



APICULTURE INDUSTRY

2013 ELECTRON BEAM STERILIZATION PROGRAM

WHY STERILIZE?

At present, the Apiculture Industry is facing several threats from pathogenic organisms. Decreased Honeybee health has a direct impact on the productivity of pollination and honey production, robbing from hive revenue targets. Colony collapse and expenses associated with replacement of package Bees and Queens are also incurred. Other costs include increased use of drug treatments, replacement of diseased equipment and the investment of Bees in the building of new comb.

Irradiation of Honeybee equipment destroys the pathogens responsible for many Bee diseases (e.g. American foulbrood, Chalkbrood, Nosema). The resulting increased colony health improves productivity, provides savings on drug costs as well as equipment and comb replacement costs and allows the Beekeeper increased assurance that revenue targets will be met. With new markets opening to residue-free honey, irradiation provides an opportunity to reduce drug treatment in the Beekeeper's IPM program. Widespread, routine use of electron beam irradiation not only controls disease, improves productivity and saves costs but has the potential to increase the health of the industry as a whole.

WHO WE ARE:

For 20 years, lotron has been developing unique and innovative processes associated with the use of electron beam technology. lotron is a leader in radiation processing, serving many sectors including Medical Device and Pharmaceutical sterilization, Pest and Pathogen control in Apiculture and Horticulture, Polymer modification, Gemstone enhancement as well as many others.

HOW IT WORKS:

The electron beam destroys pathogens, such as bacteria, mold/fungi, microorganisms and insect pests, through the damage and inactivation of DNA, thereby preventing further replication of these organisms.

lotron's treatment program provides Apiculturist's a cost effective and environmentally friendly solution for managing common beehive contaminants. Irradiation treatment is proven effective for eliminating American foulbrood (AFB), Chalkbrood, Nosema and other pests, from comb, pollen, wax and equipment.

2013 PROGRAM DETAILS:

We recently analyzed Industry feedback for opportunities to save Beekeepers costs associated with irradiation of equipment and, at the same time, expand usage of the service for the benefit of the Industry. By lowering our price in 2012 (from the previous \$5.51/super) we hope to decrease the overall cost to Beekeepers and encourage use of the technology. If the program is successful and we can cover the costs of the price decrease through increased usage, we will continue in the future as well as look for more opportunities to save.

EQUIPMENT DESCRIPTION	ORDER SIZE	2013 PRICE
SUPERS Note: Supers may contain frames but best results achieved if frames do not contain honey or honey is minimized.	Less than a full truckload (84 supers minimum; less than 1404 supers)	\$5.00/super
	More than a full truckload (1404 supers or more)	\$4.50/super

ORGANIZATION:

The lowest cost is obtained by achieving the largest order size. Some details are described below but if you have any questions please contact lotron.

ACTIVITY	DETAILS
PARTNER	Beekeepers can partner to achieve the largest load and often organize such that equipment accumulates at one partner's site and ships once a full load is achieved. It's good to keep track of each partner's quantities and consider labeling, to prevent mixing of

	partner's equipment (e.g. different color garbage bags; box markings; separate pallets).
SHIPMENT	We have obtained trucking and rail quotations for various locations. Please call to determine the best option (604-945-8838). (Note: full loads are most efficient)
BAGGING	Supers should be over-bagged to prevent honey leaks and recontamination. Large garbage bags are ideal. Bands of tape should be wrapped around the super, to secure the frames in place, as supers are flipped over during the irradiation process.
BOXING	Boxing is optional but Great Little Box Company (http://www.greatlittlebox.com/contact ; 1-800-661-3377) can produce boxes to fit a super (51X43x27cm). Box manufacturers tend to lower the unit price as the quantity ordered increases, so it would be worthwhile to partner when ordering. Note: supers should be bagged prior to boxing, as described above. Boxes may be reused in future years if maintained in good condition.
ROUTINE CONTROL	Consider color coding frames to indicate the year irradiated, in order to keep track of equipment. (e.g. similar to code for Queen Bee)

OTHER ROUTINE DETAILS:

DESCRIPTION OF PACKAGING REQUIRED FOR APICULTURE EQUIPMENT/SUPPLIES:

Equipment & Supplies: Honey Supers, Frames, Misc. equipment, Pollen, Honey

Packaging: (in general, the purpose is to prevent honey leaks and prevent recontamination)

- **Supers** may be wrapped in garbage bags, open edges sealed with tape and entire box taped around in order to secure frames in position. Cardboard boxes may be used in addition. Frames should be as clean as possible.
- **Honey Containing Frames** may be double stacked, wrapped in garbage bags or boxes and edges sealed.
- **Misc. Equipment** will require a call to Iotron to determine the best orientation and packaging.
- **Pollen & Honey** may be packed in a variety of configurations. Please call Iotron for options.

LOGISTICS:

Please call Iotron for solutions to improve cost effectiveness. For example, shipping full trailer loads is better than partial loads. Partnering with others increases the order size and also provides a cost effective solution.

TURNAROUND:

If fast turnaround time is required, scheduling an appointment may allow same day or next day pick up. Our regular turnaround time, without scheduling, is approximately 3-5 business days or less.

STANDARD RATES: (2013 Special Rate listed above)

- Minimum Order \$420 (e.g. \$420÷\$5/super = 84 supers)
- Frames: \$1.68 (double stack as described above)
- Honey: Please contact Iotron
- Volume Pricing/Group Shipment Volume Discounts/Other? See special rates above or call Iotron
- Supers: \$5.00 Max. in 2013 (2011 = \$5.51)
- Misc. Equipment: Please contact Iotron
- Pollen: \$0.53/kg

CONTACT:

If you have any questions or we can help with any of the topics described above, please give us a call!

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Please visit our new website and view our new Indiana USA facility at:
<http://www.iotron.com/about-us/video/>

