**RESEARCH FOUNDATION** 

# Annual Report

# Fiscal Year 2015

#### Executive Summary by Dale Zetocha



**NDSU** 

The NDSU Research Foundation attained a new record in licensing revenue of over \$2.5 million in FY15. The 'Prosper' and

'Faller' 'wheat varieties were the leading licensing revenue generators. NDURF also received record license fee and patent and IP cost reimbursement for FY15.

Seventy-seven licenses or options were executed, of which 13 were exclusive and 64 were non-exclusive.

New licenses included a monoclonal antibody, 'ND Henson' soybean, 'ND Genesis' barley, 'Joppa' durum, and 'Dakota Ruby' potato varieties, as well as the LEAP technology that was licensed to the start-up company, Uniqarta. (See article on p. 2) Additional progress is being made by previous licensees who developed and introduced products in the marketplace during FY15. We look for growth in the following products in the next few years. The chromate-free magnesium primer, licensed to Akzo Nobel, received its first military specification and sales should start ramping up in FY-16. The P-tree datamining technology, licensed to Treeminer, Inc. is being commercialized for both public and private applications, so we're looking for sales to increase in this arena as well.

Dale ztocho

# NDSU's Barley Program — Changing with the Times

With North Dakota being one of the top barley producing states in the US, it is only logical that NDSU would have a leading Barley Breeding Program. The NDSU six-rowed Barley Breeding Program has been active since the mid 1940s. Dr. Richard Horsley became the six-rowed barley breeder in 1988. Six-rowed barley is raised mostly for large scale malting and brewing by companies such as Anheuser-Busch, InBev, and MillerCoors. Six-rowed NDSU barley varieties include 'Foster', 'Drummond', and 'Stellar-ND'. Additionally, a promising six-rowed line that is currently in the industry plant scale evaluation program may be released within the next two years.

In 2006, Dr. Richard Horsley also took over the two-rowed Barley breeding program from Dr. Jerry Franckowiak, who began his work at NDSU in 1978. Dr. Franckowiak developed the current tworow barley releases 'Conlon', 'Rawson', 'Pinnacle', and the newly released 'ND Genesis'. The low protein characteristics of 'Pinnacle' and 'ND Genesis', are desired by all malting and brewing industries. 'ND Genesis' will potentially replace 'Pinnacle' as the leading two-rowed barley in North Dakota, because it has improved disease resistance, good malt extract values, and higher yield.



Dr. Richard Horsley, NDSU Barley Breeder

The brewing industry is changing with the significant rise in the number of craft brewers, who often prefer to use locally produced ingredients for their products. There has also been a big change in the desire of large brewers to source two-rowed malting barley from the upper Midwest. Historically, they have purchased mostly six-rowed barley from the region, but their desire for "more extract per acre" has driven their need to source more two-rowed barley. In the past, six-rowed barley has occupied 85-90% of North Dakota's barley acreage, but with the desire for more extract per acre, it is expected that the acreage of two-rowed barley grown in the state will increase significantly. This trend of more growers looking to supply craft brewers resulted in NDSURF obtaining six new non-exclusive out-of-state licenses for 'Pinnacle' barley in FY15. It is expected that the production of NDSU barley varieties in regions where barley has not been grown in decades will increase, because of the craft brewing industry's desire to use locally grown barley.

According to Dr. Horsley's webpage, "The primary goal of the breeding project is to release and develop six-rowed and two-rowed malting barley cultivars acceptable to barley producers in North Dakota, adjacent states, and the malting and brewing industry." Dr. Horsley teaches a class on experimental design (PLSC 724 – Field Design I) and hosts educational events on malting barley production. Annual Barley Field School is provided to those individuals looking to grow malting barley in non-traditional growing regions and craft maltsters and brewers.

**FACT:** The **NDSU Research Foundation's** intellectual property licensing revenue continues to rank high nationally, relative to other universities and/or associated research foundations without medical schools, other land grant universities with and without medical schools, and those peer institutions as defined by the North Dakota University System.

# Uniqarta, Inc. Pursues Opportunities with NDSU Electronics Packaging Technology

NDSU Professor Val Marinov knew his research team was on to something big with their novel microelectronics assembly process\* and its potential for "smart paper", but he didn't know how big until the BBC ran a story about it in May of 2013. Once that happened, the floodgates opened. Val and the NDSU Research Foundation were inundated with inquiries from prospective users, licensees, and investors. The interest was so strong

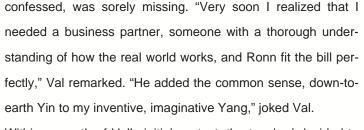
that Val decided to commercialize the technology himself. His first step was to find a business partner.

