SAVE THE DATE!!!!  AUGUST 20th
PARTT FIELD TOUR 2020
Panhandle Research and Extension Center
Great Northern Virgo <13172> is a broadly adapted great northern bean variety ideally suited to Nebraska and Colorado production regions.

Virgo has shown significantly higher yield potential than traditional great northern beans, such as Marquis and Beryl. Its upright architecture allowing for ease in direct harvest provides great flexibility for farmers come harvest time. In addition the Virgo's architecture keeps the plant standing through potential rains as it matures which aids in retaining product quality.

Assuming a 321 lbs./AC yield advantage compared to Marquis. Growing Virgo will potentially increase your profit by $80/AC on $25/cwt. beans. This amounts to $8,000 on 100 acres and the added benefit of upright architecture.

Plant Variety Protection for GN Virgo <13172> is applied for. Unauthorized propagation of this variety is prohibited.

TO PURCHASE SEED, CONTACT YOUR LOCAL KELLEY BEAN CO. REPRESENTATIVE WWW.KELLEYBEAN.COM

All variety information presented herein is based on field and laboratory observations. Actual crop yield and quality are dependent upon many factors beyond our control. Since environmental conditions and local practices may affect variety characteristics and performance, we disclaim legal responsibility therefore. Read all tags and labels. They contain important conditions of sale, including limitations of warranties and remedies.
Spilling the Beans!

By Dan Hinman
NDBGA Board President

Since the spring edition of the Bean Bag, our world has been shaken up and turned upside down. Through quarantines and shutdowns it has been amazing to me to watch how agriculture has continued to adapt and march on through it. With the many adversities bean growers face each season, I guess I shouldn’t be surprised. I want to give my thanks and appreciation to all the growers for forging through the many challenges and continuing to produce beans to help feed the world. Hopefully everyone is getting caught up on getting this years crop off to a great start. As the hot, “dog days” of summer set in, I hope everyone has time to enjoy a summer BBQ – and don’t forget the beans!!

This year we are unsure what the annual Panhandle Agriculture Research and Technology Tour will look like. We are hoping to have it in some form, whether it is a virtual, or in person event. Whatever form it may take I hope you are all able to participate in it and gain some valuable information to help in your bean production. Remember to stay safe, cool and enjoy your summer!

About the Bean Bag

The Bean Bag” is a regional publication for the dry bean industry targeted to growers and decision-makers involved in the production and sales of Nebraska-grown dry edible beans.

“The Bean Bag” is published four times a year: Winter, Spring, Summer, and Autumn editions by the Nebraska Dry Bean Growers Association, a nonprofit organization of dry edible bean growers in Nebraska.

Publishing articles or advertisements in “The Bean Bag” does not constitute an endorsement of the views or products by the Nebraska Dry Bean Growers Association.

All materials published can be reproduced if credited to “The Bean Bag”. Address all editorial, advertising and mailing material to:

The Bean Bag
4502 Avenue I, Scottsbluff, NE
308-633-1387
Editor: Lesli Howell

Subscriptions to “The Bean Bag” for Nebraska dry bean producers are provided compliments of the Nebraska Dry Bean Commission. Others may purchase subscriptions for $25 a year by sending a check and subscription information to the Nebraska Dry Bean Growers Association, 4502 Avenue I, Scottsbluff, NE. 69361.

$50 Pictures for “The Bean Bag”.
If your picture makes the cover, we’ll pay you a reward.
(The picture must be about beans)
Please send all pictures as an attachment to our email at:
nebeangrower@allophone.com
On a side note, we’re also looking for anyone interesting in being part of a feature article.
First, let’s talk logistics. The Panhandle Research and Extension Center (PREC) has requested that masking and physical distancing is the best policy toward prevention of the spread of Covid-19. Therefore, the facility (which includes our office) is open by appointment only and once inside, face covering must be worn while transiting in the hallways, common spaces, and meeting rooms.

The 2020 Panhandle Ag and Research Technology Tour (PARTT) will be an exception as it is hosted outside. Face coverings will be optional and physical distancing is still highly recommended.

Of course, all of this could change at a moment’s notice due to the threat of Coronavirus. Therefore, please monitor the NDBGA website and Facebook page for updates and last minute notices.

We’ve thoroughly enjoyed all the photos and information being sent into our office in reference to growing beans in Nebraska. Please keep sending any photos, tidbits, information, potential leads to articles for us to pursue. In the meantime, good luck with the growing season and take time to have some summer fun with your families!
2020 Panhandle Ag and Research Technology Tour

Aug. 20, 2020 9 a.m.

