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GOVERNMENT OF CANADA INVESTS IN RIDGETOWN BIO-DIGESTER TO STRENGTHEN BIO-ECONOMY

August 31st, 2011*Media Release - Ridgetown, ON*

An official ceremony was held in August to celebrate the completion of construction for the new Anaerobic Bio-digester at the University of Guelph's Ridgetown Campus. Dave Van Kesteren, Member of Parliament for Chatham-Kent -Essex joined Robert Gordon, Dean of the Ontario Agricultural College (OAC), and Art Schaafsma, Director of the Ridgetown Campus, in officially lighting the bio-digester flare.

"Through Canada's Economic Action Plan our government is committed to creating jobs and supporting the people, communities and businesses of southern Ontario," said MP Van Kesteren. "Our investment at the Ridgetown Campus will help research, develop and bring to the marketplace new technologies for the agricultural industry."

"It is exciting to see this project reaching completion" said Dean Gordon. "On behalf of the University of Guelph and OAC, we are grateful for the investment in renewable energy technology and see it as a catalyst for

our ongoing commitments to food, agriculture, the environment and rural communities."

FedDev Ontario has invested nearly \$2.6 million towards the construction of a farm-scale 250 kW anaerobic bio-digester, which will convert agricultural and food industry biomass to biogas, to create electricity and to commercialize new oil seed crops. The purpose of the project is to commercialize new technology as well as train students and farmers. By developing a renewable agricultural energy project in the agricultural sector, the benefits from this project will strengthen the renewable energy sector as well as create new employment opportunities.

FedDev Ontario was created as part of Canada's Economic Action Plan to support businesses and communities in southern Ontario. Now in its third year of operation, the Agency has launched a number of initiatives to create a Southern Ontario Advantage and place the region in a strong position to compete in the global economy.

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Above Photo (L - R) In Front of New Digester: Matt Lensink, Project Construction Manager, PlanET; Dave Van Kesteren, MP Chatham-Kent -Essex; and, Art Schaafsma, Director, Ridgetown Campus



UPDATE ON THE CANADVANCE 'OPPORTUNITIES FOR ON-FARM BIODIESEL PRODUCTION' PROJECT:

Biodiesel Facility:

The CARES biodiesel research facility continues to operate as a fee for service facility. Strong relationships have been established between CARES, Argon Investments Inc. out of Scarborough, Ontario, the facilities primary waste vegetable oil supplier and, AGRIS co-op the primary buyer. AGRIS is using the biodiesel as a blend and has been working on negotiating a contract with the municipality to use CARES produced biodiesel in municipal vehicles.

Biodiesel production is at an all-time high with the current production volume of 20,000L /month expected to increase to 30,000-40,000L /month.

The option of using the crude glycerol and waste water generated from the biodiesel plant is being investigated for its use in the anaerobic digester.

We would like to announce that Kim Marchand is the new Renewable Energy Technician for CARES. Welcome aboard Kim!

Conversion of Co-Products to Value-Added Bioproducts:

Kim Marchand (advised by Drs. Nicol and Lubitz) is completing her thesis on the "Fungal Utilization of Biodiesel Derived Crude Glycerol for Biomass and Lipid Production." Her research project conducted over the last two years included the screening and characterization of microorganism able to utilize crude glycerol from the CARES biodiesel facility as a carbon substrate for growth and bioproduct production. The crude glycerol was found to enhance the growth of many fungal isolates and yeast species belonging to the genus *Galactomyces* were identified as promising candidates. These microorganisms were able to produce high biomass yields with oil contents in excess of 30% of their cellular dry weight. This is the first time that the use of *Galactomyces* for oil production using crude glycerol has been reported in the literature and expands on the field of second generation oil production. Results from this research were presented at the American Society for Microbiology General Meeting held in New Orleans, Louisiana, May, 2011.

BIO-DIGESTER (Continued from Front Page):



Photo above shows Director, Art Schaafsma addressing the crowd at the Bio-Digester Open House on August 31st.

Below, is the a photo of the anaerobic digester gas flare.



For more information on current CARES research activities, please contact:

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BASED AT THE UNIVERSITY OF GUELPH, RIDGETOWN CAMPUS AND STRATEGICALLY SITUATED IN A KEY AGRICULTURAL AREA, THE "CENTRE FOR AGRICULTURAL RENEWABLE ENERGY AND SUSTAINABILITY" (CARES) IS A HUB FOR APPLIED AND ADAPTIVE RESEARCH, TRAINING AND EDUCATION, TECHNOLOGY TRANSFER, AND RURAL COMMUNITY DEVELOPMENT IN BIO-ENERGY AND THE BIOECONOMY. THROUGH EXTENDED INTERACTION WITH ITS CONSTITUENT COMMUNITY, CARES WILL BUILD ON THE HISTORIC BACKGROUND AND CURRENT SKILLS OF RIDGETOWN CAMPUS TO SUPPORT THE AGRICULTURE AND AGRI-FOOD SECTOR BY INTEGRATING AN APPLIED RESEARCH PROGRAM. THIS CENTRE WORKS TO ADVANCE INNOVATION AND ADOPTION OF BIOENERGY THROUGH RISK MINIMIZATION, BENCH-MARKING AND CREATION OF VALUE ADDED COMPONENTS.

"Translating science into action at the farm gate"

www.ridgetownc.uoguelph.ca/research/