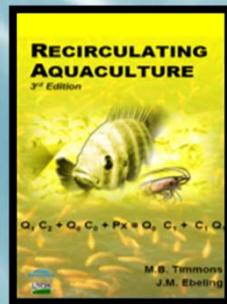




2nd Annual Short Course Engineering Design of Commercial RAS & Aquaponic Systems October 31 – November 2, 2013



COURSE DESCRIPTION:

A **three** day course that provides in-depth training on design, operation, and management of Recirculating Aquaculture Systems (**RAS**) for culturing fish species and practical training in the design and development of sustainable **Aquaponic** systems - which is a combination of aquaculture (fish) and hydroponics (plants). Topics cover design criteria and system construction, water reconditioning and management of water quality, solids removal, disinfection, biofiltration, hydraulics, pump selection and aeration. Provides practical engineering based design criteria for successful commercial Aquaculture and Aquaponic systems. At the conclusion of the workshop, individuals will have the essential information necessary to design, construct and manage their own RAS systems and have a fundamental knowledge of the principles influencing the numerous design options.

In addition, a tour of an Aquaponics Facility (educational venue) in Livonia, MI that is in full operation will be for further educational value.

LOCATION: Cabela's in Dundee, Michigan
110 Cabelas Boulevard East, Dundee, MI 48131
Phone: (734) 529-4700

To register, please contact Michele Wallace
michele@aquagrowers.com 248-756-8584

INSTRUCTORS:

Cornell University, Ithaca, NY
Dr. Michael B. Timmons: Aquaculture/Business Management
Aquaculture Systems Technologies, New Orleans, LA
Dr. James M. Ebeling: Aquaculture/Aquaponics

REGISTRATION:

Limited Enrollment Tuition \$700 plus lodging
Early Bird Registration \$600 if by September 30th, 2013
Register by October 20, 2013
Course: All registrants will receive the book "Recirculating Aquaculture (RAS)" by Timmons and Ebeling, a course packet, a 40 hour educational video set, and a USB Thumb Drive with all presentation materials and videos as a bonus.

FOR MORE INFORMATION <http://www.bee.cornell.edu/aqua>
Dr. Michael B. Timmons: mbt3@cornell.edu 607-255-1630
Michele Wallace: michele@aquagrowers.com 248-756-8584

ACCOMODATIONS:

HOLIDAY INN - 100 WHITETAIL DR. DUNDEE, MI 48131
Tel: 734-529-5100 Full Service Hotel and Restaurant
\$89.00 for single or double per night (discount voucher for meals)
Mention Group Code: AQUA GROWERS

Country Inn Suites – 665 Tecumseh, Dundee, MI 48131
734-529-8822 \$90 for single or double per night
Free Continental Breakfast! GROUP CODE: AQUA GROWERS

Engineering Design of Recirculating Aquaculture Systems (RAS)

Featuring Dr. Michael Timmons and Dr. James Ebeling



Cornell University
Biological and Environmental Engineering



12089 Merriman Road
Livonia, MI 48150

Contact: Michele Wallace
michele@aquagrowers.com
248-756-8584

SEMINAR REGISTRATION

Oct 31- Nov 2, 2013— Space is limited—Please register early
To take advantage of the early bird discounts!!!

*****PLEASE FAX REGISTRATION FORM TO 734-207-2092*****

ATTENDEE INFORMATION Please Print

Name: _____
Name (2): _____ Name (3) _____
Company: _____ City: _____
Address: _____ State/Province: _____
Main Email: _____
Phone No's: _____
Work Home Mobile (Circle one) Work Home Mobile (Circle one) Work Home Mobile (Circle one)

REGISTRATION FEE(S)

Early Registration: **\$600**
Late fee after October 20th, 2013 \$ 700

of Attendees _____

2 or more Attendees from the same company **\$600**

TOTAL DUE _____

Payment

Check Payable to Aqua Growers, LLC
 MasterCard Visa Discover Amer Express

Cardholders Name _____

Card Number: _____

Expiration Date: _____

Security Code: _____

CANCELLATION POLICY

Should you find it necessary to cancel your seat 30 or more days before the Seminar registration fees will be refunded in full: Cancellations 5-29 days prior to the seminar will result in a 50% refund. Cancellations made less than 5 days before a seminar or non-attendance without cancellation will not be refunded. Aqua Growers, LLC reserves the right to cancel a seminar without liability to registrants except for full refund of tendered payment. Thank You.

FAX FORM TO 734-207-2092

For security reasons, please print this form for your records. Mail one copy to Aqua Growers if not faxing. Faxing or phone for credit card payments is recommended. To phone in credit card information, please call Michele Wallace at 248-756-8584

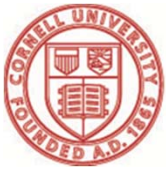
Signature

Date

PLEASE FAX ALL REGISTRATION FORMS TO: 734-207-2092

Or Mail to: Aqua Growers, LLC – Michele Wallace
12089 Merriman Road
Livonia, MI 48150

For further information regarding registration, please call Michele Wallace 248-756-8584



Schedule of Course Events

| | Thursday October 31 th | Friday November 1 st | Saturday November 2 nd |
|--|---|---|--|
| | Day 1 | Day 2 | Day 3 |
| AM Classes start promptly at 8:30AM on Day 2 & 3 | Registration at 9:00 am (Class starts sharp at 10:00 am) Introductions Review of Handouts & Text Introduction to Recirculating Aquaculture Systems Engineering (RAS) | Housekeeping Questions/Review Water Quality Culture Tank Design Circulation: Pipe Flow & Pumps Experiences from the Tank (Aqua Growers, LLC) | Housekeeping Questions/Review Fish Health Management & Biosecurity System Monitoring & Control Aquaculture Management & Economic Realities Intro to Design Spreadsheets |
| | LUNCH (ends at 1:00 pm) | LUNCH (Dutch treat) | LUNCH (Dutch treat) |
| PM *Vendor Presentations | Engineering Design– Mass Balance, Loading and Growth Omega Fish Design Questions/Discussion – Adjourn Field Trip to Aquaponics Facility in Livonia, MI | Solids Capture Design Example Waste Management and Effluent Utilization Biofiltration/MBBR Design Aeration/Oxygenation Questions/Discussion - Adjourn | Growout System Design – Boutique Aquaponics Systems Questions/Discussion – Wrap up ADJOURN On the road 4:00 pm |
| Evening | 7:00 pm Dinner in Livonia | Dinner to be arranged Dutch Treat | Emails: Wallace (michele@aquagrowers.com) Timmons (mbt3@cornell.edu) Ebeling (JamesEbeling@aol.com) |

To register for the RAS Seminar go to www.aquagrowers.com (Online Store) or contact Michele Wallace (michele@aquagrowers.com) or 248-756-8584