

Selling irradiated food successfully— The Carrot Top experience

BY PATRICK SINCO

IF YOU ARE wondering where all the proponents of food irradiation are, they are living in a Chicago suburb. From all reaches of the nation, they have chosen to descend upon the quiet, well-to-do hamlet of Northbrook, Ill., and shop exclusively at a specialty produce grocer located on the edge of an industrial park.

Or so it seems.

While other retailers around the country do not even bother marketing produce treated with radiation—and routinely cite problems with consumer perception—Carrot Top has been regularly carrying and profiting from irradiated papayas, onions, and other fruits and vegetables for the past nine years.



Jim Corrigan: Selling irradiated produce (NN photo)

The store was among a handful of grocers to carry irradiated produce soon after the first food irradiation facility in the United States opened in 1992. At one time or another, Carrot Top has carried irradiated blueberries, raspberries, blackberries, strawberries, juice oranges, grapefruit, bananas, tomatoes, onions, and mushrooms, as well as exotic fruit such as papaya, atemoya, rambutan, lychee, starfruit, and Chinese taro. The produce shop also broke with tradition and began selling irradiated poultry when it became avail-

A market in a northern suburb of Chicago sells irradiated foods with confidence, offering its customers quality while still making a profit.

able in 1993, after requests from customers who had grown comfortable with irradiated produce.

Setting aside suspicions of conspiratorial emigrations for a moment, Carrot Top has been doing something right. After all, irradiated fruits and vegetables account for only 0.002 percent of annual produce consumption in the United States, according to figures released last summer by the General Accounting Office.

But, if you ask Jim Corrigan, who runs the store, why he has succeeded, he will humbly tell you his customers could hardly care less about irradiation. To them, they are getting the same quality produce they have come to expect, but with a few more options. Today, they might add an irradiated tree-ripened Hawaiian papaya to their basket, which would otherwise be unavailable on the mainland. Next time, on a whim, they may try one of those spiky red-skinned rambutans. And they can look forward to the still-fresh Vidalia onions they will be able to buy weeks out of season.

As it turns out, however, there are other contributing factors to the success of Carrot Top.

In the infinitely repeating universe of suburbia, with mega-chain grocery stores stamped into place every couple of miles, Carrot Top is an out-of-the-way, one-of-a-kind grocery store. As such, the staff has built a personal rapport with many of its customers over the store's 25-year existence. Shoppers have a certain amount of confidence that the vegetable or piece of fruit they place in their basket—which costs a little more—will be better-tasting and sweeter and more fragrant than what is available at a nearby chain store. And they are that much more willing to follow the inspirations of the person who runs the store—someone who describes himself as a “produce guy” with a little P. T. Barnum thrown in. A rebellious nature, with a dash of moxie, has not hurt, either.

“I’ve been pushing people. I want someone to come up to me and say, ‘I’m never coming into this store again. You’re carrying irradiated foods,’” Corrigan said one recent morning in the small bricked building behind the store where he keeps his office. “Never in all

these years have I ever run across it. And I’ve tried to find it. We’ve put displays up with huge signs and walked away. Didn’t say a word, didn’t tell anybody anything—just to see what would happen. You just don’t get that negative reaction.”

While the strategy may not make its way into any corporate boardrooms anytime soon, it does certainly suggest that people are not inherently averse to irradiated foods. Given a source they can trust, people will approach the subject with an open mind, listen, and vote with their pocketbooks.

A forthright man with a piercing gaze and a firm handshake, Corrigan sat down with *NN* and discussed his experience with selling irradiated produce.

Quality and variety

Jim Corrigan knows the business, colors, and flavors of produce. Now in his late 40s, he has been at it since he was 12, when he began working for a friend’s father who owned a produce business. Summer and Christmas vacations until his early 20s were spent at Chicago’s South Water Market, a major mid-western hub for produce merchants. The bustling marketplace offered Corrigan, who was already attending college, an education unlike any other and a chance to practice skills he would come to rely on.

“Being a trader or working with stocks or commodities is nothing close to how produce moves,” Corrigan explained. “This is much faster. And there’s no ticker-tape, nothing to watch to gauge how things are going. You have to figure it all out on your own. You have to listen to weather reports. You have to know what’s going on in the market. If there’s a snowstorm in Kansas, that can change the price of produce here in Chicago by a huge amount because produce from California is not getting through. One truck can flip over and change the market on that particular commodity by five dollars.”

In the mid-1970s, Corrigan convinced his father, a civil engineer who wanted to open a retail establishment, to start a business in produce. They planned a high-quality produce shop with a large amount of variety, more than what was being offered anywhere else.