Around the same time, 1300 miles away in Cambridge, MA, former semiconductor executive Ronn Kliger was looking for a technology partner. Ronn had spent the first thirty years of his career at large companies and was ready to start his own. As part of their respective partner

searches, Ronn and Val each registered at an entrepreneur matchmaking website called CoFoundersLab.

In late August 2013, Val came across Ronn's profile at Co-FoundersLab and thought he might be the right business partner for him. After just a few emails and phone calls, Ronn was on a plane to Fargo. "I was intrigued by the invention Val and his team had developed and immediately saw tremendous potential," Ronn recalled. "Once I met Val in person, I was hooked. Val's passion and creativity were obvious and I couldn't wait to get started."

On his side, Val was impressed with Ronn's experience, pragmatism and sound business sense, something that he, as he



Within a month of Val's initial contact, the two had decided to start a company. By November 2013, Uniqarta was incorpo-

rated. The company has since opened an R&D center in Fargo where it is growing its technology team. Earlier this year, Uniqarta licensed the manufacturing technology that Val's team had developed from the NDSU Research Foundation. The company has received financial awards from the North Dakota Technology-Based Entrepreneurship Grant program and the National Science Founda-

tion. It is also a participant in the new Flexible Hybrid Electronics Manufacturing Innovation Institute being established this fall by the federal government.

Uniqarta's immediate focus is on integrating ultra-thin RFID chips with materials such as paper in form factors and at cost points that have never been possible before. Applications include smart packaging, document security, and consumer interactive media.

For more information go to: http://www.uniqarta.com

\* The NDSU team's Laser Enabled Advanced Packaging (LEAP) technology enables contactless assembly of extremely thin or extremely small electronics chips onto flexible substrates such as paper.

# **Technology Licensing Updates**



HQC Biosciences, Inc. is committed to the development and production of precise, accurate, easy-to-use tools for the reliable identification of biological targets and/or threats, such as drug and water contaminants, pathogenic microbes, etc. HQC is evaluating the technology licensed from the NDSU Research Foundation in these two areas: detecting the presence of over-sulfated chondroitin sulfate (a dangerous contaminant) in pharmaceutical heparin; and developing screening procedures for detection of production by-products in DNA and RNA. Additional products for educational purposes are in the pipeline.



Val Marinov and Ronn Kliger of Uniqarta

				Edible	Herbicial						Grand
Distribution Activity	Barley	Corn	Durum	Beans	Adj	Horticulture	Oats	Potatoes	Soybeans	Wheat	Total
Breeder/Inventor	15,844		14,256	45,917	10,474	9,352	49,523	26,844		322,150	494,360
Carrington REC				57							57
Langdon REC								663			663
ND AES	1,458		1,414	4,884			3,177	481	561	27,280	39,256
ND Barley Council	382										382
ND Corn Council		271									271
ND Soybean Council									2,769		2,769
NDSU Entomology										62	62
NDSU FSS	1,458		1,414	2,244			3,101		1,245	27,280	36,742
NDSU Plant Path	5,008		1,414	9,890				55,568	2,527	63,586	137,993
NDSU Plant Sci	35,485		19,330	50,421	15,711	25,101	57,811	61,765	42,410	110,796	418,830
NDSU Plant Sci Endow										220,860	220,860
NDSU RF Endow	6,056		2,907	15,501	2,619	3,183	15,453	11,685	6,155	89,104	152,663
NDSU Soil Sci									1,244		1,244
UMN Foundation										4,806	4,806
Grand Total	65,691	271	40,735	128,914	28,804	37,636	129,065	157,006	56,911	865,9 <b>2</b> 4	1,510,958

FY15 Distribution for Agricultural Research Fees FY15 Agricultural License Revenues were distributed to the following entities:

# 65,691 271 40,735 128,914 28,804 37 Royalties & License Fees Barley 94,036 Horticulture 44,867 Corn 0 Oats 194,267

52,455

192,003

0

38,794

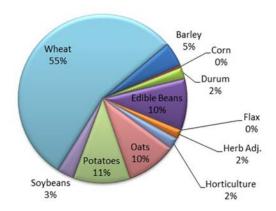
Potatoes

Soybeans

Wheat

Total

# NDSU Research Foundation FY15 Ag Royalty/Fee Income



# **Two Hardy Horticultural Varieties Steadily Bring in Revenue**

217,332

83,811

1,255,159

2,172,723



Durum

**Edible Beans** 

Flax

Herb Adj.

