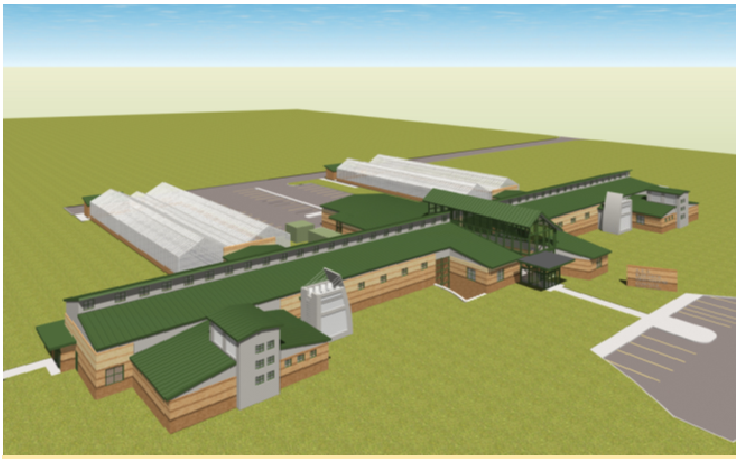
NDSU RESEARCH FOUNDATION

Annual Report

Fiscal Year 2012

NDSU Greenhouse Complex Offers Sophisticated Space for Research



Architectural Drawing of NDSU's new Greenhouse Facility

The July 2012 NDSURF Board Meeting was held at the new Agricultural Experiment Station (AES) Greenhouse complex located on the west side of campus, and a guided tour of the facility followed the meeting. Board Members and Staff were shown the individual greenhouses in which plant breeders, pathologists and other scientists are able to control their experiments. Support areas, such as vernalization (the artificial exposure of plants or seeds to low temperatures in order to stimulate flowering or to enhance seed production) and misting chambers, laboratories, spray booths, seed drying and cleaning areas, growth rooms and long-term seed storage areas are available. Computers are programmed to regulate the environmental conditions in each room with built in safeguards. For example, alarms will sound if the power fails, which in turn will trigger backup generators to keep the temperature consistent.

Phase III of the $32.5 million greenhouse will include a biosafety level 3 lab, more support areas and three additional greenhouse ranges. "The biosafety level 3 area will allow scientists to work with organisms that are not native to North Dakota, but could pose a threat if and when they arrive in the state," says Julie Hochhalter, NDSU greenhouse manager. When completed, the facility will have about 100 separate environmentally controlled chambers.

Susie Thompson
Potato Breeder at NDSU

Asunta (Susie) Thompson, potato breeder at NDSU says the AES Greenhouse is fantastic! "The new greenhouse allows us to get a crop in just two months from the date of transplant to harvest! We get more tubers per pot and they are of larger size. The NDSSD has been able to certify our materials, thus making it easier for us to move our materials to our own seed fields and to those of certified seed growers. We are able to produce higher quality seed for sharing with our cooperators here at NDSU and beyond for things like regional trialing, but also for our own use. Recently our tissue culture operation and clone bank were moved to an AES greenhouse laboratory. This has been wonderful, too, in that our operation is completely separate from our other lab work and our clone bank is secure and safe in an isolated and locked area."

Agriculture

NDSURF Mission:

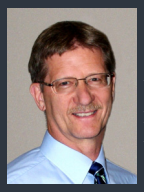
The mission of the NDSU Research Foundation is to provide support for NDSU by protecting, adding value to and commercializing intellectual property that is developed through research activities at NDSU.

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.

FACT: **NDSU** has joined the nation's top 108 public and private universities in the **Carnegie Commission on Higher Education's elite category of "Research Universities Very High Research Activity".** NDSU has averaged well over $100 million in research expenditures for the last several years.

Executive Summary
Dale Zetocha



The NDSU Research Foundation's licensing revenue reached the $2 million dollar mark for the first time in its history. The Glenn, Barlow, and Faller wheat varieties and Dakota Pearl potato continue to be the leading licensing revenue contributors. Seventy licenses were executed in FY12. Twelve were exclusive licenses including the "Utilization of Agricultural Byproducts for Making Bio-composites" technology to a North Dakota start-up company and a bio medical coating technology to a bio-medical company.

