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Quote for Thought from Pete Ferretti

It is not necessary to understand things in order to argue about them.

~Beaumarchais

Using Visual Cues to Increase Sales: Farm Market Marketing at the Next Level

Steve Bogash, Regional Horticulture Educator, Penn State

Understanding why and how consumers make purchasing choices is as much art as science. In a report in the February issue of the Journal of Marketing Science, researchers from the University of Waterloo, Ontario, Canada, offered some interesting examples of visual marketing cues that directly impact how produce marketers should approach developing their signs. After Mars Bars (the candy bar) sales increased significantly when NASA landed the Pathfinder spacecraft on Mars in 1997, the authors asked the question: What does this mean about our understanding of consumer choice? Simply put, they determined that environmental cues as simple as color can affect product purchase choices. This is especially significant in our noisy world where marketing messages can overwhelm our senses. In a dining hall experiment, diners were given trays that were either plain or had the slogan: "Live the healthy way, eat five fruits and veggies a day." Those that got the sloganized trays ate 25% more fruits and vegetables.

Other research strongly indicates that consumer purchases can be positively influenced by the careful use of images. While a whole watermelon in a bin may remind us of the pleasant experience of enjoying a piece, large images of perfect juicy slices above the watermelon bin create a much more compelling sales pitch. Images of sweet corn with melting butter and a hint of steam are making me hungry as I prepare this article. Think about how you can use color images of perfect produce at your farm market or farmers market stand. Posters of "gotta have" produce will function as silent salespeople by providing that quiet marketing message while you and your staff go about keeping the bins full and assisting customers filling their baskets.

So, how do you create these images and get them printed? Surprisingly enough, that is the easiest part. Once you decide what images you want, you can either create your own pictures with a good resolution digital camera or purchase the rights to use images from a number of internet-based image galleries. Check with local print shops for large format color printing capability. Here in Chambersburg, PA, we have at least 2 local shops that can print up to very large (over 6' tall and much wider) posters. The quality of these posters is as good as the image that you provide. I've created many 24" x 30" posters with images that were purchased on the internet for \$10.00 that really look great.

It is your job as marketers to be sure that every customer fills 2 evenly weighted bags in order to keep them chiropractically (?) correct. Letting a customer walk away from your stand with a single bag could potentially damage their back. Imagery of great looking produce is another way to enforce your marketing message.

Know Your Enemy: Yellow Nutsedge

Dave Johnson, PSU Southeast Research and Extension Center

Yellow nutsedge (*Cyperus esculentus*) and its close relative purple nutsedge (*C. rotundus*), are considered two of the worst weeds in the world. Yellow nutsedge is present throughout the United States and the species most commonly seen in Pennsylvania crop fields. These weeds are part of a large monocot family called the sedges, which are characterized by their triangular stems. They are often confused with grasses, and the distinction is important because several of the management tactics that we utilize for grasses are not effective on sedges. Another group of monocots is the rushes, and these three groups can be distinguished by the saying “sedges have edges, rushes are round, and grasses have joints from the top to the ground.” Here the edges refer to the triangular stems, and joints on grasses are the knobby nodes on the stems. Another sedge species (*C. papyrus*) was used by ancient Egyptians to make early writing paper.

Yellow nutsedge is a perennial weed that likes to grow in moist areas, but will also grow in dryland conditions. It is an erect plant, about 1 to 2 feet tall, and each clump has several stems. The leaves, which arise from the base of the plant, often have a V-shaped cross section, and are yellowish or pale green in color. Although it is a perennial, the above-ground portion dies back each year. It survives the winter by storing carbohydrate in rhizomes and small, underground “nuts” (thus the name “nutsedge”) (see photo below). The nuts, which are actually tubers, produce the new plants which emerge the next season. Yellow nutsedge also produces seed, which are very small but contribute to spread. The seedheads, or spikes, emerge from the crotch formed by the uppermost leaves, and are either sessile or on short stems, and are pale yellow. The spikelets have pointed tips.

It probably originated in the Mediterranean region, but spread quickly and is now present on every continent except Antarctica. It probably spread as a contaminant of crop seeds. New plants can sprout from tubers buried up to a foot deep, which can remain viable for up to ten years. The tubers are actually a good food source, and ancient cultures used it as a food plant.

