal feeds businesses and better long-term suppliers for us.

Explore these facets of rural development

- Investing in agricultural production
- Investing in food, feed and fuel processing
- Investing in communities

Rural Development video

Rural development - Cargill's work in rural communities to improve farmer productivity. Watch the video to learn more about Cargill's rural development actions.

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RECOMMENDATION FOR DEVELOPING A FOOD INNOVATION CENTER IN ORIENTAL

Innovation will be the key to Morocco's export success in distant markets. A full and detailed description of a consumer oriented food incubator and multi-disciplinary training institute should be developed for the Oriental area to spur innovation. A meeting was held with Dr. Al Ahmed Elamrani Coordinateur Master Sciences Agro-Alim .MSAA, Oujda to discuss his opinion about the project.

The incubator/institute can be operated under the auspices of MSAA-Oujda if Ministerial approval could be obtained. He would be interested to push the idea internally if Ministerial momentum could be generated. He very much liked the idea because his students are not finding fulfilling careers available to them. Often they just become lab technicians for companies such as Aïcha, which is a good first job but not necessarily an entire career. Students would enjoy learning more about exporting, developing new products for global markets and finding jobs in those areas.

To build the enthusiasm of the Ministry and the University partners in Oujda about the idea of a Food Innovation Center, a type of fact-finding mission to visit various food innovation centers in the U.S. would be useful. The objective of the mission is to have direct conversations with Food Innovation Managers, food entrepreneurs and researchers for Moroccans to see how the multi-disciplinary approach to innovation could be replicated in Morocco.

We recommend a separate mission to meet with Cargill and Tetra Pak to discuss possible corporate sponsorship of a Moroccan Food Innovation Center.

3. RE-FOCUS EXPORT MAROC EFFORTS ON SMALL-SCALE PROOF OF CONCEPT DEMONSTRATIONS

Export Maroc has done a good job getting Moroccan products into the large trade shows. They are very helpful in getting samples shipped and arranging trade show booths. Furthermore, Export Maroc did a great job getting products on the shelf with a small New York grocery chain, Food Emporium.

This is necessary export development work, but not sufficient to develop and grow Moroccan agricultural based exports to the U.S.

Export Maroc needs to set up an entire system of export test marketing for the U.S. Not just provide a souk-such as opportunity in New York Javits Center or on the shelf of a small New York grocery chain with little or no promotion, product demonstrations or customer feedback mechanisms. The U.S. market is not a *souk*, it needs to be aggressively worked to achieve any market penetration.

To do this, Export Maroc must build a relationship with additional grocery chains. Each chain will receive a budget to support the merchandizing and product demonstrations of individual products, on rotation throughout the year. These grocery chains become test channels for products. It's good for retailers because they are getting new products and an active floor to stimulate consumer interest. Sales should be monitored and shared with Export Maroc and the Moroccan producer as part of the agreement. If sales do not achieve a certain level of units per store per week with reasonable merchandising and product demonstrations, that product is rotated out and sent back to the drawing board with suggestions for improvement.

It's all about getting critical market feedback and adjusting the product to better penetrate the market. If no feedback is provided and no adjustments are taking place, exports of Moroccan products will continue to languish as they do now. The latest Winter Fancy Food Show in San Francisco in January 2010 showed the same short list of products – capers, olive oil, herbs, canned fish – that were exhibited in 2004. There is a significant lack of serious product innovation and marketing leading to stagnant exports, with or without a Moroccan – U.S. Free Trade Agreement.

RECOMMENDED STRATEGY FOR EXPORT MAROC

Author recommends that Export Maroc drastically change its approach to developing exports to the U.S. for Moroccan food companies. The change should shift away from the souk-such as marketing approach of displaying products passively in front of potential buyers on a shelf or at a trade show to aggressively marketing and soliciting consumer/retailer feedback. There needs to be a drive to testing product in real market conditions and encourage innovation that utilizes that type of market feedback.

Tajini product provides a perfect example. Tajini, along with about 10 other Moroccan products, were part of the Food Emporium project. Food Emporium agreed to merchandise these products and provide some internal store circulars for 4-5 weeks. There were no planned product demonstrations. No cooking events to highlight the product. Some stores did an excellent job merchandising a Moroccan-themed table, other stores just had the product on a shelf with very little point-of-sale information.

According to Steve Craveats who was in-charge for the project for Food Emporium, there was no plan to provide feedback for producers, other than if they were going to pick them up as a continuing product item or not.

With the help of DAI, Mr. Nussbaum arranged product demonstrations for the Tajini product. We held 4-5 demonstrations and conducted customer surveys to solicit feedback. We asked and received detailed sales performance data before, during, and after our product demonstrations. We transformed the entire product concept based on what we learned in order to compete better on U.S. shelves. If we had not aggressively pursued product promotion, sales information, and customer

feedback, the product would be no closer to achieving U.S. exports than if the product had never participated in the program.

Now with a completely renovated product concept, we are close to re-testing the market again. I'm sure there will be additional improvements to be made. But it's this aggressive process of test, feedback and adaptation that is the cornerstone of successful product innovation.