Two horticultural varieties that are typically used for foundation plantings, shrub borders, and rock gardens have been a couple of NDSU's most desirable and licensed cultivars.

NDSURF currently has 26 active license agreements for the Dakota Goldcharm®

**Spirea**. Four new agreements were executed in FY15, proving that it continues to be a popular variety since its release in 1998.

Spirea **Dakota Sunspot**® **Potentilla** can be seen on NDSU's campus north of the South Engineering building. Dakota Sunspot® has 14 active licenses with steady sales since 1998.



For more information on all our horticultural varieties, visit our website: http://www.ndsuresearchfoundation.org/horticulture

Dakota Sunspot® Potentilla

# NDSU Agricultural Varieties

in FY15

#### Rarley

Conlon Pinnacle Rawson Stellar-ND

#### Durum

Alkabo Divide Grenora Tioga

#### **Edible Beans**

Avalanche Navy Bean Eclipse Black Bean Lariat Pinto Bean Maverick Pinto Bean ND307 Pinto Bean Stampede Pinto Bean

Oats

Beach Comet Drover Hi-Fi Jury Newburg Nugene Rockford Souris Taipan

Potatoes

AC Peregrine Red Dakota Crisp Dakota Diamond Dakota Jewel Dakota Pearl Dakota Rose Dakota Russet Dakota Trailblazer NorDonna NorValley

Soybeans

Ashtabula Blue Horizon ProSoy Sheyenne Traill ND1005T ND1100S

#### Wheat

Barlow Elgin ND Faller Glenn Howard Mott Steele Prosper Velva

# **New Agricultural Varieties Licensed in FY15**

The 'ND Genesis' barley and 'ND Henson' soybean varieties were released and licensed nonexclusively in North Dakota, Minnesota, South Dakota, and Montana in FY15.



#### 'ND Genesis' Two-row Barley

'ND Genesis' is a two-rowed barley variety with high yield potential, low protein, and is a possible replacement for 'Pinnacle' barley if it is found acceptable for malting by the American Malting Barley Association. Compared to 'Pinnacle', 'ND Genesis' has better resistance to the spot form of net blotch and accumulates less deoxynivalenol, the mycotoxin produced by Fusarium graminarum. 'ND

Genesis' also has lower wort  $\beta$ -glucan than 'Pinnacle', which is preferred by the malting and brewing industries. 'ND Genesis' will also be protected under the Plant Variety Protection Act (PVP). Dr. Richard Horsley is the Barley Breeder at NDSU.

**'ND Henson' Soybean** was also licensed to three companies in FY15. "ND Henson' has early maturity, is a non-GMO type, has high yield, lodging resistance, tolerance to irondeficiency chlorosis, and resistance to Race 4 of Phytophthor Root Rot. A PVP application is currently pending for this soybean. Dr. Ted Helms is the soybean breeder at NDSU.



Dr. Ted Hems, Soybean Breeder

#### NDSU Research Foundation Statement of Revenues and Expenses July 1, 2014 - June 30, 2015

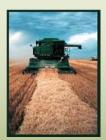
Guly 1, 201	4 - UNIIC 30, 2013		
Income			
Research Fees and Royalties		\$2,029,130	
License Fees		313,569	
Patent Cost and Other Reimbursements		171,865	
Litigation Settlements		17,164	
Interest		10,352	
Dividends		114,015	
Contributions		0	
Investment Return		265,954	
Total Income			\$2,922,049
Expenses			
Total Legal and Related		424,391	
Patent	\$366,490		
Licensing	6,965		
Plant Variety Protection and Related	42,058		
Research Fee Collection & Other	8,878		
Trademark	0		
Total Salaries and Operating		301,138	
Total Research Fees and Royalties Disbursed		1,312,263	
NDSU Dept/College/NDAES	801,999		
Breeder/Inventor	502,036		
Non-NDSU Royalty Disbursed	8,228		
Total Expenses			\$2,037,792
Increase in Net Assets			884,257
Net Assets at Beginning of Year			\$6,036,807
Net Assets at End of Year			\$6,921,064
			+-,-=-,•=