Join us to see up-to-date research on dry beans, corn, sugarbeets, and alternative crops

Free entry!
Lunch served

UNL Panhandle Research and Extension Center
4502 Avenue I, Scottsbluff, NE

Program list (tentative):

Potential Dry Bean Breeding Line Releases
Carlos Urrea, Dry Bean Breeding Specialist

Irrigation Research Update
Xin Qiao, Water and Irrigation Management Specialist

Ag Econ Update
Jessica Groskopf, Ag Economist

Entomology in Crop Relay Study
Jeffrey Bradshaw, Entomologist

Weed Control in Dry Bean-Sugar Beet
Nevin Lawrence, Integrated Weed Management Specialist

Soil-Nutrient Management in Corn, Sugar Beet, Dry Bean
Bijesh Maharjan, Soil and Nutrient Management Specialist

Pathology in sunflower and new pulse crops
Bob Harveson, Plant Pathologist

New this year:

In addition to planning a great field day, we are also developing online content that will compliment PARTT 2020. Look for the opportunity to engage with our researchers online later this year through novel, on-demand and live-streaming content. So, if you miss PARTT, you would not have to miss out.
Our office receives a “ton” of information via websites, articles, and emails. In each issue, I will try to list pertinent information and/or list websites that come across my desk that bean growers may find of interest.

Visit our website and facebook page

www.beangrower.com
Facebook NE Dry Bean Growers Association

USDA World Agricultural Supply and Demand Estimates


USDA NASS Statistics by State

https://www.nass.usda.gov/Statistics_by_State/

Dry Beans - The Perfect Staple for Every Pantry (Tammie Ostdiek)

https://food.unl.edu/dry-beans-perfect-staple-any-pantry

From US Dry Bean Council

BeanCon21 Website is Live

BeanCon21 is set for March 3-5, 2021 in Las Vegas. This is a first of its kind global conference on everything beans, focusing strongly on innovation. Also, it will be a one stop shop for buyers and sellers.

Additional information is available at beancon21.com.
Trade Talks
With
Nebraska Secretary of State Bob Evnen

The Secretary of State has many duties, which include serving as Nebraska's chief protocol officer for international relations. In that role, the Secretary promotes commerce, educational studies and cultural exchanges between Nebraska and the world.

I am working for Nebraskans to develop contacts and expertise to connect Nebraska businesses with the international community. Although the economy has been slow, trade negotiation has continued to move forward. Demand for dry edible beans will continue to increase as people move up the protein ladder.

The current Trump administration has signaled several nations the U.S. would like to pursue trade negotiations. Ongoing talks with trade negotiators from United Kingdom, European Union, India, Kenya, and incremental phase agreements with Japan and China are keeping USTR Ambassador Lighthizer, his staff and Assistant Secretary of State Cindi Allen busy these days. All nations are not necessarily low hanging fruit but may be more lucrative in the end.

- United State Mexico Canada Agreement (USMCA) is slated to go into effect July 1. The agreement bears similarities to both the former NAFTA agreement and the now disappeared TPP. Not much happening there except for a few policy and regulatory issues in the auto industry that may extend past the July 1 take off date.

- United Kingdom - As part of a trade agreement with the UK, the United States aims to achieve a fairer and deeper trade relationship with the UK by addressing certain tariff and non-tariff barriers and agreeing on high-standard rules. The US - UK formally opened trade negotiations May 5, 2020.

  The administration has held virtual negotiations with the UK beginning May 5 with an ambitious calendar of working through the 2nd round of negotiations by the end of June.

- European Union - For many years, U.S. businesses have been at a disadvantage in doing business in the EU. In a fair trade agreement with the European Union, the United States seeks to eliminate EU barriers to its markets and seeks a more balanced trade relationship. No word on agriculture but hopeful for better relationships with the recent change in the EU.

- Kenya - In pursuing negotiations on a trade agreement with Kenya, the Trump Administration is responding to Congress' mandate, as expressed in the African Growth and Opportunity Act, to negotiate reciprocal and mutually beneficial trade agreements that serve the interests of both the United States and the countries of sub-Saharan Africa. In August 2018, several working groups were established to explore a bi-lateral free trade agreement (FTA) with Kenya. Several other countries in Africa are in waiting to join the free trade agreement with the U.S. Current trade talks include in-kind food aid, which presents opportunities to address nutritional needs for the malnourished that dry beans provide.

- China - Continues the process of bi-lateral phase style negotiations. China is moving forward with obligations under Phase 1 of the agreement of new market access for Ag products. Phase 1 went into effect February 14, 2020. Currently trade negotiators on both sides are committed to moving into Phase 2 of the trade agreement.

- India - closed country and mute for now

If I can be of assistance in any way, please feel free to contact my office.

For contact information visit my website https://sos.nebraska.gov/
Nebraska Dry Bean Growers Association (NDBGA) is offering a college scholarship opportunity for children and grandchildren of a NDBGA member. These scholarships are for students pursuing a degree related to agriculture and are available for any college class level, and for non-traditional students.