Also, because this aggressive approach is more resource intensive, Export Maroc needs to be able to better screen products that participate. For example, there was an Orange Juice product that was brought over for testing. With even a cursory review of the U.S. market, there is no way that Moroccan orange juice can compete and therefore no export development resources should have been expended to promote this product. As of yesterday, that juice product had been moved to the "discontinued" items at a deep price discount. Export Maroc needs to be able to accept or reject a Moroccan firm's application for export support based on some kind of preliminary feasibility analysis.

The objective of Export Maroc in the U.S. should be entirely on demonstrating proof of concept. If Export Maroc can help Moroccan firms build their case for proof of market concept, it will make it possible for those Moroccan firms to find suitable marketing partners.

The result of Export Maroc's efforts should be a package of sales data, consumer information and feedback, and retailer recommendations that go to prove the concept of the product. The Moroccan producer can then take this package to large U.S. distributors and other retailers to make their case and expand their export sales.

Low-Volume Distribution Considerations

Typical export support includes subsidies for such activities as trade show participation, shipping samples, and marketing material development. Throughout this report, we have argued that a greater focus on proving product concept is also critical element of export success. An additional and highly pragmatic consideration often ignored by export development agencies is the role of distributors and how distribution considerations impact the chances of actually getting product on to store shelves for sales and evaluation.

New products in the testing phase are usually ordered by retail accounts in very low volumes. These low-volume orders are often problematic for distributors. Distributors need to maintain margins of roughly 30% on delivery of food products into retail establishments. To maintain that margin requires a certain volume of cases or pallets/unit time. If volume thresholds are not met for each product line, margins drop and carrying the product becomes more of a distraction.

If the product doesn't make economic sense for the distributor to deliver at very low volumes, it simply won't make it to the shelves. Therefore, Maroc Export needs to subsidize low-volume distribution just as much as it supports trade show participation because without distribution any investment in the Fancy Food Show will not lead to significant sales. We recommend that a distribution allowance be made during the testing phase to support delivery of the product to as many accounts as possible at whatever volume the retail account requests. If low-volume distribution was subsidized in order to build accounts, costs are shared with the distributor and market growth can be achieved at a much faster rate.

CONCLUSION

Morocco is a small agricultural producer nation. Currently, Moroccan agricultural exports to the U.S. are on the order of \$30m-\$40m, with fresh Clementines sold into the east coast during November, December, and January accounting for the bulk of sales. Olives and olive oils, fish products, capers, and some tomato powders make up the remainder. Compared to the billions of dollars in agricultural exports from Mexico, Canada, China and Latin America, most raw or semi-processed products that Moroccans produce are not competitive in terms of price. It is simply too difficult to compete with the economies of scale that are enjoyed by these giant supplier nations. Moroccan agricultural

suppliers may compete in Europe and the Gulf States where they enjoy economic advantages due to market proximity, but for more distant markets such as the U.S., Japan, and China a new approach must be taken.

There exists a \$2.2b market in the U.S. for ethnic processed foods. This market has continued to grow at over 5%/yr even during the recent recession. Sixty-four percent of that market for Hispanic foods while Middle Eastern foods make up 1-2%. It is Mr. Nussbaum's contention, backed up by third party trend analysts, that now is the time to leverage Morocco's rich and well-recognized cuisine into products that will be suitable for U.S. consumers. The challenge is that the domestic Moroccan market for shelf-stable Moroccan processed foods is not developed. All of Morocco's wonderful culinary innovation and transformation happens inside Moroccan homes every night. Now is the time to adopt that process in the factory and deliver those finished, value-added products for the rest of the world to enjoy.

The reality for hurried U.S. consumers is far different than for Moroccan consumers. Most U.S. households have two working adults, children whose activities require complex logistics, and tight economic budgets with little or no funds to hire domestic help. For the adults, the time and energy to create meals from scratch every night simply aren't there. As described in this report, U.S. consumers want variety in their diet but it must be easy and convenient to fit their high pressure lifestyles.

The challenge is to develop Moroccan based products to market into this growing demand for ethnic processed foods. This can be done but it will require a type of "moon launch" moment where all the stakeholders - export promotion agencies, entrepreneurs, food science institutions, logistics providers, packaging technologists, etc. - all work together to develop a Moroccan processed food industry reliant on innovation as opposed to just price and quality. More than anything, this requires a change in mindset from those in the agro-business industry from a simple commodity supplier to a agricultural product developer. As referenced in the title of this report, agricultural producers must shift away from a souk mentality where raw or semi-processed product is proudly but simply displayed at a hopefully competitive price alongside many similar products. In a globalized economy, however, the souk has become infinite and only the global low cost producers survive.

To transcend this souk mentality requires a shift towards product innovation. The country must bring new products that the world has not seen before. Morocco has the culinary base to do that. This report describes several real world examples currently underway, including new grilling seasonings, consumer-friendly packaging for *harissa*, almond milk and an entirely new product concept - a couscous sauce based on Moroccan tajine.

There is much work to do. Innovation surrounding new agricultural products is, by its very nature, a risky business. Food Innovation Centers, proof-of-concept export development, grant programs such as MEC and business development partnerships will go a long way toward managing and mitigating these risks and ushering in a new era of innovation for the Moroccan agricultural industry.