Intellectual property protection included a total of three plant variety protection (PVP) applications, seven applications for trademark registration, and 27 US patent applications filed. Eight new patents and four new trademark registrations issued in FY12.

NDSURF's total licensing revenue for FY12 was over $2.13 million. NDSURF's intellectual property licensing revenue level ranks high nationally relative to other universities and/or associate research foundations without medical schools, other land-grant universities without a medical school and those peer institutions as defined by the North Dakota University System.

The NDSU Research Foundation continues to explore new ways to market and license so as to commercialize technologies developed at NDSU.

Regards,

Dale Zetocha

The More, the Merrier:
Bundling Related Technologies into a "Portfolio" Adds Value

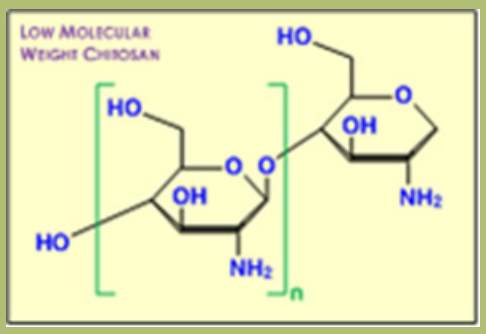
A patent is a valuable asset for the protection of a technology. But a single patent is like a single section of electric fence surrounding a large mansion – if someone encounters the fence they can simply walk around it to get at what's inside. However, if you have a series of patents, each covering a slightly different but related area of a technology, it is like extending the fence farther and farther around your property. The more patents you can bundle together, the more "pathways" into the property you can cover, and the more valuable your protection is to a potential licensee. The NDSU Research Foundation has found that they get more interest from licensees in large technology portfolios than from any single patent on a technology. Here are a few of the more valuable portfolios the Research Foundation has to offer.

Life Sciences

NDSU has a growing number of technologies in the Life Sciences category, from new methods of drug delivery to an innovative wireless cardiac pacing method. This is a relatively new area of excellence for NDSU, since the university is not associated with a medical hospital. However, NDSU's reputation as a top research school has attracted some of the nation's leading researchers in the life sciences, and NDSU is rapidly making a name for itself in this area. Some of the Research Foundation's technologies in Life Sciences are highlighted here.

Drug Delivery/Gene Therapy

Gene therapy has demonstrated immense potential for the treatment of a many chronic human pathologies. However, its application requires the development of safe methods for the transportation and removal of genetic information within the body. While viruses have shown potential due to their natural ability to implant genetic information, unintended systemic effects have limited their use in humans.

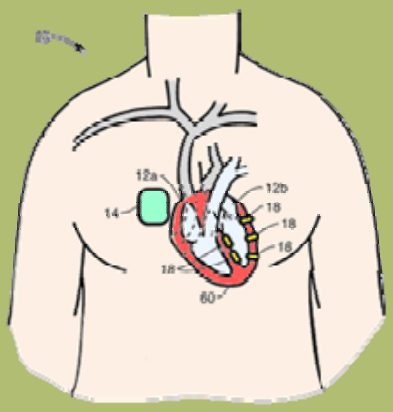


Scientists working at NDSU have discovered a novel, non-viral, method for delivery of genetic payloads to the body. They have synthesized a series of chitosan derivatives which act as delivery vectors. This technology could have applications in the treatment and prevention of various deadly diseases such as Hepatitis B, diabetes, and cancer.

In addition, NDSU scientists have also invented a delivery system to transition the blood-brain barrier. Often, the efficacies of therapies are limited by the inability of a therapeutic compound to reach the infected areas. This is especially significant in the treatment of central nervous system disorders.

Cardiac Pacing Technology

After FDA approval in 2001, a steady growth has occurred in cardiac resynchronization therapy (CRT) for the treatment of heart failure. CRT uses a special pacemaker to improve the pumping action of the heart. However, approximately 50% of patients do not respond to this approach, due to damage in the muscle tissue of the heart, which prevents electrical (pacing) signals from traveling through the muscle tissue to the proper location. Existing CRT methods do not effectively depolarize regions of myocardial tissue that are electrically isolated, and are not effective if different regions of the myocardium need to be depolarized at different times for an effective contraction to occur.