The Carrot Top store in Northbrook, Ill. (Carrot Top photo)

Science project

Ten years after Carrot Top had opened its doors in 1976, Corrigan went back to college to complete his coursework for a degree in history. (He had dropped out to help run the store.) For a paper in an environmental science class, Corrigan had chosen a subject that he had heard of but did not know much about: food irradiation. He thought it would be worthwhile to at least learn more about it, and decide for himself whether it would be useful. After beginning his research in the library, Corrigan was surprised by the decided bias against irradiation.

“Everything was anti-irradiation, absolutely everything I read,” he remembered. “I could have been anti-irradiation. I didn’t really care one way or the other. I was just looking for information.

“In every article I was reading, the writer

was assuming the reader would understand that you shouldn’t buy irradiated produce. And one of the articles said something like, ‘Even though the World Health Organization has endorsed food irradiation—,’ and I thought, what? You don’t just swat away the World Health Organization.”

After studying a wealth of information he received from WHO, he finished the project, collected his degree, and did not spend much time thinking further about irradiation. “Nothing was being done. And I don’t think it ever came up in the store. No one had ever asked about it.”

Then, about five years later, he picked up a trade publication and read about a company called Vindicator that was breaking ground in Florida to build the nation’s first dedicated food irradiation facility, Corrigan knew the opportunity had come to find out firsthand if the technology was useful.



Carrot Top’s Jim Corrigan, holding an irradiated, tree-ripened papaya from Hawaii. (NN photo by Gregg Taylor)

Strawberry yields

In 1991, Corrigan included in his regular newsletter a survey asking customers if they would be willing to try an irradiated produce item and if they would like more information about irradiated foods. Having himself come across many negative portrayals of irradiation in the media, and figuring his customers did also, Corrigan was bracing for the worst.

The response was surprising.

“I can’t come up with a time in all the years I’ve been in business, since or before, that I’ve had people coming around, literally, starving for information from me on something. Because there was no information about the product out there,” he said. “And they were not forming opinions. They were definitely not pro-irradiation, but they were not against it either.”

There was a 50–50 split on who would try the produce, but nine out of 10 customers felt that they had not received enough information to make a decision. In response, Corrigan then made available both pro- and anti-irradiation material at his store.

He admits, however, that his consideration of bringing irradiated food to Carrot Top was fueled more by the possibility of making money than by other, perhaps purer, intentions. “I believe I have a conscience and a set of ethics, but they’re all ruled by making money. And I thought, there’s something here [with irradiation]. . . . There’s something going on that I believe I can make some money on—at least once.”

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Isotopes & Radiation Briefs

A NEW COMPUTERIZED SYSTEM FOR OPTIMIZING BRACHYTHERAPY for prostate cancer greatly reduces the time required to complete the procedure when compared to most current treatments, according to preliminary findings presented February 19 at the annual meeting of the American Association for the Advancement of Science in San Francisco. “The system allows us to effectively manipulate the large number of variables involved, something that is far too complex for even the best human experts,” said Eva Lee, assistant professor of radiation oncology at the Emory University School of Medicine, who led the project’s development. In most current treatments, seed placement is determined manually based on modeling of the patient’s prostate, which can take several hours. Lee said planning time can be reduced to 15 minutes using the computerized treatment planning procedure. The Food and Drug Administration has not yet approved the system.

A NEW RADIOACTIVE PROCEDURE TO PREVENT ARTERY RELOGGING is now under investigation in a phase II clinical trial. Cardiologists at 40 medical centers worldwide have begun treating patients using the RDX Coronary Radiation Delivery Catheter System, in which a radioactive source is incorporated into the balloon used for angioplasty, from Radiance Medical Systems. The study will determine the safety and effectiveness of the system in patients who have had a coronary stent implant and have returned to the hospital with restenosis. A phase I study on the system showed a 0 percent rate for in-stent restenosis with six-month follow-up in 27 patients.

In March 1992, a year after first asking his customers about irradiation, Corrigan placed the first shipments of irradiated strawberries, juice oranges, and grapefruits into the bins of Carrot Top—one of a few grocers nationwide to venture into the uncharted territory. A giant hand-lettered sign proclaimed that the produce was “Treated by irradiation for freshness and health,” and also bore the radura, the logo for irradiated foods.

Over the first weekend, Corrigan sold 172 cases of irradiated strawberries and six cases of non-irradiated, with both selling for the same price. The irradiated grapefruits and juice oranges, which also were priced the same as the conventional, comprised almost 90 percent of the comparative sales.

These initial wildly tilted figures proved that people were, indeed, curious about irradiation and were willing to try it. Whether they would continue to be pleased with their irradiated fruit as the novelty wore off was another question.

“I do believe I can talk well to my customers,” Corrigan said. “I don’t think that’s what’s going to make them come back a second time. There’s only so much involved in the show here.” By year’s end, Corrigan said the irradiated strawberries had outsold the conventionally treated strawberries by a ratio of nine to one.

