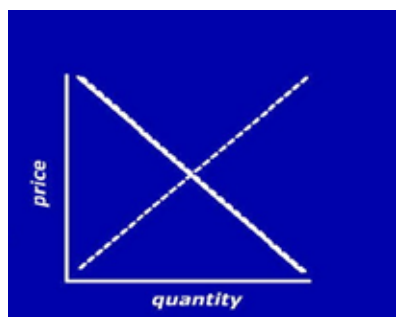


# PLANT & PEST ADVISORY

VEGETABLE CROPS EDITION \$1.50

AUGUST 1, 2007



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## Finding a Suitable Business Venture for your Agribusiness

*Jhilson Ortiz, Senior Program Coordinator - Agriculture*

Choosing the right business venture could be a daunting task if management does not know what market and business management information is required prior to launching the business. In this guide, you'll find the questions and answers that must be addressed in order to obtain the highest probability of success once the company is launched.

### Supply & Demand: Going beyond the numbers

Books talk about it; the price of a good is correlated to the supply and demand. But what exactly is the demand, will there be other providers to supply the same or similar goods, and, are we prepared to compete?

### What to grow and/or sell – Consumer demand

- A. Choose a field of the market that you know well and that encompasses an identifiable number of members of the population. Ex. Produce consumed by ethnic consumers
- B. Get to know the market well. Read press releases, specialty magazines, consumer's blogs, newspaper articles, and newscasts related to production, manufacturing and consumption of these products mostly in the area where your identifiable target shops (not lives).
- C. Based on the obtained information, make a list of products that are offered in the market, but that could be better and products that are not in the market yet, but that have a good potential to become successful items.
- D. To find those goods or services not available in the market, ponder what current products and services in the market are a step away from being perfect. Consumers tend to purchase inclined on personal preference based on comfort and convenience. What is bothersome and could be offered? Ex: In car manufacturing, cruise control only lets you relax your legs, but not your arms. Find a solution and offer it.
- E. Once the initial product discovery stage has been completed, proceed to find the consumer preference for the item. Ex. Preference in packing and appearance.

SEE BUSINESS ON PAGE 2

## What are those consumer needs and preferences?

A question answered by creating subgroups associated to the steps the goods or services have to go through while moving toward the consumer:

- What product is it?
- Where do they want it?
- How do they want it?
- When do they want it?
- How much do they want of it?
- For how long will they want it?



Answers that management has to provide prior and during business planning:

- How do my resources help me provide the exact product that consumers want?
- Can I grow, harvest, process, pack and distribute those products in the amount and at the time that consumers want?
- How much will it cost me to market this product? (Include production, processing, harvesting, and distribution costs incurred while satisfying those exact needs at the given time and frequency)

## What will be the biggest constraints for each marketing process?

Production - Operations cost that change with labor requirement. The more intricate the product is, the more labor required.

Harvesting - Harvested fruits with higher sugar content tend to spoil quickly, more product loss.

Processing/Packaging – Is the packaging required cost effective?

Transportation and sales – Is the product fresh as consumers want? More deliveries per week increase transportation cost.

## What consumer needs am I going to address only?

One of the biggest mistakes business managers make is to limit the goods and services the company offers for fear of growth, delivery capacity, or outright personal preference.

Ex: “I will not provide complimentary products that are produced or grown by other people. I only sell what I grow”

Consumers are aware of social responsibility campaigns such as buy local, but they are also aware that out of convenience and value, they will not drive to 5 different stores to get 10+ products. It will take them extra time, extra gas, and extra money to do



so. Consequently, they will visit more often those businesses that offer most of the products they are looking for.

Ex 2: People of Nunami\* origin, which live near my prospective delivery area, prefer free roaming chicken of 3 months of age rather than other chicken products. I also found out that they purchase heavily in May for their religious holidays and that the bird has to be alive up to 8 hours prior to the festivity.

What has not been taken care of? This consumer group also purchase 8 different herbs of which the farmer could grow 5 and outsource 3, but didn't.

## Is anyone or will anyone else be covering those needs in the short time?

Future market tendencies and competition are very important to measure in order to size project sustainability.