Yellow nutsedge is extremely difficult to control. Hand weeding and cultivation often just remove the top growth, only to have new stems emerge almost immediately. Tillage and cultivation can destroy the top growth, but can also spread the tubers in a field, or from field to field if the equipment is not cleaned off. Frequent destruction of the foliage will probably eventually weaken the tubers by reducing carbohydrate reserves. However, this will probably take several years. Mulches are generally ineffective, and yellow nutsedge frequently pierces through plastic mulch.

Glyphosate (Roundup and several other brands), a common burndown herbicide used to prepare fields for planting, gives some control, but high rates are required and yellow nutsedge will often regrow from the tubers. Contact herbicides such as Gramoxone or pelargonic acid (Racer) will burn the leaf tissue, but regrowth occurs almost immediately.

Herbicide choices are limited for specific crops. In sweet corn, the preemergence products such as Bicep, Guardsman, Keystone, Harness (and several others) will give some suppression, but the highest rate recommended for the soil and incorporation will improve control. Dual Magnum, when incorporated, can give control in tomatoes, peppers, peas, beans. Basagran can give postemergence control in beans, peas, and sweet corn.

Probably the best yellow nutsedge control material is Sandea (also called Permit). This product will control this weed in several vegetable crops, including tomatoes, cucurbits, beans, and sweet corn. Check the labels for details on use rates, adjuvants, and application timing, and preharvest intervals in specific crops.

Figure 1. Yellow nutsedge, showing underground tubers (nuts) and rhizomes (Bill Curran and Dwight Lingenfelter photo).



Day-Neutral Strawberry Production Workshops

Kathy Demchak, Penn State Horticulture

As part of a NE SARE project, we're planning for a couple of educational events on the topic of day-neutral strawberry field production this summer and fall. The first one will be scheduled in conjunction with PVGA's Vegetable and Small Fruit Field Day at Rock Springs on July 23rd, and will last about 2 hours or so. Depending on grower interest level, we also may schedule a longer stand-alone event this fall. These meetings are being scheduled during the growing season so you can see the plants and growing system (for day-neutrals, this is until the end of October). We'll get together a mailing list and send out information as plans solidify. You can send back the form below, send me equivalent information on another sheet of paper (if there's something on the back of this that you still want to read!), or send me the info via email. Even if you feel that you don't have time to attend this year but are interested in the topic, please send me your contact information, since we'll have some educational material that we can send you later this year. Please send paper copies of the information to Kathy Demchak, 102 Tyson Building, University Park, PA 16802 or emails to kdemchak@psu.edu. Thanks!

Your name _____ Farm name _____

Mailing address _____

Phone number _____ Email address (if applicable) _____

What is your level of interest/experience with day-neutral strawberries? (check one)

Thinking about growing day-neutrals Currently growing day-neutrals

Have some limited experience with day-neutrals

Topics of interest or questions to address during the event

Your expected level of participation

Would definitely want to attend a workshop if possible. If you checked this, please also answer:

would prefer a short 2-hr event on July 23rd at the PVGA Field Day at Rock Springs, or,

would like a separate in-depth workshop on the topic early this fall, 4-6 hrs

Would like to have information mailed to me, but probably would not attend an educational event

Thanks again – feel free to send along any additional input on this topic also.

All I hear is Ethanol and Biodiesel, but what about Recycling of Plastics and Recovery of the Energy Stored in Used Plastics?

Bill Lamont and Mike Orzolek, Penn State Horticulture, James W. Garthe, Penn State Agricultural and Biological Engineering

The cost of gasoline and heating oil is on the minds of everyone these days especially with the cost of a gallon of regular gasoline pushing \$3.65, and diesel even higher. I hate to admit it but I was driving for some time before the 1970's!! Wasn't that supposed to be a wake up call for us to develop a national energy policy that makes sense? Now we run around promoting the use of corn for the production of ethanol and biodiesel!! Growing our own energy-ha-ha!! What has this strategy done but raise the price of food...I was recently speaking to my cousin's husband who works for one of the large chicken processors and he said that they are up against a rock and a hard spot. The price of feed (corn is a big part) and diesel fuel (delivery of product) has really impacted their bottom line. He said that they can only raise the price of chicken so much to recover their costs before people stop buying chicken.

