



**CSAE/ASAE North Central
Inter-Sectional Conference**
September 26-28, 2002
Parktown Hotel
Saskatoon, SK



Agenda:

Thursday, September 26

6:00 – 8:00 p.m. *Registration*
South Dining Room

Friday, September 27

7:30 – 10:00 a.m. *Registration*
8:30 – 10:10 a.m. *Technical Sessions - Concurrent*
Session 1: Agricultural Systems – Maple Room
Session 2: Bioprocessing I – Birch Room
Session 3: Natural Resources – Poplar Room
10:10 – 10:30 a.m. *Coffee Break*
10:30 – 11:50 a.m. *Technical Sessions - Concurrent*
Session 1: Agricultural Systems – Maple Room
Session 2: Bioprocessing I – Birch Room
Session 3: Natural Resources – Poplar Room
12:00 – 1:30 p.m. *Lunch*
(Bag lunch provided to take to the riverbank)
2:00 – 5:00 p.m. *Tours: (1) Flexi-coil-ABE Dept. **
(2) Canadian Light Source-AgWestBiotech-
ABE Dept.
(3) POS Pilot Plant-FoodCentre-Bioprocess
Engineering Lab/ABE Dept.
6:00 – 6:30 p.m. *Cash Bar – South Dining Room*
6:30 p.m. *Banquet*

Saturday, September 28

8:30 – 10:10 a.m. *Technical Sessions - Concurrent*
Session 4: Ag. Systems and Processing – Maple Room
Session 5: Bioprocessing II – Birch Room
10:10 – noon *Student Competition & Prizes*

*This tour leaves from Parktown Hotel at 1:30 PM. Other tours leave the hotel at 2:00 PM.

CSAE/ASAE North Central Inter-Sectional Conference

Technical Session Program

Parktown Hotel
Saskatoon, SK
September 26-28, 2002

Friday, 8:30 - 11:50 AM

Session 1: Agricultural Systems - *Maple*

Session 2: Bioprocessing I - *Birch*

Session 3: Natural Resources - *Poplar*

Saturday, 8:30 - 10:10 AM

Session 4: Ag. Systems and Processing - *Maple*

Session 5: Bioprocessing II - *Birch*

Session 1 *Agricultural Systems* (Friday, 8:30 – 11:50 AM)

Room: *Maple*

Chair: **Huiqing Guo/ Trevor Crowe**, Department of Agricultural and Bioresource Engineering, University of Saskatchewan

- 8:30 **Machines Used in Clearing Anti-Personnel Land Mines – A Review** (**handout**) MBSK 02-100
K. Sharifat and R. L. Kushwaha, Department of Agricultural and Bioresource Engineering, University of Saskatchewan
- 8:50 **Evaluation of Chain Link Flails and Knuckle Link Flail For Neutralization of Anti-Personnel Land Mines** (**handout**) MBSK 02-101
R. L. Kushwaha, K. Sharifat and V.S. Shankhla, Department of Agricultural and Bioresource Engineering, University of Saskatchewan
- 9:10 **Development and Evaluation of a Soil Displacement Measuring Device** (**handout**) MBSK 02-102
J. Schnaider, T. Lloyd, L. Roth, K. Sharifat and R. L. Kushwaha, Department of Agricultural and Bioresource Engineering, University of Saskatchewan
- 9:30 **Evaluation of Effects of Subsoiling on Some Physical- Mechanical Properties of Soil and Wheat Yield** (**oral**) MBSK 02-103
R. Ashrafizadeh and A. Tabatabaeefar, Department of Agricultural and Bioresource Engineering, University of Saskatchewan
- 9:50 **The Effect of Error Indicators on Guidance Performance** (**paper**) MBSK 02-104
R. Tse and D.D. Mann, Department of Biosystems Engineering, University of Manitoba
- 10:10-10:30 **Break**
- 10:30 **Design, Construction, and Evaluation of GPS Displays** (**handout**) MBSK 02-105
C. S. Ima and D. D. Mann, Department of Biosystems Engineering, University of Manitoba
- 10:50 **On-site Inspections of Auger-Related Farm Injuries** (**paper**) MBSK 02-106
M.W.E. Ingram, T.G. Crowe, J. Wassermann, L.M. Hagel and J.A. Dosman, Department of Agricultural and Bioresource Engineering, University of Saskatchewan

