

## Market analysis of minimally processed onions in the Philippines

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**ABSTRACT:** The study aimed to analyze the market of minimally processing (MP) onions in the country by identifying the available MP onion products in the market, describing and segmenting the potential markets with its purchasing behavior as well as its requirements and its effect to the demand and supply of MP onions. Results revealed that MP onion shallots, yellow and red bulb products were available in the market and were demanded by the food industrial sector. Market segments were the meat processors, snack-food manufacturers, fast-food restaurants and households. Meat processors and fast-food restaurants preferred MP yellow bulb onions. The former used it for the canned and ready-to-eat products while the latter for the quick-serving food such as burgers, pizzas, pasta, and the like. The snack-food manufacturing group utilized MP shallots as raw materials for their product flavorings. They further processed it into onion powder and oil as seasonings for their biscuits and instant noodle products. Market segments with cold storages procured in weekly or monthly while daily for households. Meat processors and fast-food and restaurants required 994mt and 2,500mt of MP yellow bulb onions, respectively while snack-food manufacturing companies need around 2,700mt of MP shallots. Supply of MP yellow bulb onions was short by 95 percent while at present MP shallots supply was just enough. With the growth of the food industrial institutions the demand for MP onion products will continue to soar posing a market potential for the onion industry.

**KEYWORDS:** Yellow bulb onion, shallots, minimal processing, meat processors, fast-food restaurant, snack-food manufacturing.

### 1 INTRODUCTION

Minimally processed (MP) onions are fresh-cut ready-to-eat or ready-to-use onion products that offer enhanced consumer end-use experiences, presenting considerable opportunities to the market ([1]; [2]; [3]). In the United States, around 20 percent of onions sold in food service or retail is fresh-cut or processed [4].

Multiplier onion (*Onion aggregatum*) is consumed in large quantity in the southern provinces of India. Peeling is a time consuming process, as a result of which the working women do not prefer using this particular type of onion even though it is much preferred and reported to have many medicinal advantages. These are used in large quantity in the catering and pickling industries creating a need for the peeling and minimal processing technology. Presently processing of onions is as dried, pickled or powdered products, but their use as peeled ready to use vegetables has been little studied [5].

In the Philippines, the demand for the minimally processed (MP) onions has gradually increased due to the growth of the industrial institutions like hotels and restaurants, fast-food, processing and manufacturing sectors because of convenience. They are used as spices and ingredients to condiment processing. It was also used for medicinal purposes. Aside from household consumption, the industrial market consumed onion in bulk.

The demand for this commodity was gradually increasing due to the growth of the industrial institutions like hotels and restaurants, fast-food, processing and manufacturing sectors, and the like. This type of market requires huge volume of raw materials as ingredients to be used for their products. Nonetheless, they prefer pre-processed and processed products.

Onion minimal processing in the country was not yet in the mainstream because the industry has very little information on its market opportunities. Consequently, resulting to the recommendation of searching for its potential markets [6]; [7]; [8]. Thus, this paper on exploring the potential markets of minimally processed (MP) onion products in the domestic food industries by analyzing its target markets as well as its demand and supply.

## **2 MATERIALS AND METHODS**

The study was conducted in Ilocos Region and Nueva Ecija, the major producing areas for shallots and bulb onions, respectively for the supply side [9]; [10]. On the other side, food industries located in major cities in the country such as Metro Manila, Pampanga, Cavite, Tagaytay, and Davao were considered for the demand side [11]. Secondary data, key informant interviews, face-to-face and telephone interviews were implemented to collect data on the actual demand of the companies under the food industry as well as their quality specifications on the product under study. Interviews with the farmers were also carried-out for the supply side.

Market segmentation was done based on the target market's kind of MP onion products and volume requirements needed to produce their products offered in the market. Respondents were the food processing companies located within the National Capital Region and other major cities in the country which includes 58 meat processing companies in Manila, Pampanga, Cebu, and Davao; 5 major snack-food companies in Metro Manila and Cavite; and 8 major fast-food corporations with their own commissaries.

Data were processed and analyzed employing descriptive statistics.

## **3 RESULTS AND DISCUSSION**

### **3.1 MP ONION PRODUCTS IN THE MARKET**

Minimally processed onion products available in the domestic markets were fresh peeled bulb onions and shallots. They were usually ordered in bulk for food manufacturing, as spices and ingredients. MP yellow bulb onions were mostly preferred by the meat processors and the fast food chains to minimize labor for the onion peeling activities. On the other hand, MP red bulb onions were demanded in times when yellow bulb onions in the country run out of supply. Local supply of raw yellow bulb onions stored in cold storages lasted only for four months while nine months for the red bulb. Some of the manufacturers resorted to importing low priced bulb onions especially when domestic onion products coming from cold storages prices shoot up. In this case, meat processors and fast food restaurants hired additional labor for the peeling of bulb onions. Meanwhile, onion farmer cooperatives with marketing agreement with the food manufacturers were doing the peeling of onions.

