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A newsletter for the cranberry growers of Clement Pappas & Co., Inc.

Achieving Excellence in Supply Chain Management

The following article by Peter Pappas just appeared in the company employee newsletter and provides an interesting insight into the complexities of managing a large manufacturing business at multiple sites. One thing that is implied in Peter's comments is the value of having a reliable supply of inputs, including cranberries.



Peter Pappas

Virtually every other thing that Clement Pappas buys as an input for manufacturing, other than cranberries, is done on a much shorter term. Cranberries are not only unique because of the long term nature of the supply agreements, but also because of the inherent variability of the supply, depending on the whims of Mother Nature. We partially manage this by obtaining cranberries from several different geographical locations and a large number of growers. Notwithstanding, anything you can manage as a grower to provide a stable cranberry supply and quality along with accurate crop predictions certainly helps the supply chain management process by not introducing yet other variables into an already complicated equation. (B. Peterson)

Dean and I and other members of the Executive Team recently spent a day away from the office doing strategic planning. We focused on how we could go from being a good company to a great company. While we dealt with a lot of issues, there is no question that in order to be a great company we will need to achieve excellence in managing our supply chain and have set this objective as a key strategic goal.

We have initiated a process that we believe will enable us to achieve this goal and are committed to expending the necessary resources to do it right. While we have engaged a highly qualified consulting group to lead and facilitate this process, our ultimate success will depend upon the effort each of us makes to participate in this process and our willingness to accept change in terms of what and how we perform our jobs. This change process will not be unlike our

conversion to our new information system about five years ago. At that time we had some doubts about how that was going to turn out. Now as we look back, it is hard to imagine how we could have done business without it.

Why Are We Doing This Now?

Primarily, because our internal business has changed dramatically in a relatively short time along with the fact that both technology and customer expectations have also evolved. Our growing complexity is best exemplified by the fact that we now have four combined manufacturing and distribution centers scattered across North America along with at least seven copackers compared to just 2 plants and one copacker four years ago. Moving ingredients, packaging and finished goods to, from and between facilities to support production of many more

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Winter Flooding

Information for this article provided by Dr. Teryl Roper, U of WI, Madison and Dr. Carolyn DeMoranville, UMass Extension

Between early December and the middle of March, cranberry beds are likely to be covered with a layer of ice, applied through flooding to insulate vines against the winter cold. Last winter, several marshes in Wisconsin lacked adequate water for winter flooding. The resulting dead vines were a stark reminder of the importance of this yearly practice.

Forming the Ice:

Ice is applied during the first real cold snap of the season (when temperatures reach the single digits). Excellent conditions for ice formation occur as the temperature reaches the single digits. Usually, enough water is applied to form 8"-12" of ice, the ice tending to be thicker in those beds where the grower anticipates sanding. A thicker ice layer allows enough ice to support the weight of the sanding truck.

Benefits and Risks:

The pronounced benefit of sanding is that the temperature below the ice stabilizes at around 28 F. This provides very adequate protection against winter cold damage. There is a

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Achieving Excellence in Supply Chain Management

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unique products, packages, case and pallet configurations has created an increasing challenge to our people, processes and information systems.

What Is Supply Chain Management?

It begins with the tasks that go into sourcing our raw products and materials from our suppliers and it includes all the steps in the process to the point at which our product is delivered into the hands of the final consumer. The supply chain is not just the physical activities of sourcing, transporting, storing, blending, and shipping materials and finished goods. It is also a process that involves understanding our customers' demand for our products and developing a forecast and an integrated plan utilizing the right information systems, manufacturing capabilities and organization to execute it.

Why Is Supply Chain Management So Important?

Excellence in supply chain management is a means of better satisfying the needs of our customers and ultimately gaining a competitive advantage over our competition.

First, our customers are increasingly looking to suppliers to respond more quickly to the changing needs of

consumers and shorten the time between their order and delivery of product. To the extent that we can consistently meet this challenge, we will help our customers reduce their inventories and their overall cost of doing business with us. They will have less money tied up in inventory, sell more goods because of fewer out of stocks, and have fewer goods go unsold due to overage or obsolescence. Most importantly, they will seek to do business with those companies who can best deliver this service.

