

## **GSI W-7 Webinar**

### **“Geosynthetics in Agriculture and Aquaculture”**

#### Webinar Overview

This webinar illustrates the many and varied applications of geosynthetics which can (and have been) used in agriculture and aquaculture. The users are either focused on improved productivity or lower cost of operations. A brief explanation of geosynthetics will begin the webinar followed by specific operations. In the agriculture area, these are various farming applications, confined animal feedlots, anaerobic digesters and emerging concepts. In the aquaculture area, these are lined ponds, factory controlled systems and offshore fish pens and cages.

Exposed geomembrane lifetimes will be offered from the perspective of laboratory predictions as well as a benefit/cost method for geomembrane solution. Conclusions in both areas will also be offered.

#### Learning Objectives

Webinar participants will gain an overview of geosynthetics vis-à-vis various containment concepts. In the agriculture sector, specific issues of animal waste concerns (e.g., CAFO's) will be described as well as anaerobic digesters. In the aquaculture section, focus is on fish farming both on land and in water, including lakes and oceans.

Emerging concepts in agriculture such as enhancement of farming practices, geotextile capillary barriers, odor control floating covers, and odor permeable geomembranes will be presented. In aquaculture the use of geogrid enclosures will be emphasized. Exposed geomembrane lifetimes, via laboratory simulation methods, will be presented as will the benefit/cost methodology for selecting the optimum type of geomembrane.

#### Webinar Benefits

- Learn about geosynthetics and their functions
- Learn select aspects of farming and animal waste containment
- Learn specific aspects about CAFO's, anaerobic digesters, and emerging concepts insofar as geosynthetic applications are concerned
- Learn about the three categories of fish farming insofar as fish growth and harvesting.
- Learn about exposed geomembrane lifetime predictions based on current technology
- Learn how to select geomembranes based on a benefit/cost ratio analysis

#### Intended Audiences

Agricultural engineers and developers dealing with all aspects of farming; aquaculture specialists in the various categories of implementation; geosynthetic manufacturers and representatives;

design consultants and the testing organizations that serve them; academic and research groups; government agencies dealing with the agriculture and aquaculture industries; others desiring technical related information insofar as these geosynthetic applications are concerned.

### Specific Topics Covered

- 1.0 Geosynthetic Materials
- 2.2 Farming Operations and Containment Concepts
- 3.0 Confined Animal Feedlots and Anaerobic Digesters
- 4.0 Emerging Concepts and Applications
- 5.0 Aquaculture, aka “Fish Farms”
- 6.0 Exposed Geomembrane Lifetimes
- 7.0 Geomembrane Lifetimes and Selection Process
- 8.0 Conclusions

### Webinar Instructor

#### **George Koerner, Ph.D., P.E. & CQA**

#### **Vita:**

George R. Koerner is Director of the Geosynthetic Institute. He is in charge of laboratory accreditation, field certification and continuing education at the Institute. He also manages several research projects and has published over 350 technical papers in his 35-year association with polymers used in below ground construction. Dr. Koerner’s Ph.D. is from Drexel University in Geotechnical Engineering. He is a registered professional engineer and a certified quality auditor. George has received many awards over the years. The most notable being IFAI’s Environmental Technologies Award of Excellence 1995, ASCE’s DVGI Geotechnical Engineer of the year in 2004, the title of ASTM Fellow in 2013 and GMA’s first Koerner lecture in 2017.