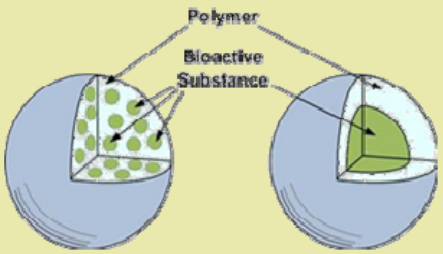
To address this issue, researchers at NDSU have developed a self-organizing system and means for stimulating multiple locations in a heart muscle or other biological tissue using networked, wireless electrodes which can coordinate the timing of the stimulation at multiple locations separately in order to optimize the desired performance or condition of the biological tissue.

Material Sciences

NDSU excels in the Material Sciences arena, having both a well-respected engineering program and a world-class Coatings and Polymeric Materials research department with state-of-the-art labs and equipment. This expertise in materials has evolved into what it is today from humble beginnings at the turn of the 20th century, when NDSU established the first paints and coatings department in the country in 1905. At that time, they concentrated on turning flax seed oil into paint. The development and advancement of materials at NDSU is often a multi-disciplinary effort, combining researchers from Engineering, Coatings and Polymeric Materials, Center for Nanoscale Science & Engineering (CNSE), and Agriculture to create novel, environmentally-friendly compositions. Some of the Research Foundation's Material Sciences technologies are highlighted below.

Polymer-Based Nanospheres

Researchers at NDSU have developed a novel process to synthesize polymer-based nanospheres which yields a homogenous population with diameters under 100 nm. The procedure can be tailored to encapsulate particulates during production. This simple, versatile process can be scaled easily to higher production levels, and the reagents can be tuned to produce nanospheres of various polymer compositions and diameters.



This synthesis procedure utilizes ozone as an oxidant in the polymerization of pyrrole to produce polypyrrole nanospheres. The key inventive concepts are that there are no template materials involved in the synthesis process and that the reaction is carried out in water at room temperature. The ozone reacts very quickly, which means there is no harmful residue left behind. The reaction produces well-defined, nano-sized, spheres of polypyrrole with a narrow particle size distribution, which can be used in applications from conductive paints to drug delivery vectors.

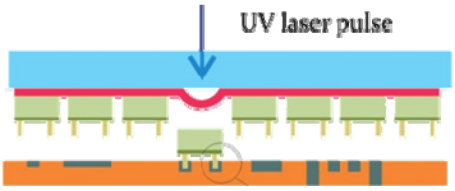
Using Agricultural Waste as a Reinforcing Agent in Plastics

This invention involves a proprietary process where lignocellulosic biomass (fibers) recovered from various agricultural waste streams (such as crop waste otherwise discarded by ethanol plants) are combined with commodity thermoplastics as a means of reinforcing and strengthening the plastics. This method works with commodity thermoplastics and recycled plastics where other fiber reinforcing processes have not succeeded. The use of otherwise discarded agricultural wasted products reduces the amount of plastic used, creates a less expensive, more environmentally friendly material. This technology has been licensed to a North Dakota start-up company, c2renew Corporation.

Electronics and Sensors

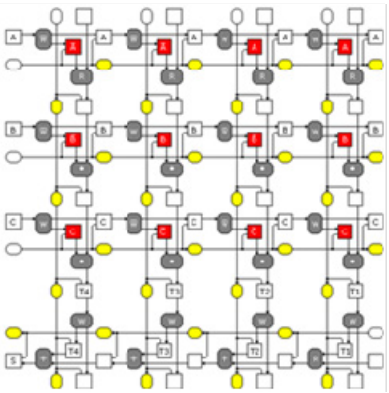
The NDSU Center for Nanoscale Science and Engineering (CNSE) has made significant advances in electronics platforms and specialty sensors through federal research grants and strategic partnerships with private companies. These advances include novel electronics packaging techniques and processes, manufacturing flexible electronics processes and materials, and bold new electronics architectures and platforms. Some of these technology portfolios are described below.