Second, the processes we set up to satisfy our customers will allow us to achieve many if not all of the benefits described above. By better understanding our customer's demand for our product and streamlining our internal processes as well as those with our suppliers, we can dramatically impact our inventories, efficiencies, waste and ultimate costs while becoming more flexible and nimble to respond to change.

How Will We Achieve Excellence In Supply Chain Management?


First and foremost, Dean and I as well as the Executive Team are totally committed to achieving this objective. We have begun a formal process to

improve our current supply chain. We are doing this with the help of a consulting company that specializes in supply chain issues as I noted earlier. We have formed a Steering Committee and a Project Team and are in the first stage of assessing our current supply chain. There are three phases to this assessment: as follows:

1. Process Analysis
 - a. interviewing all individuals at all facilities currently involved in the process and obtaining their input
 - b. laying out the process flow in order to map out how these processes cross over and impact one another
2. Technology Analysis
 - a. review our current supply chain systems
 - b. assess the overall effectiveness of these tools
3. Organizational Analysis
 - a. determine if the processes currently being performed reside in the proper department

This process will help us identify our strengths and weaknesses and identify opportunities that we should pursue to achieve improvement.

Who Will Be Involved In The Supply Chain Management Process?

While this project has just begun with two relatively small teams, it has already grown through the interview process to involve more of you. In the longer term as we move forward, this process will involve every department, facility, our suppliers and touch virtually every one of you in some way. We are asking for your input into this process as well as your openness to accept change in order to achieve a higher level of performance that will support our achieving excellence in managing our supply chain. 

Upcoming Events:

Dec. 5-6, 2004	Cranberry Institute Board Meeting, Embassy Suites, Tempe, AZ
Jan. 11, 2005	UMass Update Management Meeting, Radisson Hotel, Plymouth, MA
Feb 20-21, 2005	CMC Winter Meeting, Ritz Carlton, Pentagon City, Arlington, VA
Jan. 18-19, 2005	Wisconsin Cranberry School, Chula Vista Resort, WI Dells, WI
March 4, 2005	Cape Cod Grower's Meeting, Radisson Hotel, Plymouth, MA

Grower Profile:

This profile represents the first in a series of intended articles highlighting different marshes/ bogs and the respective marsh owner/ manager. It is my goal to frequently include brief grower profiles in future newsletters. ~Brooke Peterson

From Factory to Farm:

After working 20 years as a millwright in a local paper mill, Jon Urban says that he appreciates every single day working outdoors on a Cranberry Marsh in Central Wisconsin. Jon works as the marsh manager for Farmland Management on the Golden Sands Marsh. Farmland Management oversees a number of cranberry properties in Central Wisconsin for John Hancock Insurance Company, including the Golden Sands Marsh.

During a late summer visit with John at the Golden Sands Property, it was easy to understand Jon's employment choice. It was a clear August day with geese flying overhead and sand hill cranes whooping in the distance. Other than that, it was peace and quiet.

After 20 years in the paper mill, and building some houses on the side, Jon came to the property in 1996. At that time the marsh was three years old and owned by Bassuener and Goska. In 1993, the marsh consisted of four beds of Stevens cranberries. In 1994, five and a half more beds of Stevens were added. In 1997, Jon finished the other half of 'bed 10', bringing the planted acreage total to 46 acres. In 2001, the property was purchased by John Hancock Insurance and Jon stayed as marsh manager after the change in ownership. Further expansion of the marsh is currently under way. The marsh is situated on a 160 acre property.

Jon explains that his mechanical and practical "how-to" skills acquired as a millwright and carpenter are



*Chris, Jon, & Mike
Golden Sands Cranberry Co.*

transferable to marsh work. Jon also feels good record keeping and 'attention to detail' are other valuable skills in managing a marsh. The biggest recent

challenge in growing cranberries is Sparganothis worm. This past summer, they took no chances with this pest, applying a springtime Lorsban application followed by an Orthene/ Diazinon combination in a second application. Weeds are, like in any cranberry bed, a perennial problem. This year's applications included Evital on 7 of 10 beds, two applications of Casoron at 20 and 25 lbs. plus 2,4-D at 14 lbs. on 8 beds in early May. The first spring soil-applied herbicides are applied when the soil temperature reaches 50 degrees Fahrenheit.