When gathering market information, approach the market as a buyer, not as a future seller. As a prospective seller, you'll find more obstacles obtaining information. Remember that prospective buyers are always well received.

## Land and capital: A starting point for multiple directions

The direction that a business venture takes is most of the time limited to the resources it has. It is important to learn and understand how far those resources will take us and plan accordingly as to not to run out of capital/resources prior to receiving a sustainable return.

## Business plan: Marketing implications

The business plan takes into consideration each step to follow in order to obtain a profit from production to harvesting, and all the way to distribution and sales.

The best business plans rely on a marketing plan, and the marketing plan is itself, developed and carried on, based on consumer preferences.

## A note on business image and how it could affect business performance

Business image is currently one of the most important factors influencing consumer purchase, and it can be described as the perception that consumers have about your firm and the products/services that you provide.

When planning a business, the design of the business concept has to have in mind the end consumer and make sure that the future actions and policies of the business reflect care for those issues that are important to them (the consumer).

Example of consumer concerns – activism

“You live from the earth, be earth friendly”

*Note: \*The “Nunami” is a fictitious group of people used only for teaching purposes*

## Pest Notes

Gerald M. Ghidui, Ph.D., Specialist in Vegetable Entomology

**E**uropean corn borer moth counts continue to increase in blacklight traps throughout New Jersey. Infestation levels in untreated peppers at RAREC have reached the 3% level, and will only continue to increase because of the continuing hot day temperatures and warm evenings. Orthene can only be used twice on bell peppers, and then alternatives must be used. Pyrethroids (Baythroid, permethrin, Mustang MAX, Warrior, Capture, Asana, Proaxis) are highly effective against corn borer, but do not overuse them as they will flare the **aphid** and/or **spider mite** population. Other alternatives include Avaunt, SpinTor, Entrust, and Lannate. Thorough coverage of leaves and fruit is important, especially at the stem end of the fruit where newly-hatched larvae enter. Once the borers are in the fruit, no treatments are effective.

Also, watch for **beet armyworm** larvae on pepper plants. If the weather continues to remain hot (as predicted), expect outbreaks of this pest in vegetable crops, including peppers, tomatoes, and snap beans. Color patterns of the beet armyworm vary, and may appear as pale green or yellow all the way to dark black. They are usually found in groups, and during the early instars there is usually considerable webbing of the leaves. On peppers, they feed on the upper areas of the plant first, webbing leaves together and causing leaf feeding similar to leaf-rollers. As larvae mature, they migrate to individual fruit. Beet armyworms traditionally are resistant to pyrethroid insecticides as well as many of the organophosphates. Virginia reports difficulty controlling beet armyworm with Lannate. The most effective materials for beet armyworm currently labeled include Avaunt, Bt products, Confirm, Proclaim, Lorsban, SpinTor, and Rimon. Not all of these products are labeled on all vegetable crops, so thoroughly read label before using any pesticide. Thorough coverage is important, as these pests move throughout the foliage and fruit.

**Stink bugs** are increasing in numbers in several vegetable crops, and damage is increasing in both tomatoes and pepper. Both brown and green stink bugs are present in fields, and cause similar damage to the fruit. If the population is increasing, or damage is increasing, it is recommended that a management option be selected. Foliar sprays include Actara, Baythroid, bifenthrin, Danitol, Monitor, Mustang MAX, Proaxis, Thionex, Warrior (or generics), or Venom (new label, just approved, includes stink bugs in fruiting vegetables such as pepper and tomato). Thorough coverage is critical because stink bugs are highly mobile and can be found anywhere on the plant, including in the soil at the base of the plant on hot days. Check label for use on each particular vegetable crop for all rates, restrictions and directions. □

## IPM Update

Kristian Holmstrom, Research Project Coordinator II, Vegetable IPM Program

### Sweet Corn

**European corn borer (ECB)** adult numbers have remained fairly level over the past week, with low to moderate catches in the south and central counties and very low catches north of Middlesex County. Exceptions are in western Hunterdon County where a few traps have higher catches (see ECB map). Increases in the northern counties are expected, but as yet haven't happened. Larval feeding is present in whorl stage-plantings in many areas now. For sweet corn in the whorl stage, check 5 consecutive plants each in 10 random locations throughout the planting. Look for the presence of "shot-hole" type feeding that is characteristic of ECB larvae. On pre-tassel stage plants, look for discoloration or actual caterpillars in the emerging tassels. Consider treating if fresh damage is found on 12% or more plants. Be sure to treat again at the full tassel to first silk stage to protect the forming ears from ECB larvae that are leaving the tassel and traveling down the stalk.