Applications must be received in the NDBGA office, 4502 Avenue I, Scottsbluff, NE 69361 by mail, email or dropped off before 5:00 pm, January 1st, 2021.

The scholarships awards will be presented during our 2021 Bean Day and you will be invited to attend.

Date: __________________________________________________________________________
Name: __________________________________________________________________________
Address: _________________________________________________________________________
Telephone: ________________________ Date of Birth: ________________________ Email: __________________________

Name and address of Parents or Grandparents:
________________________________________________________________________________

Name and Address of College/University attending or planning to attend:
________________________________________________________________________________

Course of Study: ________________________________________________________________
Expected Graduation date: ____________________________________________________________________________________

Please type responses to the following questions on a separate piece of paper and keep each response to 200 words or less.

1. List your scholastic achievements (GPA, academic awards, scholarships, etc.) Include a copy of your current transcript and an up to date resume of your work history.

2. List offices held in high school or college, projects directed, athletic involvement, band, choir, FFA, student council, boys/girls state, etc.

3. Include community service, theatre groups, coaching and any other volunteer activities which have contributed to the betterment of your community.

4. Personal statement that addresses your experience with agriculture and future plans or career goals regarding agriculture.

5. Two letters of reference addressing your potential for success: one from a teacher, counselor or principal and another from a non family member.

6. Recent photo of yourself to be used in media if you are selected to receive one of the two scholarships.

**Scholarship winners will be contacted prior to February 1st and invited to attend the 2021 Bean Day February 9th, at Gering Civic Center. Please be prepared to give a short acceptance speech.

**By signing this application you agree that Nebraska Dry Bean Growers Association may use your name and photo in media announcements and their Spring 2021 edition of “The Bean Bag”.

SIGNATURE: ______________________________________________________________________
It is almost difficult to remember the first few months of this year, before COVID-19 turned the world of agriculture, and the world in general, on its head. Looking back on that time, there were a few bright spots of note, one being the state of Nebraska’s participation at the United States Department of Agriculture’s Connection Café.

Also known as the Secretary’s Café and located on the second floor of USDA’s Whitten Building in Washington, D.C., the Connection Café serves USDA staff, guests of the Secretary, dignitaries and more.

In the last year, USDA has launched an effort to feature a different state of the union providing an opportunity for the state to showcase its agricultural products. Nebraska was only the second state invited to participate in this event and was featured March 3-5, 2020.

The highlight of this three day event was a lunch with United States Secretary of Agriculture Sonny Perdue. On March 3rd Secretary Sonny Perdue, Undersecretary Greg Ibach, Senators Deb Fischer and Ben Sasse and Representatives Don Bacon, Jeff Fortenberry and Adrian Smith joined Assistant Director Amelia Breinig for a working lunch. Lunch topics included an update on disaster funding, both from the flooding to the Eastern part of Nebraska and the tunnel collapse in the Western part of the state, an international trade update, access to Brazilian Beef, genetically modified products and more.

The Nebraska Department of Agriculture was grateful to partner on the event with our state commodity boards, including the Dry Bean Commission, and industry leaders to either donate product or provide monetary support for transportation for the chefs. NDA partnered with Sysco for this event and four chefs from the company created a menu and travelled to Washington, D.C. to prepare food throughout the event.

The Connection Café is a buffet-style dining experience that serves up to 120 patrons a day. During Nebraska’s showcase, the menu featuring items like pork cutlets and a sirloin cap roast. Dry beans were also on full display with dishes like Nebraska great northern bean cassoulet, Sandhills cowboy beans and short rib chili all utilizing one of Nebraska’s top ranking crop. The café was filled to capacity most times but walk-in patrons were also welcome as space allowed.

In Nebraska, we understand the important role that our farmers and ranchers play in the success of our state and in providing high quality products to the rest of the country and the world. This event gave others a chance to experience that contribution first hand through food and fellowship and highlighting those that had provided and prepared it.
White Bean Salad

Nutrition
1/2 cup serving, 300 calories or less, 7g+ protein
Prep Time 5 minutes
Cook Time 5 minutes
Total Time 10 minutes
Servings 4 servings

Ingredients
• 1 cucumber
• 2 tomatoes
• 1/2 onion red
• 1 can white beans rinsed and drained
• 2 tbsp olive oil
• salt and pepper

Instructions
1. Chop the cucumber, and tomato into 1/2 inch pieces and dice the red onion. Combine in a large bowl.
2. Add the drained beans to the bowl, then drizzle the olive oil over top. Toss gently to combine.
3. Season with salt and pepper to taste

Low pods? No problem!
The FD1 FlexDraper® featuring MacDon Flex-Float Technology® is your best friend in low podding ground-hugging crop. Our Flex system follows ground contours for a clean, close shave, while the Active Float System allows for instant lateral and vertical float response over rolling and uneven terrain. The result: smooth, consistent, heads-first feeding that significantly boosts combine productivity.