## NDSU Research Foundation Statement of Assets and Net Assets

June 30, 2015

June 30	, 2015	
Assets (Foundation)		Market Value
Current Assets (Foundation)		
Operating Checking and Savings	\$48,919	
Fund 81294	5,744	
Other Savings	331,731	
Prepaid Expenses	16,199	
Investments	150	
Total Current Assets		\$402,743
Property & Equipment		
Office Equipment	19,340	
Less: Accumulated Depreciation	(14,179)	
Net Property & Equipment		5,161
Other Assets		-
Piant Sciences Endowment Assets:		
Durum Wheat Endowment		
Money Market	12.026	
Mutual Funds	2,018,872	
Spring Wheat Endowment		
Money Market	11 <b>,84</b> 1	
Mutual Funds	2,846,713	
Total Plant Sciences Endowments		\$4,889,452
Sociology Endowment		\$0
Anthropology Endowment		\$0
University Studies Endowment		\$21,077
Math Endowment		\$24,058
Science & Math Endowment		\$1,916
ADHM Endowment		\$5,522
Assets (NDSU/RF Endowment)		• • • • • • • • • • • • • • • • • • • •
Cash Accounts (Endowment)		
Money Market State Bank and Trust	243.295	
Money Market Dain Rauscher	18.521	
Total Cash Accounts (Endowment)		\$261,816
Investment at Dain Rauscher		-0-
Investment at State Bank and Trust	892.353	-
Investment at Vanguard - S&P 500	445,378	
Total NDSU/RF Endowment Investmenta		\$1,337,731
Total Other Assets		\$6,541,572
Total Assets		\$6,949,476
Restricted Assets (Foundation)		•
Restricted Assets - Anthropology		\$0
Restricted Assets – Math		24,058
Restricted Asseta - Plant Sciences		4,889,452
Restricted Assets - Sociology		0
Restricted Assets - University Studies		21,077
Restricted Assets - Science & Math Endowment		1,916
Restricted Assets – ADHM		5,522
Restricted Assets – NDSU/RF Endowment		1,599,547
Unrestricted Assets		379,492
Total Restricted and Unrestricted Assets		\$6,921,064

### Two Wheat and One Potato Plant Variety Protection Certificates (PVP's) Issued in FY15



'Elgin-ND' Hard Red Spring Wheat PVP 201300367 issued September 26, 2014 'Velva' Hard Red Spring Wheat PVP 201200396 issued April 16, 2015 Breeder: Mohamed Mergoum

'Elgin-ND' has very high grain yield potential along with very high protein level with average test weight. 'Velva' has high grain yield and has adapted to most ND environments, but also performs well in Western and Central Regions. Both 'Elgin-ND' and 'Velva' are non-exclusively licensed in North Dakota, Minnesota, Montana, and South Dakota.

'Dakota Russet' Potato Variety PVP 201300475 issued April 16, 2015

Breeder: Asunta (Susie) Thompson

'Dakota Russet' is suitable for fresh consumption, frozen processing and fresh processing. It has excellent French fry quality. It is exclusively licensed by Hoverson Farms/R.D. Offut in the US, Canada, Mexico, and Argentina.



**Horticultural Varieties Contributing to Income** in FY15 Copper Delight™ Juniper Prairie Splendor™ Juniper Prairie Mist™ Juniper Dakota Goldcharm® Spirea Dakota Sunspot® Potentilla Prairie Dome® Ash Prairie Gem® **Flowering Pear** Prairie Spire® Green Ash Dakota Pinnacle® Asian White Birch Blueberry Delight® Juniper Snow Lace® Gray Dogwood Copper Curls® Pekin Lilac Northern Acclaim® Thornless Honey-locust Prairie Dream® Paper Birch Prairie Horizon® Manchurian Alder Prairie Vision® Ash Prairie Statesman® Swiss Stone Pine Prairie Expedition® American Elm Prairie Stature® Hybrid Oak Prairie Reflection® Laurel Willow Spring Welcome® Magnolia Northern Flare® Sugar Maple Prairie Pioneer® Dwarf Chinkapin Oak Greenscape™ Juniper



## **One-Step Method Converts Plant Oils into Acrylic Monomers**

and Dr. Tarnavchyk joined his lab in 2008, as a post doctoral fellow.

The two scientists who developed the Plant Oil-Based Monomer were not strangers

before coming to NDSU. Dr. Andriy Voronov and Dr. Ihor Tarnavchyk are both origi-

nally from the Ukraine, but first met in while working in Germany at a University. Dr.