Flexible and Printed Electronics



Researchers at NDSU's Center for Nanoscale Science and Engineering (CNSE) have developed several impressive technologies which enable the creation of flexible and printed electronics. These technologies include conductive inks and silanes which can be sprayed onto a substrate to create circuit traces, aerosol jet nozzle designs which focus particle beams down to under 10 microns, innovative processes for "spinning" conductive wires, methods of placing tiny electronic components with a laser-actuated piston, and RFID tags with new capabilities that work where existing tags cannot.

Conformal Computing and Displays



Efforts to create a true "wallpaper computer" at NDSU – that is, a flat processing and display architecture that can be integrated into any large flat surface such as a wall, billboard, or desktop – led to the development of two very exciting technologies. The first is a new computing architecture based on a cellular automata, which is programmable and can be extended to virtually any size without the need to re-write the software driving the hardware. This cellular automata is fast and low-power, and is being seen as a threat to field programmable gate arrays (FPGAs); however, the technology has promise reaching far beyond these simple programmable devices.

The second technology to come from this research was an extensible, light-sensing LED array. This LED array can be used as a backlight for an LCD display, or can be its own display. The technology can be extended to virtually any size without significant hardware changes. Also, the design allows for the LEDs in the array to be driven in a sensing mode, to sense light instead of emitting it, which means the array technology can be used to create dynamically modulated LED displays which sense their own dim spots and compensate by driving those LEDs harder.

Issued Patents FY12

US 7,989,074
issued 8/2/2011
Fouling Release Coatings

US 8,017,795
issued 9/13/2011
Radiation Curable Polymer Films

US 8,034,974
issued 10/11/11
Beta-Amino Acids and Methods

US 8,053,535
issued 11/08/2011
Polysiloxanes with Anti-fouling Activity

US 8,062,729
issued 11/22/2011
Polymeric Material with Surface Microdomains

US 8,071,706
issued 12/6/2011
Siloxane Polymer Containing
Tethered Levofloxacin

US 8,097,741
issued 1/17/2012
Glycidyl Carbamate Resin Coatings

US 8,114,567
issued 2/14/2012
UV Laser Ablation Sensitizers

® Registered Trademarks FY12
(Horticultural Varieties)

No. 4,091,112
Registered 1/24/2012
Prairie Pioneer® Dwarf Chinkapin Oak

No. 4,091,126
Registered 1/24/2012
Sun Beam® Ironwood Tree

No. 4,091,124
Registered 1/24/2012
Northern Advance® American Planetree (Sycamore)

No. 4,091,125
Registered 1/24/2012
Northern Herald® Eastern Redbud

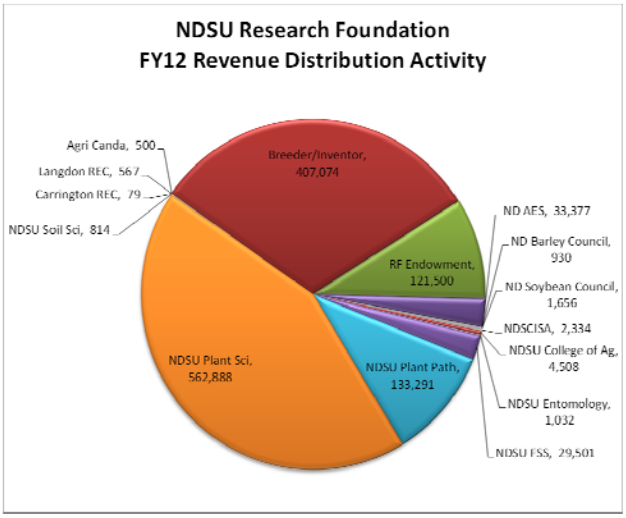
Plant Variety Protection Certificates (PVP's) FY12