The oranges and grapefruits were less of a hit, and he stopped selling them. “This is not an unstable product sitting on the shelf. There’s not a lot of demand. There’s not a lot of waste. Irradiate it? Maybe you do that for export, but certainly not for shipping to Chicago. So, it had no future for me.”

Peachy innovation

It was not long after opening of Carrot Top that the pursuit of high quality and variety led to the introduction of a new product that remains a customer favorite to this day: tree-ripened peaches.

One day, while attending a grocer’s grand opening out west, a whiff of innovation wafted across Corrigan’s nose. “As soon as I hit the front door I’m smelling peaches,” he recalled. “I thought, ‘My God, I could never get anything like this.’” He was told by the produce head that the particular variety of peaches was too fragile and easily bruised to ship to other parts of the country. Corrigan tracked down the grower in California and convinced him to airfreight the peaches to Chicago so he could sell them in his store. “He said, ‘We send peaches to Chicago all the time.’ I told him I didn’t want the peaches that come to Chicago. I wanted the peaches that stay in California. He said, ‘You’re crazy.’ I said, ‘I know.’”

In what would become routine, the peaches were harvested during the day, shipped at night, and placed in the bins at Carrot Top the next morning. Even though they were charging twice as much for them

Irradiating produce

With meat and poultry, the main benefit of irradiation is its effectiveness in reducing foodborne pathogens. Within approved doses, irradiation has been shown to destroy 99.9 percent of common foodborne contaminants such as *Salmonella*, *E. Coli O157:H7*, and *Listeria monocytogenes*.

Fruits and vegetables, however, are a slightly different story. Although illness from ingestion of contaminants in raw produce is always possible, if less prevalent (and its chances of occurring are greatly lessened by irradiation), there are some additional driving forces behind the decision to irradiate produce.

For reducing insect infestation, irradiation can be used as an alternative to toxic or environmentally harmful fumigants. It can replace methyl bromide, an ozone-depleting chemical commonly used for post-harvest pest control, which is set to be phased out in the United States by 2005 under the Clean Air Act.

Irradiation can also be used as a pest control treatment on quarantined fruits and vegetables to prevent harmful pests, such as the Mediterranean fruit fly, from enter-

ing the United States. In 1997, irradiation was approved as a quarantine treatment for exotic fruit coming from Hawaii to the U.S. mainland. This is especially useful on fruit that cannot tolerate other means of pest defestation, and without it, consumers on the mainland would not be able to purchase Hawaiian exotic fruits such as mangosteen, cherimoya, and atemoya, as well as papaya.

Perhaps of most practical relevance to the consumer, irradiation can be used to prolong the shelf life of fruits and vegetables. It does so, of course, by reducing spoilage bacteria and mold, and inhibiting sprouting and maturation. One benefit is that produce can be harvested when fully ripened, resulting in a better-tasting product. Some irradiated produce can then be displayed for an extended period because it will maintain freshness longer than non-irradiated products. It also means that produce can last longer in the refrigerator. According to the Council for Agricultural Science and Technology, irradiating strawberries extends their refrigerated shelf life up to three weeks without decay or shrinkage.—P.S.

When strawberry season had ended, Corrigan found himself in a bind. “First of all, we needed to be able to continue those sales,” he explained. “because the customers began to wonder what happened to all the irradiated

produce: ‘You had this a week ago. Where is it now?’ I said, ‘Well, we’re working on something else. That season’s over. Let’s see what else we can do.’

“Now what we had to do was find out how this was going to work: What are the products that it’s going to be best suited for?”

Not your father’s produce

The most widely recognizable and anticipated of the annual crop of sweet onions, Vidalia onions are in season from late April through late June. They can be kept edible for up to six months by using controlled atmosphere storage technology (adapted from the apple industry), but there is a considerable dropoff in the quality of those stored onions, even as soon as July.

Corrigan said he had nothing but problems with the stored onions (“no legs at all”), which was discouraging because they are a big seller in the store. Refrigeration of the onions was troublesome: They are susceptible to mold in high humidity situations, and, because of their high moisture content, they “sweat” as they come out of refrigeration into room temperature, providing favorable conditions for mold growth.

Flushed with the success of his foray into selling irradiated strawberries, Corrigan soon began to consider some new possibilities for the onions. “I had talked to some storage guys about it, and they said, ‘You’re crazy. They’ll never hold up.’ And they gave me all the reasons why. I said, ‘Yeah, but I’m going to irradiate them.’”

Corrigan ordered some onions at peak season—the best onions at the best time. After having them irradiated, he kept the onions in a

back room with a fan running to keep them dry. When July rolled around, he took the onions out, put them up for sale, put up a sign that said they were irradiated, and priced them three times as high as they were a month previous. And sales figures were, again, remarkable.