The highest nightly ECB catches for the previous week are as follows:

Shirley	3	East Vineland	2	Little York	2
Allentown	2	Hammonton	2	Medford	2
Beckett	2	Jones Island	2	Seeley Lake	1
Crosswicks	2	Lawrenceville	2	Woodstown	1

**Fall armyworm (FAW)** feeding in whorl-stage plantings is now occurring all over the state. In some fields (particularly along the coast) FAW feeding has reached threshold levels. FAW feeding initially is found on small groups of plants in the field. This is due to limited numbers of adult females laying eggs on consecutive plants. As the adult population increases, feeding will become more consistent throughout the field. FAW is capable of causing significant injury to sweet corn plants and will feed on all stages, including seedlings. For this reason it is necessary to check all pre-silking fields for signs of FAW feeding. Look for large, ragged holes and lots of caterpillar droppings in the whorl. Consider treating if 12% or more FAW injury is found alone, or in combination with ECB injury in a planting.

**Corn earworm (CEW)** catches have increased slightly in south and central counties over the past week. Highest activity continues to be from Cumberland County north through southern Burlington and east through Atlantic County (see CEW population map). At present, we are experiencing a gradual increase in CEW adults. This trend will most likely continue until the larger influx occurs in mid-August. Data from North Carolina indicate that there have been large increases in CEW adult catches in some counties over the past week,

SEE IPM ON PAGE 4

although no large increases have occurred through Virginia, Maryland and Delaware. Recent surveys in Virginia have shown significant numbers of CEW damaged field corn ears. This indicates that there may yet be a large flight coming as these larvae emerge from pupal cases. CEW adults pose a significant threat to silking sweet corn. The shaded area on the map (blue on the web version, found at: [www.pestmanagement.rutgers.edu/IPM/Vegetable/Pest%20Maps/maparchive.htm](http://www.pestmanagement.rutgers.edu/IPM/Vegetable/Pest%20Maps/maparchive.htm)) corresponds to a 5-day silk spray schedule. The cross-hatched area (green on the web) corresponds to a 3-4 day silk spray schedule.

**Corn leaf rust** is more prevalent this season than in recent years. This disease can be an economic threat if it infects plantings in the whorl stage, and conditions (cooler and moist) prevail. When scouting for insect pests, check for rust pustules on the surface of older leaves. Rust is identified by small blisters on the leaf surface that erupt, releasing red, powdery spores. If it first occurs on pre-tassel stage corn, it is not likely to stunt the plants or affect ear production, but may result in some pustules on the husks. Many varieties are tolerant or resistant to this disease. Check the seed source for information on disease tolerance or susceptibility. If the variety is susceptible, and rust pustules are found, a fungicide application may be warranted.

**Silking Spray Schedules\*:**

- North – 6-7 days
- Central – 4-6 days
- South – 3-4 days

\* Note: These are general recommendations. Local trap catches may indicate some variation in the frequency of insecticide applications to silking corn.

The highest nightly CEW catches for the previous week are as follows:

Beckett	2	Elmer	2	Medford	2
Cinnaminson	2	Folsom	2	RAREC	2
East Vineland	2	Hammonton	2	Shirley	2
Elm	2	Indian Mills	2	Wall	2

**Tomatoes**

A few plantings in the northern and central counties have developed **bacterial infections** recently. All infections are characterized by very dark, often wet looking lesions on leaves of any age. In the case of bacterial canker, lesions often start at leaf margins but may also be found on petioles. **Bacterial speck** results in a dark blister-like lesion on infected fruit, while **bacterial spot** causes a more severe dark fruit lesion. **Bacterial canker** causes a whitish blister referred to as “bird’s-eye spot” on fruit. If these symptoms appear in a planting, consider regular applications of copper if this is not already part of the program. Avoid fields when wet. Always work in younger plantings first if activity is planned in multiple plantings. This will prevent the distribution of bacteria from older infected plants to younger ones.