Moreover, minimally processed red bulb onions were available in wet markets and supermarkets for household consumption. For working mothers who have not enough time in the kitchen, peeled red bulb onions were patronized for convenience. In wet markets, vendors peeled damaged red bulb onions and put them inside a plastic bag at 250 g pack or less. In supermarkets, onion stocks with damage were peeled and packed in the same size with those in wet markets. This pack usually consumed in the household for 2 to 3 days.

MP shallots were demanded by the snack food manufacturers which primarily used for flavoring. Results showed that minimal processing were done by trader/consolidator/processors with existing contract with the snack food manufacturers. Unlike in MP bulb onions, no farmer cooperatives were involved in the minimal processing of shallots in the country. Before, farmers in Ilocos Region where majority of shallots came from, preferred waiting for exporters to buy their produce because of better price and disposed rejects from export to the traders engaged in minimal processing. But with the increase in demand for the MP shallots, traders offered same price with the export ones to accumulate supply. With this development, discussion on farmers doing the MP as value adding activity were introduced to women in the community, however, peeling of shallots was very tedious for them because of the smaller bulb size.

### **3.2 MARKET SEGMENTATION**

Results showed that the market segments utilized MP onions were companies such as meat processing, snack-food manufacturing, fast-food corporations/restaurants, and households.

### 3.2.1 MEAT PROCESSING COMPANIES

This segment represents the small and medium enterprises as well as the huge companies whose products were processed meats. Minimally processed onions in sliced, minced and onion powdered were always used as seasoning for processed meat products. MP onions were used in canned or in pouch ready-to-eat meat goods. On the other hand, powdered onions were preferred in processed meats such as sausages, ham, *tocino* or sweet cured meat, etc., because it blended with the color of the meat.

### 3.2.2 SNACK-FOOD MANUFACTURING COMPANIES

This was composed of companies that produce salted snacks and instant noodles. At present, they purchased local minimally processed shallots as raw materials for processing shallots powder and oil for seasoning their salted snacks such as biscuits, chips and noodle products. However, in times of non-availability of minimal shallots they resort to importing onion oil as substitute for their seasonings. However, according to them they preferred processing shallots oil than importing onion oil because it was tastier for flavoring. On the matter between shallots and red bulb onion, shallots oil is colorless while red bulb onions retained their color that stained the final products.

### 3.2.3 FAST-FOOD CORPORATIONS/RESTAURANTS

The main products of the companies under this segment were burgers, pizza, pasta, and the like. Since these companies were quick serving, they preferred fresh vegetables that were minimally processed for convenience because peeling the bulb onions was time consuming and more labor was needed. MP products were used for garnishing their products.

### 3.2.4 HOUSEHOLD

At present, family members were very busy earning their livelihood so MP products in the market were beginning to be patronized. This segment includes the families with working parents and do not have enough time to prepare their food so that they preferred the easy way of cooking. Available MP onions in the forms of pre-peeled, sliced and minced would do them a favor of saving time in cooking and having more quality time with their families.

## 3.3 MARKET SEGMENTS' PURCHASING BEHAVIOR

The target market's buying behavior greatly affects the sales of any product. Companies who place orders in volume place orders within a period to give the suppliers enough time to deliver their requirements. For the consumers of freshly peeled bulb onions and shallots, they usually purchased them in weekly basis due to the perishability of the product. However, for those companies with cold storages that could maintain the freshness of the product, monthly basis of procurement was applied. Moreover, if minimally processed bulb onions were not locally available, fast food and restaurants and meat processors resorted to buy imported fresh bulb onions and hired additional laborers to do the peeling. For the households, the practice was to buy minimally processed onions in daily basis.

## 3.4 QUALITY AND QUANTITY REQUIREMENTS FOR MINIMALLY PROCESSED BULB AND SHALLOT ONIONS

Quality requirements of the markets were limited only on the size of onions and state of MP onions upon arrival at the buyers' warehouse. For bulb onions, meat processors and fast food chains and restaurants required its size around 100g per piece with 2 inch in diameter and chilled at 0°C (Table 1). They preferred the MP yellow granex onions but its supply in the country normally lasts for four months only, thus they resorted to the red bulb as alternative or import raw supply for their requirements. On the other hand, for MP shallots, customers required medium sizes with more or less 1.6 to 2.5cm in diameter and dried surface when delivered to their warehouses.

Estimated annual volume demanded by the identified market segments was around 3,494 metric tons of MP bulb onions and 2,700 metric tons of MP shallots. Out of the total requirement of MP yellow bulb onions, around 72 percent were demanded by the fast food and restaurants sector and the 28 percent went to the meat processors. Demand for MP shallots was solely from the snack-food manufacturing sector (Table 2).

However, it was noted that their demand for the MP products was inelastic or insensitive to price changes. They were more concerned on the availability of supply and its quality. Thus, it denotes a possible market penetration given that there are right resources, knowledge on production and processing, and enough produce to provide sufficient supply.