None Issued in FY12

License Income for ND Agricultural Research

'Dakota Pearl' Potato

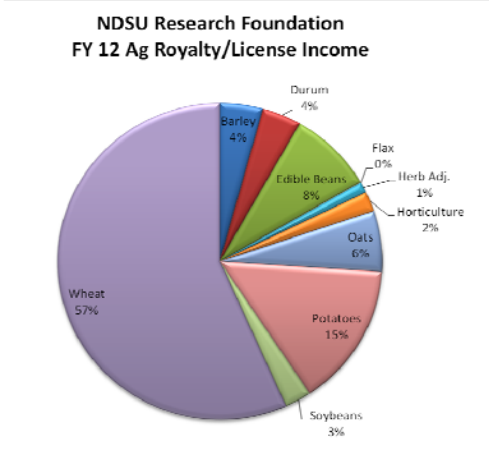
The 'Glenn', 'Barlow' and 'Faller' wheat and 'Dakota Pearl' potato varieties were the top revenue generating varieties for FY12. NDSURF has distributed over $12.5 million in license fees and research fees to NDSU Agricultural Departments/Units and breeders/inventors since FY94. NDSURF maintains two endowments that support the hard red spring wheat and durum wheat breeding programs.



FY12 Distribution for Agricultural Research Fees

FY12 Agricultural License Revenues were distributed to the following entities:

Distribution Activity	Barley	Durum	Edible Beans	Flax	Herbicidal Adj.	Horticulture	Oats	Potatoes	Soybeans	Wheat	Total
Agri Canda								500			**500**
Breeder	8,549	17,764	36,258	266	5,383	6,056	28,847	35,173		268,778	**407,074**
Carrington REC			79								**79**
Langdon REC								567			**567**
ND Barley Council	930										**930**
ND Soybean Council									1,656		**1,656**
NDAES	1,025	1,739	4,502	23			1,695		373	24,019	**33,377**
NDSCISA										2,334	**2,334**
NDSU College of Ag								4,508			**4,508**
NDSU Entomology										1,032	**1,032**
NDSU FSS	494	1,739	1,285	23			1,650		762	23,548	**29,501**
NDSU Plant Path	3,253	1,739	7,304					64,433	1,554	55,008	**133,291**
NDSU Plant Sci	32,765	24,202	44,853	341	8,075	19,098	32,162	74,641	28,868	297,883	**562,888**
NDSU Soil Sci									814		**814**
RF Endowment	6,448	3,609	12,071	70	1,346	2,193	9,590	14,001	3,890	68,282	**121,500**



Barley	**81,650**
Durum	74,098
Edible Beans	160,880
Flax	1,044
Herb Adj.	21,111
Horticulture	38,689
Oats	117,882
Potatoes	278,616
Soybeans	50,728
Wheat	1,077,933
Total	**1,902,629**

Agricultural Byproducts Fuel c2renew - a New Start-up

Dr. Chad Ulven

A technology developed at North Dakota State University creates performance-driven biocomposite materials by incorporating agricultural byproducts into plastics for a wide range of applications. The technology also has led to a new start-up company set to serve a spectrum of markets. Developed by Dr. Chad Ulven, Associate Professor of Mechanical Engineering, and his research team at NDSU, the technology could be used anywhere commodity thermoplastics are typically used—everything from plastic coat hangers to plastic cups, bottles, electrical housings or automotive, agricultural, and construction equipment parts.

c2renew corp., a start-up company based in Colfax, N.D., has recently concluded a license agreement with the NDSU Research Foundation for this green technology. The technology offsets the costs and need to use petroleum-based polymers/plastics by using renewable agricultural byproducts currently considered waste or low-value fillers. "Six years ago, it was my vision from the start to see my research end up in a company located in North Dakota which supplies renewable based materials to a variety of companies, benefits agricultural producers, and is staffed with engineers who want to stay in this region with high-tech, well-paid positions," said Ulven.

Biocomposites by c2renew

The methodology uses lignocellulosic fibers from various agricultural sources mixed in with commodity thermoplastics to reinforce and strengthen plastics. This method works with thermoplastics and recycled plastics where other natural fiber reinforcing processes have not succeeded, according to Dr. Ulven, who also serves as chief technology officer for c2renew. The green technology has shown that agricultural by-products can improve stiffness, strength, heat stability, dimensional tolerance, and resistance to UV exposures when introduced to plastics, while lowering their cost. The company has conducted trials with the improved plastics in coordination with several global agricultural, heavy equipment and motor vehicle manufacturers. "c2renew designs biocomposite materials to meet the performance specifications required by our customers with lower cost, renewable resources," said Ulven. "We not only supply companies with drop-in plastic replacement solutions, but also assist them with component and process design."