The younger the plants are when they are infected, the more likely economic injury is to occur. Consider placing buckets with a 5-10% bleach solution in water at the end of rows when tying or pruning. This will enable workers to dip wands or pruning tools in the solution between rows to limit spread among plants.

**Brown stinkbugs** are active in many areas now. This is the time of year when adults are present and moving around in search of food and egg laying sites. Feeding (cloudy spot) has been found in Hunterdon County this week, with adult brown stinkbugs present on the fruit. Tomatoes are a favored host, especially if dry weather reduces the availability of native host plants. Now is the time to pay attention to fruit in the field for signs of feeding. Stinkbug feeding on tomatoes first appears as a diffuse whitish blotch on green fruit. The spot changes to bright yellow as the fruit matures. If this feeding is on the increase in the field or in harvested fruit, consider treating to suppress the population.

**Two-spotted spider mites (TSSM)** have been on the increase in tomato plantings recently. When scouting for other pests, note the presence of whitish “pin-spots” on the surface of lower leaves. Upon closer inspection, (TSSM) may be found on the lower surface of leaves with the pin-spots. This pest is best dealt with before it becomes widespread in the field. Spot treatments with miticides may be sufficient to prevent larger infestations. Be sure to take several samples from field edges to account for potential mite migration into the field from grassy edges or other near by host crops.

**Peppers**

With the second generation **ECB** adults now active, it is important to check peppers weekly for the presence of ECB eggmasses, as well as **aphids** and **TSSM**. ECB eggmasses are flat and waxy looking, having the appearance if fish scales on the underside of the pepper leaf. As the larvae emerge, they will bore into the fruit where the cap meets the shoulder of the pepper. Uncontrolled infestations will result in many fruit developing soft rot. Check 5 consecutive plants each in 10 random field locations. Look at the underside of 2 leaves per plant. If 2 or more ECB eggmasses are found in the total sample, consider an insecticide application to minimize plant injury. Additionally, a weekly spray schedule is warranted on fruiting plants when ECB adult numbers reach 1 or more per night in local blacklight traps. At present, adult ECB activity at this level is exists in all southern and central counties. All shaded and cross-hatched areas on the ECB map (blue and green on the web version) correspond to a weekly spray schedule on fruiting peppers.

**Beet armyworm (BAW)** adult catches have declined to nearly nothing this week in the pheromone network in the southern counties. Numbers are averaging well below 5 per night. A population this low does not represent an economic threat. As numbers exceed 5 per night

SEE PEPPERS ON PAGE 5

in the traps, a BAW population map will be published in this newsletter.

### Pumpkins and Winter Squash

Many fields are now in the vine-run (or bush) stage at this time, and are less affected by **cucumber beetle** feeding. Often, **western corn rootworm (WCR)** beetles will be found feeding on blossoms. These are similar in appearance to striped cucumber beetle, but do not pose a threat to the plants. WCR range from mostly black to mostly green-yellow, rather than having distinct stripes like the cucumber beetle. Additionally, a WCR beetles' abdomen protrudes past the end of the shell, unlike the cucumber beetle. It is very important to scout fields weekly, for the presence of pests including aphids and TSSM. Check 10 mature leaves per site in 10 random sites throughout the field. Consider treating if leaves with an average of approximately 25 aphids are found in each of 10 sample sites. Populations this high can result in deposition of droppings onto the surface of maturing fruit, as well as overall stress to the plants. **Melon aphids** have been found on some northern pumpkin plantings this week. TSSM occasionally becomes an economic pest on smaller plantings under hot, dry conditions. If TSSM is found in more than one site in the field, and the overall trend is increasing, consider treating.