My question is how come nobody looks at used plastics as a valuable source of energy? What happened to the old adage "waste not, want not"!! Since the early 50's plastics have revolutionized the way we package and manufacturer things in the United States and certainly changed the face of horticulture production, as we know it. How about going from clay pots to plastic cell packs, trays and pots, development of plastic mulches, plastic drip irrigation tape and tubing and fittings, greenhouse films, etc? Plastics are derived from petroleum and/or natural gas and once the plastics have been used some are recycled but much of the plastics continue to be buried in the landfills. Just visit a landfill...I personally believe our waste management system is still operating in the dark ages. At Penn State University we have a team dedicated to solving one of the world's major environmental problems –what to do with the increasing plastics waste generated by the world population. When I was in India with Tim Elkner, Extension Educator from Lancaster County, PA the biggest concern they expressed with the increasing use of plastics was the pollution factor. Although our efforts have been focused on recovering the energy value of used agricultural plastics, we also view the large consumer plastic waste stream as a potential fuel source. This team has been working on this project since 1995 and is on the verge of making a major contribution to solving this problem. We are currently working on increasing the output capacity of our Plastofuel™ machine so that it can produce 1,000 lbs. per hour of Plastofuel™ nuggets.

What is Plastofuel™?

A simple process was invented at Penn State University in 1995 to densify waste plastics into a fuel nugget, called Plastofuel™. The process, developed in the Department of Agricultural and Biological Engineering, aims to reduce waste plastic buildup on farms and landfills around the world. It works by forcing film plastic items, shredded rigid plastic items, or both, through a heated die, thus melting a thin jacket that encapsulates the pieces of plastic and dirt within the extruded material exiting the die. A hot knife cuts the extrudate into dense fuel nuggets that can be easily conveyed, stored and shipped.

The nuggets were originally designed to be co-fired 5-10 percent with coal in existing boilers, allowing the high temperature of coal (around 2000°F or 1100°C) to sustain clean combustion, free of

noxious smoke. Burned at these high temperatures Plastofuel™ does not produce any emission problems. Plastofuel™ can be made at recycling centers, regional collection centers, or in small industrial settings, thereby consuming the energy close to the source. The benefit of the system is that it converts an annoying waste into a valuable fuel, with a minimum of energy expended in the process. Non-recycled consumer plastic food and beverage containers can also be used in the process. Many of the plastics not currently recycled can be used a raw material for the Plastofuel™. We believe that the best use of Plastofuel™ is for it to be burned in a small Megawatt electrical generation plant to produce electricity. Let's not continue to waste this valuable source of fuel. Please contact us if you are interested in supporting this program or being a part of the program; Bill Lamont, wlamont@psu.edu or James Garthe, jwg10@engr.psu.edu.

New Categories on Penn State's Agricultural Analytical Laboratory Soil Test Reports

Elsa Sánchez, Penn State Horticulture

This spring, as you get your soil test reports from Penn State's Ag Analytical lab you'll notice that the bar graph showing pH and phosphate, potash, magnesium oxide and calcium oxide levels have new categories: deficient, optimum and exceeds crop needs. In the past these categories were below optimum, optimum and above optimum.

Over the last year, a group of extension educators, NRCS staff and specialists studied the use of organic nutrient sources. We were considering how to interpret soil test results for applying organic nutrient sources and examining tools for monitoring and keeping soil nutrient levels in balance. In our deliberations, it was determined that the old categories (below optimum, optimum and above optimum) were not adequately reflecting the problem when nutrient levels are not in the optimum range. As a result, the categories were changed.

Crops normally produce best when nutrients are present in balanced amounts at 'optimum' levels. Application of a nutrient shown to be 'deficient' should increase yield. When levels fall in the 'exceeds crop needs' category, more than enough of a nutrient is present.

The following statements were also added to soil test reports:

Soil nutrient levels that exceed crop needs can be as bad as deficient levels. High soil nutrient levels not only might represent an economic loss but they may also result in crop, animal or environmental problems.