"People didn't care that they're irradiated," Corrigan said. "They were getting a good quality product versus the terrible quality that was in the marketplace. It didn't matter what the price was anymore if you wanted the product. I'm merchandising a product that's at its peak demand. And it wasn't available at that high of a quality at that time of year."

Another staple at Carrot Top, available almost year-round, is a Hawaiian, tree-ripened papaya, which is irradiated to allow entry onto the U.S. mainland. Corrigan charges more for these papayas than other conventionally treated ones, grown elsewhere, because they are superior papayas that are otherwise unavailable.

"By irradiating them, I can have a tree-ripened papaya," Corrigan said. "Whereas, if they aren't irradiated, they have to go through a cold treatment, which won't allow me to market a tree-ripened papaya because it will kill them."

Corrigan said he could get a good-tasting, tree-ripened papaya out of the Caribbean, without any quarantine restrictions on them. But the quality control at the packing house is poor, and Corrigan said he gets only a few papayas out of each box that are good enough to retail. Even though it is a relatively cheap product, it ends up being expensive because of how much he has to buy.

Hawaii, however, is different.

"Since Hawaii has excellent packing houses and a good quality control situation, taking their tree-ripened papaya and having that come across: Now you've accomplished something," he said.

* The store no longer sells the irradiated strawberries—which came from Florida—because they have been replaced by better-tasting strawberries from Baja California, Mexico. The latter are not irradiated because of impracticalities involving logistics and cost.

13 days

The greatest benefit of a onetime customer favorite at Carrot Top—irradiated strawberries*—was not advertised by Corrigan. He did not want to emphasize the fact that irradiation extends the shelf-life of the berry. To a consumer, "shelf-life extension" has deep-seated associations with preservatives and other freshness-robbing food additives, not to mention its allusions to Wonder Bread, Twinkies, and Spam. "We carry 'vine-ripened,' we carry 'tree-ripened'—all these fruits and vegetables that have short shelflives, but taste really good. So, when people would ask me about irradiation, I'd say, 'Yeah, it's supposed to last longer, but I don't know.' I didn't want to get into the shelf-life issue because that usually meant it didn't taste very good."

The customers soon realized that "shelf-life extension" meant that they could pick up a pint of strawberries and, instead of needing to plan that or the next evening's dessert around them, let them sit in the fridge for a week—or two. Conventional strawberries last three to five days.

Sometimes, when the season of selling irradiated strawberries passed, Corrigan said shoppers would place a pint or two of strawberries on the counter and ask if they'd been irradiated, or if they "had that thing done to them." "I'd say, 'No, they haven't. That season's over. We'll have some more next year.' They would say, 'Okay, I don't want them then.' 'But these are really good.' 'I know they're good. It's just that I'm not going to have them right away.'"

Examining sales reports, Corrigan noticed that if a particular customer was buying strawberries once a month, they were now buying twice a month. And instead of one pint, they would buy two because they would last longer.

Of course, the shelf-life extension was not lost on the business instincts of the man selling the longer-lasting produce. "I wanted to sell them strawberries. It's easy for them to buy apples. It's easy for them to buy oranges. Because even if they're not going to eat them

today, they can put them in the refrigerator and, as long as the fridge doesn't fall apart, they'll be OK.

"That hurdle is a tough one for strawberries. They bruise easily. They're so temperature sensitive, humidity sensitive. All these factors cause them to break down.

"If I could take strawberries and make them last five or six days, instead of three or four days, this was a *huge* jump. Having them last 13 days was unheard of."

Although irradiated strawberries typically had cost more than conventional strawberries for Corrigan to purchase for his store, they end up costing him less because of the reduced waste. As such, he could have sold them cheaper, but there was little motivation to do so because there was no other store in the area selling them.

Irradiation = quality

Not for nothing is there a photo of Corrigan on the cover of an International Atomic Energy Agency booklet on consumer attitudes toward irradiated food. He knows what he is doing. In order to be successful selling irradiated food, Corrigan said the store's staff needs to learn about irradiation so they can answer customers' questions. There is also no point in being discreet: Grocers who boldly announce the fact that the product is irradiated can gain that much more of the customer's confidence.

And it is essential that the customer associate irradiated food with quality food. Initially, he said, a retailer should market produce only in the top 10 percent in terms of quality. "If you're going to sell something that's irradiated, it's absolutely critical that you reinforce to the consumer this image that it's better quality, that 'irradiation' and 'quality' are synonymous."

When treated respectfully, Corrigan maintains, customers are not afraid of irradiation. "They're not interested in processing technology. They're interested in a quality product—they're after a good onion." 