Michael Fuqua, who formerly served as a graduate student and postdoctoral research associate of Dr. Ulven's at NDSU, is now a technical consultant for c2renew.

Funding for this technology was largely provided by commodity groups in the state such as the North Dakota Corn Council and AmeriFlax. Initial funding which helped the company trial their materials was provided by the North Dakota Agricultural Products Utilization Commission.

"Start-up companies generated by NDSU research provide pathways to economic success. The coordinated efforts among NDSU researchers, the university's Technology Transfer Office and the NDSU Research Foundation help lay the groundwork for commercialization of discoveries developed at NDSU," noted Philip Boudjouk, Vice President for Research, Creative Activities and Technology Transfer.

"Licensing of this methodology to c2renew represents a great opportunity to commercialize this research with a North Dakota based start-up company," said Dale Zetocha, Executive Director, NDSU Research Foundation. "It also shows the strategic advantage NDSU has by combining top notch agricultural research with great engineering technology."

Dakota Pinnacle® Asian White Birch 'Fargo' is the Top Horticultural Variety Contributing to Revenue in FY12

Horticultural varieties contributing to revenue in FY12:

1. Dakota Pinnacle® Asian White Birch - Betula platyphylla 'Fargo'
2. Dakota Sunspot® Potentilla - Potentilla fruticosa 'Fargo'
3. Prairie Spire® Green Ash - Fraxinus pennsylvanica 'Rugby'
4. Dakota Goldcharm® Spirea - Spiraea japonica 'Mertyann'
5. Prairie Dream® Paper Birch - Betula papyrifera 'Varen'
6. Blueberry Delight® Juniper - Juniperus communis var. depressa 'AmiDak'
7. Prairie Radiance® Winterberry Euonymus - Euonymus bungeanus 'Verona'
8. Prairie Horizon® Manchurian Alder - Alnus hirsuta 'Harbin'
9. Prairie Stature® Hybrid Oak - Quercus x bimundorum 'Midwest'
10. Prairie Gem® Flowering Pear - Pyrus ussuriensis 'MorDak'
11. Prairie Reflection® Laurel Willow - Salix pentandra 'Silver Lake'
12. Prairie Expedition® American Elm - Ulmus americana 'Lewis & Clark'
13. Copper Curls® Pekin Lilac - Syringa pekinensis 'SunDak'
14. Dakota Centennial
15. Dakota Goldrush® Potentilla - Potentilla fruticosa 'Absaraka'
16. Prairie Statesman® Swiss Stone Pine - Pinus cembra 'Herman'
17. Snow Mantle® Gray Dogwood - Cornus racemosa 'Jade'
18. Snow Lace® Gray Dogwood - Cornus racemosa 'Emerald'

Dakota Pinnacle®
Asian White Birch 'Fargo'

NDSU Agricultural Varieties Contributing to Revenue in FY12

Barley
Conlon
N. Dayman
N.Carumbe
Pinnacle
Stellar-ND

Durum
Alkabo
Divide
Grenora
Temprodur
Tioga

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

Flax
Carter

Oats
Beach
Dawson
Drover
Hi-Fi®
Maida
Nugene
Rockford
Souris
Taipan

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

Soybeans
Ashtabula
Blue Horizon
Cavalier
Nornatto
ProSoy
Sheyenne
Traill
ND1005T

Wheat
Barlow
Faller
Glenn
Howard
Mott
ND901CL Plus
Steele
Prosper

Royalties and Research Fees on Seed Sales Support Additional Research Expenses

"Royalties and fees generated from seed sales of cultivars and inbreds developed by North Dakota Agricultural Experiment Station scientists are used to pay for expenses that are not covered by grants or state appropriated funds." says Dr. Ken Grafton, Director of the NDSU Agricultural Experiment Station.