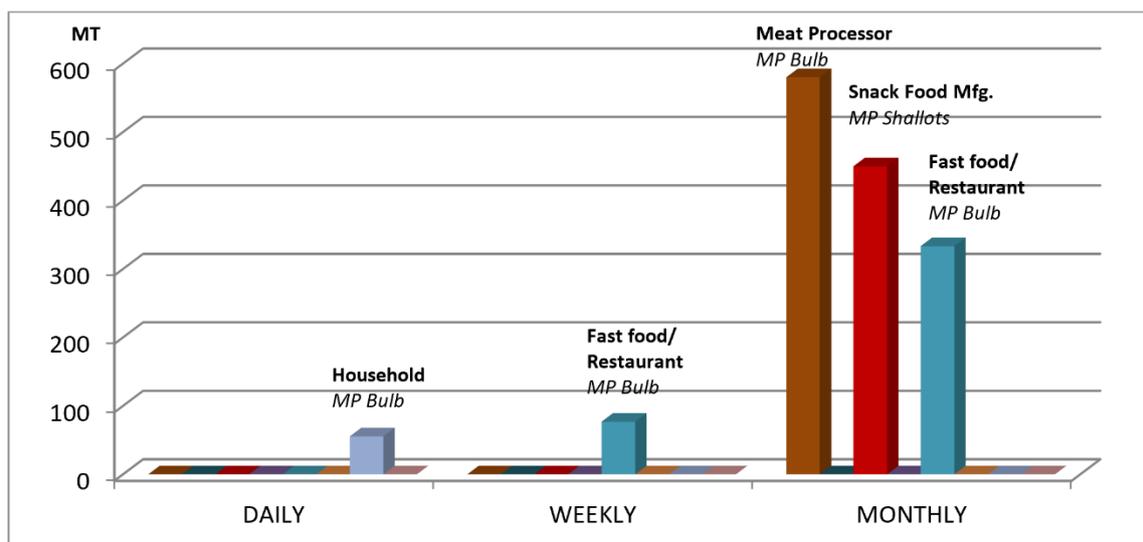


Fig. 1. Market segments' purchasing behavior of minimally processed bulb and shallots

Table 1. Quality standard requirements by consumers, 2017

Item	Minimally Processed Yellow Bulb Onion	Minimally Processed Shallots
Size	100g/pc 2 inch in diameter	Medium size 1.6-2.5 cm
Storage requirement	Stored at 0°C	Dried surface

Source: Interviews

Table 2. Estimated average annual volume demanded by different market segments, 2017

Market Segment	Peeled Bulb (Yellow), MT	Percent share to total demand	Peeled Shallot, MT	Percent share to total demand
Meat Processing	994.29	28%	-	-
Snack-Food Manufacturing	-	-	2,700.00	100%
Fast-Food/Restaurant	2,500.13	72%	-	-
<b>Total Requirement, MT</b>	<b>3,494.42</b>	<b>100%</b>	<b>2,700.00</b>	<b>100%</b>

Source: Interviews

### 3.5 DEMAND-SUPPLY ANALYSIS FOR MINIMALLY PROCESSED (MP) ONION PRODUCTS

Based on the survey, supply of minimally processed peeled bulb onions in the country only provided 5 percent of the total demand and a gap of 95 percent in the supply. Though consumer market sectors most preferred yellow bulb for MP, but in times of supply shortage they accepted MP red bulb from the local suppliers. Moreover, during lean months and no deliveries of MP bulb onions they resorted to importing yellow bulb onions to suffice the demand gap but they were the ones doing the minimally processing.

On the other hand, the supply of the minimally processed shallots is currently sufficient for the demand of the snack-food manufacturing sector (Table 2). However, this segment shared that in times of supply shortage they imported onion oil as substitute in spite of its high cost. This only shows that MP shallots as flavorings for their snack food are really important ingredient in their production.

But with the scenarios of the growing snack-food manufacturing sector in the country and the export demand for shallots while not increasing its local supply, a shortage of MP shallots will be experienced in the near future. Thus, it implies a good local market opportunity.

Table 3. Domestic Demand and Supply for Minimally Processed Shallots and Bulb Onion Products, 2017

Onion products	Local supply, mt	Local demand, mt	Demand-Supply Gap	
			Volume, mt	% share
Peeled Yellow bulb	496.00	10,960.00	10,464.00	95.47%
Peeled shallot	5,400.00	5,400.00	0	0

Source: Survey

#### 4 CONCLUSION

Minimal processing of bulb and shallot onions is demanded by the food industry sector in the Philippines. The target market segments identified were the meat processors, fast-food and restaurants and snack-food manufacturers. Minimal processed onions were used as flavoring and condiments for their products. However, meat processors and fast-food and restaurants preferred minimal processed yellow bulb onions while minimal processed shallots for snack-food manufacturers. With the high supply-demand gap for the minimal processed bulb onions, implies a good local market opportunity. For MP shallots, market opportunity will also be realized if farmers would not prioritize the export market and instead venture on minimal processing. The system for onion processing provides market potential for the onion industry in the Philippines. With properly identified market, enough supply, low-cost and strategically positioned products, local produce will gain its market share.

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