Golden Sands is one of one of seven different marshes owned by John Hancock in Wisconsin and managed by Farmland Management. The other marshes are Aniwa Creek, Evergreen, Buena Vista, Petenwell, Oak Ridge and Jenny Lake. Besides Jon, two other employees make up the team on the Golden Sands Marsh. They are Mike Schymanski and Chris Larson. (Actually better known by their nicknames.) Jon and his wife Janine are both life time residents of the Central Wisconsin area. ☞

Cranberry Health Research Expanded

Cranberry growers and handlers have reason to cheer! As the industry looks to the future, the amount of current and anticipated cranberry health related research is good cause for celebration. The best news recently is the infusion of \$2.5 million into cranberry health research by the National Institute of Health (NIH). This funding holds the promise of more good news for consumers and the cranberry industry.

Many of the various researchers working on cranberry health related issues recently came together for the purpose of sharing their results and future collaborations with other cranberry researchers. This opportunity was during the late-October Cranberry Health Research Conference sponsored by the Cranberry Institute (CI) *and a grant from the WI Cranberry Board*. The quantity and quality of scientists that are now working with the little red berry is impressive. Cranberry health-related research is being

conducted at the Univ. of Michigan, Rutgers Univ., Univ. of Rochester, Univ. of Wisconsin, UMASS Dartmouth, UCLA, Univ. of Scranton, Winona State Univ. and Laval University in Quebec.

The best news is the relatively recent research grants awarded by the National Institute of Health (NIH) for cranberry research. Specifically, the National Center for Complimentary and Alternative Medicine (NCCAM), which is part of the NIH, has awarded almost \$2.5 million for research on the health related aspects of cranberries. Nine separate research grants were awarded for multi-year research projects (2004-2008). The interesting and well known anti-adhesion effects of cranberries on certain bacteria and the resultant benefits to human health caught the attention of officials at NCCAM. This interest led to a call for research proposals. Forty two different proposals were submitted and nine were selected for funding. ☞

Winter Flooding

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“chicken verses the egg” argument about what actually causes the damage to the cranberry vine during very cold temperatures- the desiccation of the vines or the actual cold. Dr. Roper suggests that the damage results from the cold, followed by desiccation. The argument is academic. Dr. Roper suggests that the two factors are intrinsically tied together.

A risk in winter flooding is the development of anaerobic conditions below the ice. This can happen when an impermeable (to oxygen) layer forms over the top of the vines. As respiration occurs (albeit at a very slow rate due to the cold) in the vines and other organisms below the ice, oxygen is used up and death can occur. A couple of things are done to avoid a lack of oxygen below the ice. Once the ice is formed, the water below the ice is removed by removing the boards in the floodgate. A secondary tactic is to drill holes in the ice. The benefits of this practice are not well researched, but the idea makes sense. Dr. Roper suggests, in 4-acre bed, a couple of holes on either side of the bed. This would allow some cross-ventilation. Another question that is often asked is, “What is the effect of either

snow or sand on top of the ice, as far as photosynthesis is concerned and the ability to form oxygen”? Again, research on this topic is inconclusive. When first presented with the notion several years ago, Dr. Roper dismissed the idea, thinking, at that time, that the level of photosynthesis below the ice would be insignificant, considering the temperature and the dormant condition of the plants. Now, he believes that there may be a bit of truth to the idea and suggests that this is an area that would benefit from additional research. Several years ago, experiments in Wisconsin attempted to measure the effect of applying black or clear plastic or a winter sanding over the ice. The results were inconclusive.

Once the ice is formed, then winter sanding can occur. A ½” application of sand, every three to four years benefits the health and productivity of the bed by encouraging new fruiting uprights and runners and covering up old leaves and debris which can reduce disease incidence.

Ice removal takes care of itself. In the spring, when temperatures warm, the ice melts. Then other work begins..... 