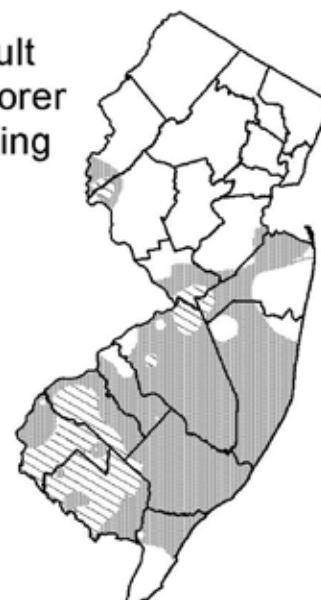
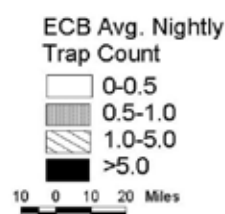
As fruit set occurs and fruit begin to gain size, **powdery mildew (PM)** infections will develop. This fungal pathogen first appears as a dime-sized lesion that looks like white powder. They can develop on either leaf surface as well as the petioles. While scouting, look on mature leaves, particularly those within the canopy for PM lesions. When the threshold of 1 lesion per 50 older leaves is reached, begin the regular, weekly protectant fungicide program.

Be alert for the possibility of **downy mildew (DM) infections**. As of July 31, DM has been detected in states to our north, west and south. DM first appears as sharp yellow lesions on the upper surface of leaves. Veins are yellow and constricted on the lower leaf surface. Shortly after this, dark sporulation occurs along veins on the lower surface beneath the lesion. This sporulation will be present when conditions are wet or very humid. In a matter of several days, significant defoliation can occur. Fungicides specific to DM and related fungi are required for good control of this pathogen. For recommended fungicide rotations for DM and PM, consult the *2007 Commercial Vegetable Production Recommendations*.

Recently, a number of fields have developed symptoms of **bacterial leaf spot**. These symptoms include yellow lesions with light halos that turn dark brown-to-black as they enlarge. Often the affected tissue appears wet. Ultimately these lesions dry and may end up as holes in the leaves. Unlike DM, this infection results in no production of spores on the underside of the leaf. Affected leaves may be placed in a plastic bag with a damp

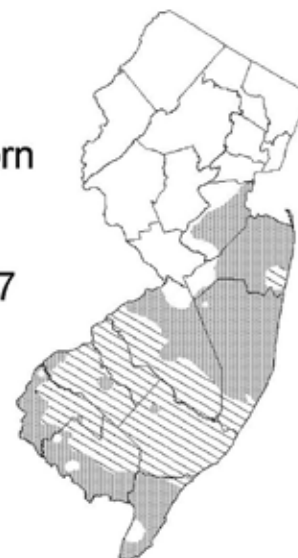
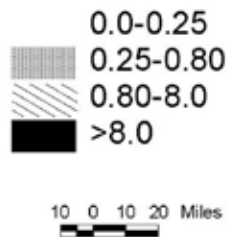
paper towel overnight. If DM is present, dark spores will be produced from the lesions on the lower side of the leaf. If no spores appear after 12 hours, DM is likely not present. Bacterial leaf spot can result in a fruit lesion that causes fruit to rot. Copper, in addition to the regular protectant fungicide program is typically recommended for management of this disease. For recommended materials, consult the *2007 Commercial Vegetable Production Recommendations*.

Distribution of Adult European Corn Borer for the Week Ending August 01, 2007



Data collected and processed by: Kris Holmstrom, Marilynn Hughes  
Rutgers Cooperative Extension & Center for Remote Sensing

Distribution of Adult Corn Earworm for the Week Ending August 01, 2007



Data collected and processed by: Kris Holmstrom,  
Rutgers Cooperative Extension Pest Management Office

# Weekly Weather Summary

Keith Arnesen, Ph.D., Agricultural Meteorologist

Temperatures averaged below normal, averaging 72 degrees north 72 degrees central and 75 degrees south. Extremes were 92 degrees at Downtown on the 29th, and 52 degrees at Freehold on the 24th. Weekly rainfall averaged 2.50 inches north, 2.79 inches central, and 0.29 inches south. The heaviest 24 hour total reported was 3.08 inches at Long Branch on the 24th to 25th. Estimated soil moisture, in percent of field capacity, this past week averaged 93 percent north, 86 percent central and 54 percent south. Four inch soil temperatures averaged 72 degrees north, 73 degrees central and 73 degrees south.