- 11:10 **Environmental Modeling of a Greenhouse Sheep Barn (paper)** MBSK 02-107
E. Simsek, U. Kizil, J.A. Lindley and E. Yaslioglu, Department of Agricultural and Biosystems Engineering,
North Dakota State University
- 11:30 **The Effect of Root Zone Heating on Bedding Plants in Greenhouses (handout)** MBSK 02-108
Q. Zhang, A. Weiss, J. Wong Li, R. Boris and M.G. Britton, Department of Biosystems Engineering, University
of Manitoba

Session 2
Bioprocessing I
(Friday, 8:30 – 11:50 AM)

Room: **Birch**

Chair: **Lope Tabil**, Department of Agricultural and Bioresource Engineering, University of Saskatchewan

- 8:30 **Kinetics of Color Development During Immersion Frying of Soybean Curd (handout)** MBSK 02-200
O.D. Baik and G.S. Mittal, Department of Agricultural and Bioresource Engineering, University of
Saskatchewan
- 8:50 **Sticky Issues on Spray Drying of Fruit Juices (paper)** MBSK 02-201
S. Mani, S. Jaya, and H. Das, Department of Agricultural and Bioresource Engineering, University of
Saskatchewan
- 9:10 **Effect of Calcium on Dynamic Rheology of Mozzarella Cheese (handout)** MBSK 02-202
N.S. Joshi, K. Muthukumarappan and R.I. Dave, Department of Agricultural and Biosystems Engineering,
South Dakota State University
- 9:30 **Effect of Foreign Material on the Storability Peas Under Tropical Conditions (paper)** MBSK 02-203
C. Empringham, L.G. Tabil, W.J. Crerar and S. Sokhansanj, Department of Agricultural and Bioresource
Engineering, University of Saskatchewan
- 9:50 **Tensile Testing of Flax Fibers (paper)** MBSK 02-204
J. Ward, L. G. Tabil, S. Panigrahi, W. J. Crerar, T. Powell, A. J. Kovacs and A. Ulrich, Department of
Agricultural and Bioresource Engineering, University of Saskatchewan
- 10:10-10:30 **Break**
- 10:30 **Engineering Properties of Flax Fiber and Flax Fiber-Reinforced Polymers (paper)** MBSK 02-205
T. Powell, J. Ward, S. Panigrahi, L. G. Tabil, W. J. Crerar, S. Sokhansanj and L. Braun, Department of
Agricultural and Bioresource Engineering, University of Saskatchewan
- 10:50 **Compaction and Compression Behavior of Fractionated Alfalfa Grinds (paper)** MBSK 02-206
P. Adapa, L. Tabil, G. Schoenau, S. Sokhansanj and J. Bucko, Department of Agricultural and Bioresource
Engineering, University of Saskatchewan
- 11:10 **Pelleting Characteristics of Fractionated Sun-dried Alfalfa Grinds (paper)** MBSK 02-207
P. Adapa, J. Bucko, L. Tabil, G. Schoenau and S. Sokhansanj, Department of Agricultural and Bioresource
Engineering, University of Saskatchewan
- 11:30 **Aroma Characteristics of Alfalfa Products (paper)** MBSK 02-208
V. E. Loranca Corona, L. Tabil and R. T. Tyler, Department of Agricultural and Bioresource Engineering,
University of Saskatchewan

Session 3
Natural Resources
(Friday, 8:30 – 11:30 AM)

Room: **Poplar**

Chair: **Terry Fonstad**, Department of Agricultural and Bioresource Engineering, University of Saskatchewan