Voronov began working in NDSU's Coatings and Polymeric Materials Dept. in 2007,

So when Dr. Voronov, Associate Professor at NDSU's Coatings and Polymeric Mate-

rials Dept., thought of the idea to develop new "building blocks" (monomers) from

plant/vegetable oils for renewable polymers, synthesized using a chain radical

polymerization mechanism, he asked Dr. Tarnavchyk to assist him. It took Dr. Tar-

navchyk one year of synthetic work in the lab to develop a process of synthesizing

the first sample from commodity soybean oil. The advantages of the monomers in-

clude the possibility that they may be able to replace their petroleum-based counter-

parts in polymerization and also improve the polymer materials performance. In ad-

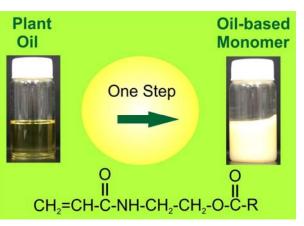
dition, there is no need to change the polymer manufacturing process-something

Inventor Team





Dr. Tarnavchyk



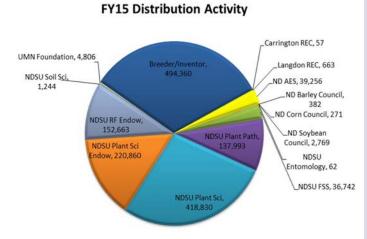
manufacturing companies appreciate.

Scientifically stated, these bio-based monomers are uniquely valuable in that they yield linear macromolecules during the chain radical polymerization process, and retain reactive sites for post-polymerization modification (crosslinking) to generate polymer materials with advanced properties that might significantly extend their performance. This combination of properties distinguishes the invented monomer from all currently existing bio-based counterparts. The

new monomers can be used in the production of latexes, plastics, resins, adhesives, surfactants, and other products.

#### ND Agricultural Research License Income

**NDSU Research Foundation** 



#### **NDSURF** Mission:

The mission of the NDSU Research Foundation is to provide support for NDSU by protecting, adding value to and commercializing intellectual property that is developed through research activities at NDSU.

#### **Origin of NDSURF:**

The NDSU Research Foundation was established May 30, 1989, and incorporated in North Dakota as a scientific and educational not-for-profit organization under Section 501 (c) (3) of the Internal Revenue Code to interact with business and industry and to expand NDSU's ability to commercialize its research discoveries.

# **Technology Licensing Updates, continued**



c2renew tapped into the exciting market of 3D printing materials in FY15. C2renew partnered with another Fargo company, 3Dom USA, to expand its footprint into the 3D printing world with its first filament launch, Wound Up<sup>™</sup>. Wound Up<sup>™</sup> is a coffee-based biocomposite developed by c2renew that is wound onto 3Dom USA's bio-based spool – c2renew also manufacturers the material in the spool. In the coming months, c2renew will be working on a few more filament materials to be launched in collaboration

with 3Dom. The impetus for jumping into the 3D printer filament market was based on necessity, rather than innate innovation. In early 2015, c2renew had conceptualized a coffee cup made from coffee chaff, which resulted in the company designing the c2cup. To further develop the idea, a prototype was needed to see how it would perform. Since they could find no 3D printer material that matched what was needed, c2renew did what most innovative companies do—they created their own. The collaboration will continue with 3Dom as they work to develop and commercialize Wound Up<sup>™</sup>. For more information go to: http://www.c2renew.com



C2cup made of coffeebased biocomposite



In 2015, c2sensor focused on building out their core hardware for the Sensing Earth Environment Directly "SEED" sensor. The company continues to refine the technology and iterate design advancements to improve functionality. To assist this process, they initiated field trials in a number of locations with varying crops, soil types, inputs, etc. c2sensor continues to assess the data received from these trial sensors to see how to best develop and build off the current technology. One area they identified as a result of the field trials is the need

for a working software solution that highlights how the data gathered from the field is transferred through all pipelines to be displayed on a grower's tablet, smart phone, or computer. This complete end-to-end solution is critical in validating a solution for potential customers. For more information go to: http://www.c2renew.com/c2sensor/



Elinor solves problems in coatings-related markets through innovative technology transfer and in-house scientific research and development. Elinor develops its products in labs in Fargo and manufactures these products through established contract manufacturers in the USA.

Elinor started operations in 2009 and licensed two coating technologies from the NDSU Research Foundation. One is a removable polymer that is marketed in the art/architectural preservation field under the name of BronzeShield<sup>™</sup>. The other is a Chromium-free primer for Aluminum Alloys called Aluma45<sup>™</sup>.

