

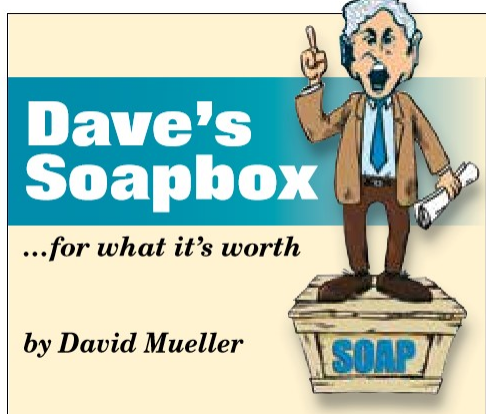
Fumigants & Pheromones

Insects Limited, Inc.



David Mueller, BCE

Dave's Soapbox ...for what it's worth



“It’s not the principle, it’s the money.”

As an entrepreneur for almost 40 years, I learned a few basic principles in small business finance. If I may, let me share them with you: Revenue is VANITY, Profit is SANITY. However, Cash is KING!!

If a business is healthy, it should be flexible enough to allow decisions that help the success of the business. A decision that is made daily is, “Do I need it, and can I afford it?” Insects Limited and Fumigation Service & Supply are seasonal businesses with lean times in the cold months and plentiful times in the warm months. This makes each year-end a time to spend profits on items necessary to help your business in the warm season continue to be successful. In addition, those inconvenient things called taxes will force one to be wise or fail. If your fiscal year-end is approaching, you will need to invest your profits or pay your tax obligations for them. If you don’t have profits from the previous season as you enter the next busy season, then you will need to either cut back and/or perhaps take a loan from the bank. Taking out a loan may be necessary and short term. It may mean, however, that you lose your flexibility to run your business the way you want, although it will keep

your business afloat in leaner times. Remember, all banks that loan money will want collateral in the form of personal assets (i.e. house, car, building, bank account, first child, etc.) which will be held by the bank as a guarantee that they will be repaid.

If you run your hobby (business not profitable for 3 of the past 5 years) or a business for several years you will understand this feast or famine approach to business finance. Make money, spend money, pay taxes...repeat.

One important thing I have learned after almost 40 years as the owner of Insects Limited and Fumigation Service & Supply is that you need a great financial manager who can sort out your real finances and pay taxes on time. With attention to the latter, Barbara Bass knew my primary concern was the former. Each week on Friday afternoon, Barb would hand me a sheet of paper. The first column showed Accounts Receivable generated from invoices from products and services for that week. It is great to see those numbers soar, but one cannot become overconfident quite yet. That report also contained Accounts Payable, Cash Flow, and Payroll. Receivables are only numbers in a column and as important as they are, they must not be taken too seriously.

For many years, terms of payment were 10 or 30 days. Now it seems companies are switching to 60-90 and even 120 days payment. European companies are even slower payers for the most part. Remember: you are not a bank and you need that precious cash to pay your employees and pay your bills. Nothing can be worse than going through the effort to purchase or manufacture products, warehouse them, and promote them with expensive marketing and then not receive compensation when they move out the door. Collecting debt is not a fun job, but it is very important and necessary.

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Regarding profits, if a business owner is true to himself/herself, the profit margins will reflect all potential expenses down to the cost of turning on the lights. Services produce a higher margin than most product sales. I have always believed that it takes \$5 of sales (product or service) to generate \$1 of true profit. So, if a sales trip or trade show costs \$3,000 in transportation, hotels, meals, booth rental, etc., you need to produce \$15,000 of business from this trip.

Additionally, regarding profits, a good financial report provides the ratio of payroll to gross dollars on a monthly, quarterly, and yearly basis. I believe for every \$1 you spend on company payroll you should produce at least \$3 of income. This number will fluctuate seasonally, but it is great to use it to look for trends with the previous year's corresponding to that month, quarter, and year. If the number dips below 3.0, then two things need to happen: your labor costs are too high and need adjustments or you need to produce more income. Profit simply comes two ways: more income production or more expense reduction while maintaining the same quality of service or product.

Another ratio that I use to measure our companies' profitability to others in the pest management industry comes from PCT Magazine each year. It lists the top one hundred companies and their number of employees. By simply dividing the number of employees into the gross dollars you arrive at the amount generated per employee. Many of the top one hundred companies produce \$100,000 to \$140,000 per employee.

Cash is King!