- 8:30 **Effect of Manure Fertilizer on Water Quality Runoff (oral)** MBSK 02-300
I.C. Chen, J. Elliott, and C. Maulé, Department of Agricultural and Bioresource Engineering, University of Saskatchewan
- 8:50 **Hydrology of a Cattle Feedlot (oral)** MBSK 02-301
D. Rinas, T. Fonstad and C. Maulé, Department of Agricultural and Bioresource Engineering, University of Saskatchewan
- 9:10 **Determination of Runoff Curve Number for a Bison Feedlot (paper)** MBSK 02-302
U. Kizil and J. A. Lindley, Department of Agricultural and Biosystems Engineering, North Dakota State University
- 9:30 **Monitoring of Earthen Manure Storages in Saskatchewan: An Update (paper)** MBSK 02-307
C. Halliday and T. Fonstad, Department of Agricultural and Bioresource Engineering, University of Saskatchewan
- 9:50 **Pump Inlet Designs for Irrigating from Low Flow Meandering Rivers (paper)** MBSK 02-304
L. Disrud, T. Scherer and R. Waters, Department of Agricultural and Biosystems Engineering, North Dakota State University
- 10:10-10:30 **Break**
- 10:30 **Automated Control of a Watering System for Fusarium Head Blight (Scab) Research (paper)** MBSK 02-305
T.F. Scherer, D. Kirkpatrick, and M. McMullen, Department of Agricultural and Biosystems Engineering, North Dakota State University
- 10:50 **Feasibility Study for Concrete Swine Buildings and Manure Storage Facilities in Western Canada (paper)** MBSK 02-306
S.P. Lemay, C. Laguë and L. Chénard, Prairie Swine Centre Inc., Saskatoon, SK
- 11:10 **A Tractor-Mounted Device for Measurement of Soil Strength Characteristics (paper)** MBSK 02-308
D. Humburg and B. Jahn, Department of Agricultural and Biosystems Engineering, South Dakota State University
- 11:30 **Ethanol from Agricultural Crop Residues – an Overview (paper)** MBSK 02-217
S. Mani, L.G. Tabil and A. Opoku, Department of Agricultural and Bioresource Engineering, University of Saskatchewan

Session 4
Agricultural Systems and Processing
(Saturday, 8:30 – 10:10 AM)

Room: **Maple**

Chair: **Venkatesh Meda**, Department of Agricultural and Bioresource Engineering, University of Saskatchewan

- 8:30 **Biodiesel Fuel Use in an Unmodified Diesel Engine (paper)** MBSK 02-109
V. Hofman and E. Solseng, Department of Agricultural and Biosystems Engineering, North Dakota State University
- 8:50 **Comparison of Different Rice Milling Methods (paper)** MBSK 02-214
S. Afzalnia, M. Shaker and A. Zare, Department of Agricultural and Bioresource Engineering, University of Saskatchewan

- 9:10 **Development of a Dual Frequency Permittivity Analyzer Using Cavity Perturbation Technique (oral)** MBSK 02-215
M.S. Venkatesh, G.S.V. Raghavan and L. Tabil, Department of Agricultural and Bioresource Engineering, University of Saskatchewan
- 9:30 **Photo-Bioreactor Design (paper)** MBSK 02-216
G.A. Anderson, A. Kommareddy, and M. Schipull, Department of Agricultural and Biosystems Engineering, South Dakota State University
- 9:50 **Review of Extrusion Temperature Measurement and Estimation (handout)** MBSK 02-218
W. Twombly and D. Wiesenborn, Department of Agricultural and Biosystems Engineering, North Dakota State University

Session 5
Bioprocessing 2
(Saturday, 8:30 – 10:10 AM)

Room: *Birch*

Chair: **Oon-Doo Baik**, Department of Agricultural and Bioresource Engineering, University of Saskatchewan

- 8:30 **Rotational Moulding of Flax Fiber Reinforced Thermoplastics (paper)** MBSK 02-209
J. Ward, T. Powell, S. Panigrahi, L. G. Tabil, W. J. Crerar, S. Sokhansanj and L. Braun, Department of Agricultural and Bioresource Engineering, University of Saskatchewan
- 8:50 **Application of Biorenewable Fibers in Composites (paper)** MBSK 02-210
S. Gurram, J. L. Julson, K. Muthukumarrapan, and A. K. Mahapatra, Department of Agricultural and Biosystems Engineering, South Dakota State University
- 9:10 **Grinding of Chickpeas (paper)** MBSK 02-211
S. Mani and L. Tabil, Department of Agricultural and Bioresource Engineering, University of Saskatchewan
- 9:30 **Processing of Starch-rich and Protein-rich Fractions from Chickpeas - A Review (paper)** MBSK 02-212
S. Emami and L. Tabil, Department of Agricultural and Bioresource Engineering, University of Saskatchewan
- 9:50 **Effects of Drying Methods on Quality and Chemical Composition of Pistachio Nuts (paper)** MBSK 02-213
M. Kashani Nejad, L. G. Tabil, M. Mortazavi, A. Safekordi and M. Nakhaei, Department of Agricultural and Bioresource Engineering, University of Saskatchewan