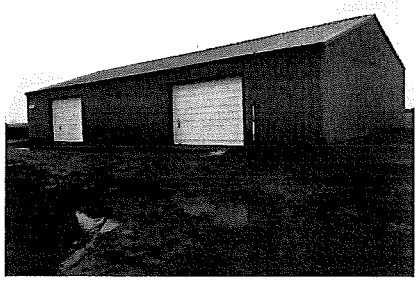
NDSU Plant Pathology

Department update

- 12 research faculty and 4 Extension faculty, mostly aligned by commodity.
- Approximately 40 graduate students.
- Based in Walster Hall (1960).
- Research and Extension activities on the causes, effects, diagnosis and management of plant diseases and insect pests of economic importance.
- Nationally-recognized faculty, including first fully endowed faculty chair at NDSU.
- Collaborators include:
  - breeders to develop disease-resistant germplasm and cultivars,
  - RECs and industry to develop improved and sustainable management strategies for diseases.
  - NDAWN for plant disease forecasting.

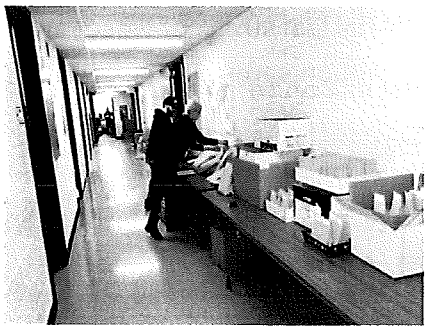
Capital Need: New field crop research facility and field equipment storage facility.

- Waldron Hall and many other facilities are dated and not designed for modern research.
- New facilities would:
  - support research aimed at identifying efficient and sustainable disease management strategies for ND crops.
  - reduce pressure on laboratory-based projects in Walster Hall.
  - improve segregation of field and lab activities.
  - improve field equipment storage.



The main departmental field storage shed is small and dated. Doors are 9 feet high so limit size of equipment that can be stored.

Several Walster Hall labs accommodate limited equipment and only a few people at a time. This picture was taken just inside the doorway.



Pulse crop pathology field trials being set up in hallway because of lack of adequate space.

Major Programmatic Updates/Challenges

1. Faculty/staff updates and challenges

- Faculty composition and retention is a worry.
  - Multiple senior faculty.
  - Multiple departures of early career faculty.
- Wheat rust pathology faculty position being filled.
- Dr. Gudmestad retiring, Dr. Pasche moving into position.
  - Creates vacancy in pulse pathology.
- Dr. Brueggeman took endowed professorship at Washington State University.
  - Current vacancy in barley pathology/molecular plant pathology.
- 1.5 office staff FTE eliminated two legislative sessions ago. Office staff workload and responsibilities is problematic.

2. Pulse Pathology Workload

- Dry bean pathology program became dry bean and pulse pathology program several years ago.
- Pathology program that once interacted with one breeder and one commodity group now interacts with two of each.
- Diseases within the research portfolio increased from a handful to potentially dozens.

Need: 1 technical FTE for pulse pathology program.

3. Viral diseases emerging

- Virus diseases on pulses and potato.

Need: Faculty and technical FTE in virology.

4. Bacterial leaf streak on wheat and barley.

- Bacterial leaf streak of wheat and barley.
- Goss' wilt on corn and bacterial leaf streak of corn.
- Dickeya soft rot on potato.

Need: Enhanced operating under umbrella of digital/predictive agriculture.

5. Department is supportive of requests for NDAWN and digital/predictive agricultural efforts in the NDAES