Flax growing in the Pembina Gorge, a favorite picture of Dr. James Hammond, Plant Sciences flax breeder for 47 years. Dr. Hammond died unexpectedly in August 2016.

A new flax variety, ND Hammond, named to honor Dr. Hammond, is scheduled for release in July 2018.
A. Significant departmental achievements in research, teaching and outreach during the past year.

a. Teaching
   Five faculty members have or are currently participating in the two-year commitment of the Gateways-ND multi-million dollar grant to help transform STEM teaching and student learning at NDSU. In addition, almost all faculty have incorporated the “Student Success Collaborative” program to assist with advising and retention of undergraduate students.

b. Research/Scholarly/Creative Activities
   In 2017, 29% of North Dakota’s spring wheat acreage was sown to varieties developed at NDSU. The cash value of the 2016 spring wheat crop, according to NASS estimates, was over $1.1 billion. According to NDSU UDP Dr. William Wilson, a variety released from the NDSU spring wheat breeding program has an estimated economic impact to the state ranging from $69 to $284 million beyond other competitive varieties, over the period it remains in the marketplace.

<table>
<thead>
<tr>
<th>Type of Activity</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peer Reviewed Publications (published or accepted)</td>
<td>122</td>
</tr>
<tr>
<td>National or International Invited Presentations</td>
<td>134</td>
</tr>
<tr>
<td>Research Grants and Contracts (number that are active)</td>
<td>161</td>
</tr>
<tr>
<td>Cumulative Amount (total value of active grants and contracts):</td>
<td>$6,435,426</td>
</tr>
</tbody>
</table>

c. Extension/Outreach
   The well-known annual NDSU Extension educational series called *Getting It Right in Soybean Production* focuses on providing research based soybean education. In 2017, participants estimated the value of the new knowledge they gained if it was implemented on their farm at $11.58 per acre. The 153 attending growers collectively are farming a total of 116 thousand acres. The total estimated perceived value of this meeting series would be $1.3 million. Efficient utilization of farming inputs into soybean production will benefit growers, society, and the environment.

d. Service
   - Dr. Richard Zollinger was named a Fellow of the Weed Science Society of America.
   - Dr. Harlene Hatterman-Valenti was named the recipient of the Chamber of Commerce North Dakota State University Distinguished Faculty Service Award.
   - A paper authored by Dr. Greta Gramig was selected as the Outstanding Paper in *Weed Science* by the Weed Science Society of America.
   - Dr. Joel Ransom received the President’s Volunteer Service Award for his work in Senegal.
• Dr. Juan Osorno received the Early Career Grain Legume Scientist Award at the 2017 Feed the Future Legume Innovation Lab Legume Research Conference in Burkina Faso.

B. Department goals and priorities for the past year, including narrative about progress toward those goals.

Preliminary discussions were held with faculty in the Horticulture and Food Science area about a new major or option based on sustainable local food systems. It was decided that the focus at this time should be working with the Student Affairs office recruiter to provide information about the Horticulture and Food Sciences programs, especially in the Twin Cities.

Currently, we have no one assigned to teach PLSC 727 (Crop Breeding Techniques), PLSC 734 (Field Design II) and PLSC 785 (Plant Breeding Program Management). One of the solutions we are discussing is to have a two-week intensive course (4-6 hours per day) in early June that would include topics taught in PLSC 727, 734 and PLSC 785. Having a course over a two-week period would allow us to bring in guest lecturers from private industry to teach some topics.

C. Department challenges for the past year, including narrative on how those are being addressed.

The research and teaching facilities in Harris Hall continue to be in disrepair and it is not cost-effective to make most repairs or renovations. A new durum wheat mill was purchased, but it cannot be moved into the building without dismantling a doorframe and wall. Ash and odor from the ash ovens are taken up by the ventilation system and deposited throughout the building. Water-flow into some labs has not worked since 2002, making the labs unusable. Additionally, piping is not present to carry distilled water to labs, so it is delivered with buckets from the still in the 3rd-floor men’s restroom.

D. Department goals and priorities for the coming year.

a. Continue to work with the breeding and genetics group in the department to update the curriculum and teaching assignments.
b. Work to increase enrollment in the Horticulture and Food Science programs.
c. Work with the breeding pipeline manager and breeders to bring modern data management methods to the department’s breeding programs.