Durability and removability are the main properties for a product dedicated to the world of art conservation, and are a big challenge for a coating developer. Usually a durable coating is designed to have strong adhesion, and a removable one has an intrinsic temporary protection. With the new licensed polymer formulated in the final product, Elinor met both challenges. In addition, Elinor's Bronze Shield<sup>™</sup> saturates the bronze surface like wax, which is the standard for temporary protection.

Another focus of Elinor is to develop products having a reduced impact in terms of toxic ingredients and Elinor's Aluma45 is a Chromefree primer for aluminum surfaces. It replaces the current Chromium VI, which is a very good corrosion inhibitor, but it is a known carcinogen - the same Chromium that Erin Brockovich fought in her law suits in the '90s. Elinor is presently marketing the environmentally friendly Aluma45<sup>™</sup> in the marine and automotive fields of use.

In early 2015, Dante Battocchi, one of the founders, left his post as the Associate Director of the NDSU Center for Surface Protection to join the company full time. Since his joining, both products are now fully developed and offered for sale through their website and direct contacts. For more information go to: http://www.elinorcorp.com

# **Technology Licensing Updates, Continued**



Fluorescence Innovations (FI) is located in Minneapolis, MN, and operates in space leased from the University of Minnesota (UMN). FI's R&D activities are funded through collaborations with UMN researchers, an instrumentation development contract from a

top-ten pharmaceutical company, and a license agreement that pays royalties to FI. Future development work includes a large phase II STTR grant from the NIH, beginning in the 4th quarter of 2015, and a large R&D contract with another larger pharmaceutical company related to high-throughput screening technology is currently in negotiation. A new faculty member at the University of Arizona has ordered two custom fluorescence spectroscopy systems. Revenues are projected to double in 2016.

For more information go to: http://www.fluorescenceinnovations.com



AkzoNobel Aerospace Coatings is the global leader in the manufacture, development, and supply of coatings for the OEM and MRO sectors of the Commercial Airline and General Aviation markets, as well as the Military Aerospace

new build and refurbishing markets. In 2006, AkzoNobel Aerospace Coatings, Inc. entered into a license agreement with the NDSU Research Foundation for exclusive use of an anticorrosion magnesium primer coating for aluminum substrates to be used in the aerospace industry. The licensed coating has now been approved to MIL-PRF-32239, the first full system specification of complete non-chromate exterior aircraft paint scheme for US military aircraft. They currently have six non-US military approvals of the 2100MgRP coating in use now on over 200 aircraft. Training/ technology briefings have been conducted during 2015 at all US aircraft refinish paint depots with excellent results. Products have been developed as second generation products for structural aircraft components and fuel tank coatings, which will both replace chromated systems. Approvals at four general aviation OEMs are pending with specification validations, and trial aircraft are now flying. Akzo Waukegan is now averaging a completion of three batches of magnesium rich coating per month. Independent testing by Battelle for extreme corrosion exposure has now exceeded five years in coastal environment testing without failure.



Dakota Technologies Inc., located in Fargo, ND was founded in 1993 to develop fluorescence-based instrumentation to map subsurface petroleum contamination. Dakota manufactures and sells petroleum contaminant detection identification and

screening products in several countries. Dakota also provides site characterization services in 35 states, Canada, and Europe. Dakota continues to develop new equipment and systems that target remediation at chlorinated sites. The NDSU Research Foundation holds an equity position in Dakota Technologies, Inc.

#### **NDSURF Board of Directors FY15**

Dean Bresciani, President - President, NDSU Gary Smith, Treasurer - Dean, College of Engineering and Architecture, NDSU Kelly Rusch, Director - VP RCA, NDSU Katie Hasbargen, Director - Senior Communications Manager, Microsoft Richard Rayl, Director - COO, Superior Manufacturing Randall Herman, Director, - General Manager, Mid-America Aviation

Kent Gronlie, Vice President - Owner, Gronlie Farms Ken Grafton, Secretary - VP Agricultural Affairs, NDSU Beth Ingram, Director - Provost, NDSU Mark Hubbard, Director - VP, Bremer Bank Mark Birdsall, Director - Owner, Birdsall Grain & Seed James Broten, Director - Owner, Broten Farms Joel Honeyman, Director - VP Product Management, Bobcat and Doosan North America

#### NDSURF Staff FY15

Dale Zetocha, Executive Director, MS, RTTP Denise Roehl, Administrative Assistant Neeraj Visen, Technology Manager, Ph.D., P.Eng. Laura Slicer, Accountant, MBA