A portion of Research Fees is used to pay for off-season nurseries and salaries for grad students and staff that work on breeding programs. These nurseries allow breeders of hard red spring wheat, durum wheat, barley and corn to have two seasons per year to build up seed supplies of new cultivars.

Additionally, Plant Sciences breeders are using the newest biotechnology methods on their breeding programs, yet much of the work they do still requires labor intensive field research. Each of the breeding programs tests thousands of potential cultivars at field locations across North Dakota, western Minnesota, and eastern Montana. Collecting data on these lines to identify the "best" ones to advance for potential release must be timely.

In the second week of August, the barley breeding program of Dr. Horsley had one group of individuals working on his project harvesting yield trials near Williston, another group in Langdon collecting data on resistance to the disease Fusarium head blight, while he was collecting data on stem breakage and grain shattering on yield trials near McVille. Likewise, the potato breeding project of Dr. Susie Thompson is a breeding project that requires a large group of employees because of the perishable nature of the crop. Dr. Thompson uses a lot of her royalty funds to support the salary of three graduate students working on her project.

Purchasing new state-of-the-art equipment and replacing and upgrading older equipment was made possible by using Royalty funds in the Plant Sciences and Plant Pathology Departments. Startup monies for new faculty also make use of these funds. Overall, these fees help to develop new and better agricultural varieties, thereby improving the agricultural industry of the future.

NDSU Research Foundation
Statement of Revenues and Expenses
July 1, 2011 - June 30, 2012

Income		
Research Fees and Royalties		$1,945,056
License Fees		73,700
Patent Cost Reimbursement (License)		114,461
Litigation Settlements		750
Interest		11,090
Dividends		66,732
Other Revenue		600
Investment Return		70,075
Total Income		$2,282,464
Expenses		
Total Legal and Related		547,827
Patent	$486,751	
Licensing	25,805	
Plant Variety Protection and Related	20,493	
Research Fee Collection & Other	11,075	
Trademark	3,703	
Total Salaries and Operating		340,317
Total Research Fees and Royalties Distributed		1,264,162
NDSU Dept/College/NDAES	834,649	
Breeder/Inventor	415,093	
Non-NDSU Royalty Disbursed	14,420	
Total Expenses		$2,152,306
Increase in Net Assets		130,158
Net Assets at Beginning of Year		$3,551,051
Net Assets at End of Year		$3,681,209

NDSU Research Foundation
Statement of Assets and Net Assets
June 30, 2012

Assets (Foundation)		Market Value
Current Assets (Foundation)		
Operating Checking and Savings	$8,869	
Fund 81294	1,854	
Other Savings	164,604	
Prepaid Expenses	8,421	
Investments	150	
Total Current Assets		$183,898
Property & Equipment		
Office Equipment	11,788	
Less: Accumulated Depreciation	(11,788)	
Net Property & Equipment		0
Other Assets		
Plant Sciences Endowment Assets:		
Durum Wheat Endowment		
Money Market	12,021	
Mutual Funds	1,456,646	
Spring Wheat Endowment		
Money Market	11,836	
Mutual Funds	936,865	
Total Plant Sciences Endowments		$2,417,368
Sociology Endowment		$956
Anthropology Endowment		$638
University Studies Endowment		$73,428
Math Endowment		$19,967
Science & Math Endowment		$1,066
ADHM Endowment		$447
Assets (NDSU/RF Endowment)		
Cash Accounts (Endowment)		
Money Market State Bank and Trust	22,705	
Money Market Dain Rauscher	80,870	
Total Cash Accounts (Endowment)		$103,575
Investment at Dain Rauscher		-0-
Investment at State Bank and Trust	697,435	
Investment at Vanguard - S&P 500	276,187	
Total NDSU/RF Endowment Investments		$973,622
Total Other Assets		$3,591,067
Total Assets		$3,774,965
Restricted Assets (Foundation)		
Restricted Assets - Anthropology		$638
Restricted Assets – Math		19,967
Restricted Assets - Plant Sciences		2,417,368
Restricted Assets - Sociology		956
Restricted Assets - University Studies		73,427
Restricted Assets – Science & Math Endowment		1,066
Restricted Assets – ADHM		447
Restricted Assets – NDSU/RF Endowment		1,077,198
Unrestricted Assets		90,142
Total Restricted and Unrestricted Assets		$3,681,209

'Goldrush' Potato Patent Expires

The 'Goldrush' potato variety was the first protected variety released by the North Dakota Agricultural Experiment Station in March of 1992. It was also one of the first U.S. potato varieties to receive a U.S. utility patent as ND1538-1RUSS. The patent was filed on March 2, 1990 and issued on July 18, 1995. The variety was developed by Dr. Robert Johansen, former NDSU potato breeder.