The real number that should drive your financial decision-making process in business is your cash. This is the availability of money that you must pay your bills and to SHOW A PROFIT. You may need to purchase new service vehicles this year. That takes cash flow. You

may need to give employee raises this year. That takes cash flow. You may need to put some of that profit in your bank account to pay for the past years when you took less to grow your business. That takes cash flow. And, finally, you need to understand that someday you will retire and spend more time with your family. So, don't fixate on the receivables until they are deposits, and don't play games with profit margins. But, do celebrate your weekly Cash Flow Report and make good solid decisions based on trustworthy, consistent accounting practices.

Another important principle in this business one should always remember is that the goal is not only to kill pests, manage people, and make good contacts with your customers; it is to MAKE PAYROLL. Good and valuable employees must provide for their own families and you want to retain them. Importantly, you are the last person in the company to receive a paycheck in your company!

I am proud to say, we (not I) have made 1,976 payrolls on time, retained quality employees, and produced quality products. And we are debt free. I feel that these are my greatest accomplishments in business.

Dave Mueller
Founder



David Mueller, BCE

Food Plant Inspection Instructions and Questions

Inspection Tools

- Take a good LED flashlight(s).
- Take vials for retaining samples.
- Be ready to get on your knees (don't wear nice pants).
- Clipboard or portfolio and paper.



Look high and low. Most people only look eye level and below.

Shine your light on the pallet racking bottom (boot). Look for spilled product in the hollow metal shelving bottoms (boot). Scrape out a sample to see if there are insects or signs of insects or rodents in the boot.

Insect Activity

Look for fine webbing in the racking. If the flashlight notices webbing, this is likely larvae from Indian meal moth/Almond moth. Shiny webbing is new activity. Dull webbing has had dust fall on it, and it is likely old webbing. This is important. The webbing is the thickness of a silk strand. Search around the warehouse for this

webbing. Ask to go up the ladder and look at the underside of the storage bin top. Shine your flashlight in the bin and look for webbing and live insect activity. Be careful climbing.

Signs of Rodents

Look for the presence or absence of mouse droppings. Rat droppings could be there, but mostly you will find mouse droppings.

Pest Control Program

Ask about their pest control program. Ask for the **pest control record book** with all the pesticide applications and sittings. Ask who does the pest control. Ask who does their fumigations. Ask for a record of fumigations for the past two years or longer. Restricted use pesticides and all records need to be collected in case the state pesticide regulators audit this company. Ask if they have been audited by the local state agencies. Ask if they are visited regularly by the local fire department (HAZMAT).

Questions to Ask

- Have there ever been any pest violations reported?
- Which insecticides have they used in the past two years? (i.e. Vapona, Pyrethrin, IGRs, Phostoxin™)
- What rodenticide do they use? Do they put the rodenticide outdoors in boxes? Do they use mechanical metal wind-up rodent traps indoors? What are the records for rodent control for the past two years?
- Do they have an 18-inch white painted line around the perimeter of the warehouse? Most food plants do this to help inspect behind the



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Food Plant Inspection Instructions and Questions

pallets and look for rodent and insect activity on the floor.

- Do they spray the bins down when they are empty? What insecticide do they use for this?
- Do they process organic products?
- Is there any spillage on the floor cracks or between pallets?
- Do they use pheromone traps? Ask for the records from the pheromone traps. If they don't use pheromone traps for stored product insects including Indian meal moth and flour beetles, why or why not?
- Does their pest control service use pheromone traps indoors or outdoors or in the bins?
- Do they get audited by any of the auditing services: including AIB, Silliker, or BRC? Many companies that ship internationally are required to have their facility audited yearly. If they do audit, what are the scores from the auditing agencies, (i.e. 90 pts. superior, 80 good, 70 passing, 60 failure).
- Have they ever attended a pesticide training program? When and where?
- Are they certified and licensed to apply restricted use pesticides? Ask for details if they are (Ag or commercial certification).
- Do birds ever get into the storage warehouse? What do they do to remove birds from your buildings?
- Do they re-use the plastic tote bags? What is the program for recycling the used bags? Are they ever fumigated prior to filling?
- Does the roof on their processing and storage warehouse leak water?
- Does condensation form inside the metal storage bins?
- Do they thoroughly inspect each trailer or container before loading them? Do they thoroughly sweep out each truck trailer or container before loading them? Do they ever spray them with residue insecticide prior to loading?

Think like an insect or rodent!



Tom Mueller

Warehouse Beetle Infestation Location Protocol

Challenge:

To pinpoint locations of Warehouse beetle (*Trogoderma variabile*) infestation through the utilization of pheromones.



