Summary of Cellana Updates Since Last ABS

1. Commercialization Progress
   A. Off-Take Agreement with Neste Oil for biofuel applications
   B. 2nd successful large-scale feed trial (chicken feed)
   C. Successful sampling of initial Omega-3 nutritional oils

2. Production / Technology Progress – Xuemei Bai, Ph.D. Panel on Wed.
   A. More than 10 different strains grown at KDF at industrial scale
   B. Hit minimum biomass/O3 growth rates with multiple candidate strains to progress to process optimization (TEA in Cellana’s poster; Booth 205)

3. Grants Progress
   A. Kick-off of ATP3 Program (DOE-funded consortium led by ASU)

   A. Reduced/flat cash burn despite adding key hires; rolling Series A round

5. Outlook for Cellana Updates for #ABS14
Cellana’s Biorefinery Business Model Builds on a Foundation of Biofuel Research to Address Additional Valuable Products

Omega-3 nutritional oils and high-value aquaculture / animal feed products are an extension of Cellana's core competency - screening, developing, and producing algae biofuel feedstock.

Omega-3 nutritional oils market
$300B
livestock feed market
$9B aquaculture feed / fishmeal market
$1T+ fuels and energy markets
$4B Omega-3 nutritional oils market

Cellana's Biorefinery Business Model

1. Grow in Photobioreactors
- Closed System: contamination-free monocultures
- Open System: economical batch processing
2. Harvest
3. Process / Fractionate
- Algae Oils
- Proteins / Carbohydrates
- Biomass

US Patent 7,770,322; US Patent 5,541,056

ALDUO™

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Three-Product Biorefinery: 3 Products From Each Strain Via ALDUO™ + “Conventional” Upstream/Downstream Processes

- “Off-the-shelf” ag inputs + sunlight + CO₂ + ALDUO™ = ReNew Algae
- “Off-the-shelf” harvesting, de-wathering, & oil/biomass separation techniques
Commercial-Scale Off-Take Agreement with Neste Oil

- Off-Take Agreement for algae oil announced June 2013
- Neste Oil is the largest refiner of renewable diesel in the world
- Multi-year off-take agreement
- Commercial-scale quantities of algae oil
- Contingencies for Cellana production capacity, EU/US sustainability criteria, and other factors
- Non-Exclusive for both parties
- “Samples have shown that Cellana is able to produce algae oil suitable for renewable fuel production by Neste Oil.”
- “The off-take agreement with Cellana allows us access to commercial-scale volumes of cost-competitive algae oil in the future.”

Neste Oil's renewable fuel plant in Rotterdam in the Netherlands was commissioned in 2011.

Neste Oil started up the world's largest renewable diesel refinery in Singapore in November 2010.
Over 5 MT of Cellana’s ReNew™ Feed Used in Diverse & Successful Feed Trials

- Finfish, shellfish, chicken, pigs, cattle – most major sources of meat
- Successful large-scale feed trial for Salmon, Carp, & Shrimp
  - Marine microalgae from biorefinery as a potential feed protein source for Atlantic salmon, common carp and whiteleg shrimp, V. Kiron (Bodo University) et al., published online: Aquaculture Nutrition, 3 APR 2012
    - Cellana’s ReNew Feed was acceptable for the three animals at the maximum levels tested (Salmon 10%, Carp 40%, Shrimp 40%)
    - There were negligible differences in growth and hardly any in the biochemical composition during the study period

- Successful large-scale feed trial for Broiler Chicks
  - Potential and Limitation of a New Defatted Diatom Microalgal Biomass in Replacing Soybean Meal and Corn in Diets for Broiler Chickens, Xin Gen Lei (Cornell) et al., published online: J. Agric. Food Chem., 4 JULY 2013
    - Cellana’s ReNew™ Feed could substitute for 7.5% of soybean meal alone, or in combination with corn, in diets for broiler chicks when appropriate amino acids are added
1. Commercialization Progress
   A. Completed off-take agreements for food/feed and Omega-3s
   B. Additional feed trials
   C. Announcement of at least one commercial facility site

2. Production / Technology Progress
   A. Optimized strains/process involving existing or new strains

3. Grants Progress
   A. Multiple test-bed users under ATP³ Program

4. Financial Progress
   A. Completion of current Series A round
   B. Launch/initial closing of Series B round
Thank You

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