'Goldrush' is an oblong, smooth, russet-skinned potato cultivar that has very white flesh, good culinary quality, resistance to hollow heart and is adapted for both the fresh and processing market. Because of its white flesh, texture, and flavor, 'Goldrush' has been particularly popular for home and restaurant consumption.

The patent has expired in July 2012, 17 years after issuance. 'Goldrush' was also one of the first NDSU varieties to have a research fee/royalty on seed sold. Seed, sold for spring planting in 2012, will be the last year for which research fees will be collected by the NDSU Research Foundation. This variety will have brought in over $650,000 research fees over its life to the NDSU Research Foundation, which in turn provided partial support to the NDSU potato breeding program. The variety has been especially popular in North Dakota, Minnesota, Wisconsin, and Maine.

Using Social Media to Sell Technology

The NDSU Research Foundation has expanded its marketing toolkit to include social media tools such as Twitter, LinkedIn, and YouTube in an effort to maximize its reach to potential licensees. These tools are not meant to replace the tried and true method of face-to-face contact, but instead provide new channels through which we can send our message. Often the strength of the NDSU-developed technologies will speak for themselves, if we can just get them to be seen by the right audience. Social media tools give us a new creative way to get in front of that audience.

LinkedIn. LinkedIn is a social network for professionals, allowing its members to connect with each other and to publish resume-style profiles for themselves online. A member of LinkedIn can connect to another member through an invitation, and then can view that person's connections. LinkedIn has become an excellent way to meet important contacts within a company or industry, by using your personal connections to get introduced to another's connections, and so on. Each Licensing Professional at the NDSU Research Foundation maintains a LinkedIn account, and uses these accounts to make these important connections with industry contacts. Connect with Jonathan, Grant, and Dale at the following links:

Jonathan Tolstedt, Licensing Associate: www.linkedin.com/in/jonathantolstedt
Grant Brewer, Licensing Associate: www.linkedin.com/pub/grant-brewer/7/244/868
Dale Zetocha, Executive Director: www.linkedin.com/pub/dale-zetocha/20/276/2a2

Twitter. Twitter is an information network that allows its members to post small bursts of information called "tweets" (a text message of 140 characters or less) to a list of followers or subscribers. This is a great tool for making announcements about new technologies, new startup companies, available funding and research opportunities, new licensing deals, or just general updates on the Research Foundation. The NDSU Research Foundation maintains a Twitter account that currently has 65 followers (or subscribers), and uses this account to keep its followers up-to-date on NDSU research and technology transfer. Follow us at: https://twitter.com/ndsurf.

YouTube. YouTube allows users to discover, watch, and share originally-created videos. It is being increasingly used by companies as a marketing tool, with companies providing links to short videos showing off their products, teaching the use of the products, or just creating a media buzz about the company itself. The NDSU Research Foundation is one of the only technology transfer related offices in the region that is creating original video content for marketing material. These videos are published on the Research Foundation's own YouTube "channel", which is called **NDSUTech**. There are currently 5 videos on the channel, which can be accessed using the following links:

http://youtu.be/fqSAdqon978 RFT-295, Light-Sensing LED Arrays
http://youtu.be/ndK-NzULfAk RFT-351, Polymer Nanospheres Made from Ozone
http://youtu.be/ai5eWcHbYE8 RFT-295, Evolution of LED Array Prototypes at NDSU
http://youtu.be/IWXKOftoH7k RFT-314, Bio-based Functional Resins
http://youtu.be/IILI0k8Z8Uk RFT-256 & RFT-295, Final Report on NDSU Conformal Computing

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