Warehouse beetle (*Trogoderma variabile*)

Warehouse beetle (*Trogoderma variabile*) Behavior and Biological Facts:

The Warehouse Beetle (*T. variabile*) is found throughout the Northern Hemisphere and is being closely monitored in Australia. Of the many *Trogoderma* species, it is most commonly found in dried grains and other stored foods, but it is also found in homes and museums. Warehouse beetles tend to be very active and can develop at a rapid rate. Larvae may be found in a food source or in cracks and crevices in storage areas. Unlike many *Trogoderma* spp., the adult Warehouse beetle can fly.

This small, oval beetle is a common pest of dog food facilities. The adult is a tiny (4-6 mm) black beetle with lightly colored markings on its back. The larvae are orange-brown in color and look hairy. Warehouse beetles feed primarily on animal products but will readily feed on grain and cereal products. The hairs of the larvae can cause allergic reactions in sensitive individuals, especially when swallowed or inhaled.

The numerous larval setae (hair-like projections) of *Trogoderma* spp. are shed and can cause irritations in respiratory and digestive tracts of anyone exposed to them. The lifecycle and biological ability of *Trogoderma* to resist low humidity, starvation and some common control procedures make them a particularly persistent pest.

Please note the biology of this insect before attempting to eradicate its presence.

- Under optimal conditions the lifecycle of *Trogoderma variabile* from egg to adult is completed in 30 to 37 days.
- The female can deposit more than 90 eggs within an infested food source.
- At 90F/32.2C and 50% relative humidity the eggs hatch in about six days.

Suggested Monitoring Guidelines to Pinpoint Warehouse beetle (*Trogoderma variabile*) infestation

Warehouse beetles have a strong ability to fly. Males also have a strong attraction to their female sex pheromone. This makes it difficult to locate and remove the core of the infestation allowing numbers to become staggeringly high very quickly. There are many different options available when executing a pheromone program, and much of the decision will rely on multiple factors such as time and money.

The following is an Insects Limited, Inc. suggestion for pinpointing infestations of Warehouse beetle.

Protocol:

- Set up a pheromone program utilizing the NoSurvivor hanging diamond trap and Insects Limited's *Trogoderma* spp. female sex

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Warehouse Beetle Infestation Location Protocol

pheromone Bullet Lures. Placing pheromone devices every 50ft/15m where preferred food is present.



[Insects Limited NoSurvivor Hanging Trap](#)

- It is our suggestion to utilize the SightTrap™ during this process. It would best be used by pairing 1 SightTrap with 4 traditional traps to create a zone. *(The SightTrap is optional but would be beneficial)*



[SightTrap from Insects Limited](#)

- Dedicate 3 pheromone devices as “dynamic**” or movable. They should be placed outside of

areas where preferred food sources are present. These will alarm you in the case of infestations outside the suspected areas. These 3 devices should be rotated weekly to new locations.

- Allow all other pheromone devices to monitor for 3 weeks.
- Evaluate the number of insects according to your program inspection protocol and determine which devices are providing you with the most catches.
- Add a higher density of new pheromone traps and lures to the areas of greatest activity, condensing the distance of your pheromone devices to every 25ft/7m and allow for 3 weeks of monitoring.
- Evaluate the number of insects according to your program inspection protocol and determine which devices are providing you with the most catches.
- Using your data, select an area of suspicion and add a “low dose” pheromone lure created by Insects Limited, Inc. specifically for this situation to the “All Beetle Trap and glue board.”



[Insects Limited All Beetle Trap and Dermestid Beetle Lure](#)

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Warehouse Beetle Infestation Location Protocol

- This low dose lure paired with this style of trap will attract from roughly 5ft/1.5m and will narrow down your inspection area greatly.
- The Warehouse beetle is often found in great numbers outdoors. Placing pheromone traps on all sides of the building will give an indication of pressures coming from outside the facility.

It will be very important to note and consider if a chemical application has been applied, special sanitation has been practiced, or materials have been moved or removed throughout this process as any and all these happenings could change your trap data and cause you to start the process over.

Program reasoning:

NoSurvivor Traps with Bullet Lure Pheromone –

These traps have wide openings that will allow the pheromone to disperse over long distances. It will provide better attraction for targeted insects.

Low Dose Lures and All Beetle Traps – This trap style will restrict the distance the pheromone will travel, therefore cutting down the distance of attraction. It will allow you to narrow in your search for the source of infestation.

SightTrap Devices – This device will allow you to go directly to the most infested areas to perform inspections and program modifications. A great deal of time will be saved.

All protocols in this proposal can be changed based on the implementation of your company's timing and unique inspection techniques.

***Dynamic Monitoring – phrase created by John Moore of Fumigation Service & Supply*