Weather Summary for the Week Ending 8 am Monday 7/30/07										
WEATHER STATIONS	RAINFALL			TEMPERATURE				GDD BASE50		MON %FC
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	
CANOE BROOK	2.70	33.78	13.27	88	54	73.	-2	1899	377	86
CHARLOTTEBURG	2.33	24.93	4.26	86	57	72.	-1	1647	480	85
FLEMINGTON	1.85	27.09	7.22	90	54	73.	-1	1792	223	93
NEWTON	3.11	20.97	2.01	84	55	71.	-3	1618	239	92
FREEHOLD	2.38	27.52	8.26	86	52	72.	-3	1974	290	100
LONG BRANCH	4.48	27.51	8.38	83	55	71.	-4	1753	147	100
NEW BRUNSWICK	3.51	30.70	11.48	86	54	73.	-2	1900	128	100
TOMS RIVER	2.54	22.32	2.57	87	54	72.	-3	1812	200	85
TRENTON	1.04	24.25	5.84	89	55	74.	-3	1979	136	67
CAPE MAY COURT HOUSE	.59	12.34	-4.67	89	56	74.	-3	1871	153	57
DOWNTOWN	.19	17.26	-.71	92	53	74.	-3	1988	133	52
GLASSBORO	.30	20.84	1.89	91	57	76.	-1	2207	376	44
HAMMONTON	.14	16.83	-2.17	91	54	74.	-3	2048	219	44
POMONA	.43	17.38	.29	90	53	74.	-1	1988	283	56
SEABROOK	.09	17.37	-.01	91	57	76.	-1	2212	350	43
SOUTH HARRISON	.21	20.27	1.09	89	56	75	NA	2126	NA	NA
WES KLINE -- GDD BASE 40 PINEY HOLLOW LAST WEEK 252 (Ending 7/23/07) THIS WEEK								239 (Ending 7/30/07)		

## Tomato Tasting Events

Growers are invited to attend our annual tomato tasting events and join New Jersey chefs and the public in identifying tasty varieties of classic round tomatoes. This year we have selected a number of varieties that have been traditionally known for their flavor to see if we can recapture that Jersey Tomato taste that consumers are clamoring for.

**Jersey Tomato Taste Testing**  
**Wednesday, August 8, 2007; 1 - 3:00 p.m.**  
**Rutgers Agricultural Research & Extension Center**  
**121 Northville Road**  
**Bridgeton, NJ 08302-5919**

**Annual Open House and Tomato Tasting**  
**Snyder Research and Extension Farm,**  
**Pittstown, Hunterdon County, NJ**  
**Wednesday, August 29, 3pm - dusk**  
**(Rain or Shine)**



We will also have heirloom tomato tasting and a wagon tour of vegetable and fruit projects at our research farm. Bring your business cards for a drawing of (proud to be NJ's winning football team) Rutgers apparel.

This event is free.! Please pre-register online at: <http://www.cookce.rutgers.edu/courses/current/1f0602cb.html> or call 732-932-9271, ext. 630

For online directions go to: <http://njaes.rutgers.edu/centers/quickinfo.asp?RAREC>

The event will include opportunities to taste approximately 80 varieties of tomatoes suitable for New Jersey farms and gardens, along with a sampling of tomatillos and sweet to mildly hot peppers. Wagon tours will be available throughout the event, highlighting NJAES and Rutgers agricultural research.

Registration - \$4.00 per person, children under 10 are free. Please RSVP Rutgers Snyder Research Farm at 908-713-8980. Further information is available at: <http://snyderfarm.rutgers.edu/>.

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**Pesticide User Responsibility:** Use pesticides safely and follow instructions on labels. The pesticide user is responsible for proper use, storage and disposal, residues on crops, and damage caused by drift. For specific labels, special local-needs label 24(c) registration, or section 18 exemption, contact RCE in your County.

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