To achieve maximum yield and quality from each crop, a specific balance among elements is necessary. Very high phosphorus levels (above about 310 lbs P_2O_5 /acre or 140 lbs P/acre for vegetable crops) in the soil may lead to deficiencies of other nutrients, especially of iron and zinc. If potassium, magnesium and/or calcium are high, serious nutrient imbalances can occur. When potassium levels are above about 5% saturation; magnesium levels 15%; and calcium levels 80%, soil nutrition is beginning to get out of the optimum range. Use best management practices to avoid increasing nutrient levels that already exceed crop needs. Yield and quality are likely to be reduced by re-applying a nutrient already present in very high amounts.

Upcoming Meetings

If you have a meeting you would like to announce, please send the meeting title, date, location and contact information to esanchez@psu.edu.

Local

- ✓ May 21, 2008. **Rodale Research Tour**, Emmaus, PA. Sponsored by Pennsylvania Women's Agriculture Network (PA-WAgN), Pennsylvania Department of Agriculture, Southeast RC&D, the Pennsylvania Association of Sustainable Agriculture (PASA) and the Rodale Institute. Registration \$15, which includes lunch. For more information visit <http://wagn.cas.psu.edu/Register0805.html>.
- ✓ July, 2008 (date TBD). **Summer Vegetable Growers Meeting**, Kutztown, PA. For more information contact Mena Hautau at (610) 378-1327 or mmh10@psu.edu.
- ✓ August 7, 2008. **Building a High Tunnel Hands-On Workshop**, Josie Porter Farm, Stroudsburg, PA. Pennsylvania Women's Agricultural Network (PA-WAgN) sponsored event. Registration \$15, which includes lunch. For more information visit <http://wagn.cas.psu.edu/Register0810.html>.
- ✓ September 11, 2008. **Taste of Harvest Winery Tour**, J. Maki Winery at French Creek Vineyards, Chester Co. Pennsylvania Women's Agricultural Network (PA-WAgN) sponsored event. Registration \$15, which includes wine tasting. For more information visit <http://wagn.cas.psu.edu/Register0813.html>.
- ✓ November 18, 2008 (tentative date). **Western Pennsylvania Vegetable & Berry Seminar**, Butler, PA. For more information contact Eric Oesterling at 724 837 1402 or reol@psu.edu or Lee Young at (724) 228-6881 or ljs32@psu.edu.

Regional

- ✓ July 23, 2008. **2008 Vegetable and Small Fruit Field Day**; Horticulture Research Farm, Russell E. Larson Research Center, Rock Springs, PA. For more information contact Mike Orzolek at (814) 863-2251 or mdo1@psu.edu.
- ✓ January 13 – 15, 2009. **Atlantic Coast Agricultural Convention and Trade Show** (NJ Vegetable Meeting); Trump Taj Mahal. For more information contact Mel Henninger at (732) 932-9711 x 120 or henninger@aesop.rutgers.edu.
- ✓ February 3-5, 2009. **2009 Mid-Atlantic Fruit and Vegetable Convention**, Hershey Lodge and Convention Center, Hershey, PA. For more information contact William Troxell at 717-694-3596 or visit www.mafvc.org.

National

- ✓ August 10-14, 2008. **92nd Annual Meeting of The Potato Association of America**; Buffalo, NY. For more information contact Don Halseth at (607) 255-5460 or deh@cornell.edu or the website at <http://www.hort.cornell.edu/PAA2008/>.

International

- ✓ Sept. 7-10, 2008. **19th International Pepper Conference**; Sheraton Hotel and Conference Center, Atlantic City, New Jersey, USA; contact Dr. Wesley Kline by phone (856) 451-2800 or email wkline@aesop.rutgers.edu or Dr. Andy Wyenandt by phone (856-455-3100 X4144) or email wyenandt@aesop.rutgers.edu

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The newsletter is also posted within three days on the Department of Horticulture Vegetable program website at: <http://hortweb.cas.psu.edu/extension/veg crops/newsletterlist.html>.

Where trade names appear, no discrimination is intended, and no endorsement by Penn State Cooperative Extension is implied.

Penn State is committed to affirmative action, equal opportunity, and the diversity of its workforce.