See it in action and find your local dealer at MacDon.com
Inheritance of Resistance to Bacterial Wilt in Common Beans
Erika Sanchez-Betancourt, Robert M. Harveson, David L. Hyten, and Carlos A. Urrea
Department of Agronomy and Horticulture

INTRODUCTION

Bacterial wilt is caused by *Curtobacterium flaccumfaciens* pv. *flaccumfaciens* (Cff).
- A2 quarantine pathogen1.
- Cultural, chemical and biological control measures are not efficient.
- Resistant common beans (*P. vulgaris*): Emerson, G16829, P165078, G16885

OBJECTIVE: Determine the mode of inheritance of resistance to bacterial wilt.

RESPECTS

1. Pathogenicity Test
   The seven strains evaluated were pathogenic in the greenhouse trial. The first symptoms in the inoculated plants consisted of flaccid leaves with bending on the edges. **Strain**: No significant differences in severity (Pr>F = 0.5077); significant differences in AUDPC (Pr>F = 0.0363). Strain # 7 (orange) had the highest mean 5.9 (severity) and 14.34 (AUDPC).

2. Strains Differentiation by Rep-PCR
   Strains were different from each other, they amplified a different number of bands, except strains 3 and 4. The ERIC primer allowed to differentiate the seven strains, while the BOX primer amplified the same band pattern in strains 3 and 4.

3. Gene Action
   Chi-square test of segregation ratios for progeny (G16829/Raven). The 13:3 segregation ratio suggests that two genes control the trait.

RESULTS

1. Pathogenicity Test
   Agarose gel electrophoresis of PCR products using (A) ERIC and (B) BOX rep-PCR.

<table>
<thead>
<tr>
<th>Crossing Generation</th>
<th>G/R</th>
<th>F1 = 16 plants</th>
<th>R/G</th>
<th>F1 = 25 plants</th>
<th>G/R</th>
<th>F2 = 631 plants</th>
<th>G//G/R</th>
<th>BC1 = 42 plants</th>
<th>R//G/R</th>
<th>BC2 = 216 plants</th>
</tr>
</thead>
<tbody>
<tr>
<td>G/R</td>
<td>G/R</td>
<td>-</td>
<td>R/G</td>
<td>-</td>
<td>G/R</td>
<td>All susceptible</td>
<td>-</td>
<td>All susceptible</td>
<td>-</td>
<td>All susceptible</td>
</tr>
<tr>
<td>R/G</td>
<td>G/R</td>
<td>-</td>
<td>R/G</td>
<td>-</td>
<td>G/R</td>
<td>All susceptible</td>
<td>-</td>
<td>All susceptible</td>
<td>-</td>
<td>All susceptible</td>
</tr>
<tr>
<td>G/G/R BC1</td>
<td>19 : 23</td>
<td>21 : 21</td>
<td>0.537</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G//G/R BC2</td>
<td>0 : 216</td>
<td>All susceptible</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   Allele configuration of the resistance and susceptibility response

   - **Resistant parent**: sRsr
   - **Susceptible parent**: sSr

   - **F1**: sRsr
   - **F2**: sRsr

   Disease Progress Curve

   - **Susceptible**: 1 - 3
   - **Intermediate**: 4 - 6
   - **Resistant**: 7 - 9

   Disease under the F2 seed color segregation and response to Cff

   - 1 = orange, 2 = yellow, 3 = orange, 4 = pink, 5 = purple, 6 = yellow, 7 = orange

   - **ERIC BOX**
     - **ERIC 1**
     - **ERIC 2**
     - **ERIC 3**

   - **BOX**
     - **BOX 1**
     - **BOX 2**

   - **CTACGGCAAGGCGACGCTGACG**
     - **AAGTAAGTGACTGGGGTGAGCG**
     - **ATGTAAGCTCCTGGGGATTCAC**

   - **Pots**: 18 by block
   - **Variables**: Adjusted Yield, Severity, AUDPC

   - **Number of pots**: 18
   - **Number of blocks**: 1
   - **Number of plants**: 631

   - **Tests**: 609 F2 plants

   - **Genotypes**:
     - **G/G/R**
     - **R/G**
     - **G/R**

   - **F1 = 16 plants**
   - **G/R**
   - **R/G**
   - **G//G/R**
   - **R//G/R**

   - **Expected**:
     - 1-3 : 4-9
     - 1-3 resistant & 4-9 susceptible

   - **p-value**:
     - 0.944

CONCLUSIONS

- The ERIC primer allowed to differentiate the seven strains, while the BOX primer amplified the same band pattern in strains 3 and 4.
- The 13:3 segregation ratio suggests that two genes control the trait.
- 13:3 segregation is called inhibitory epistasis or dominant suppression: “Complete dominance in both gene pairs; however, when either gene is dominant, it hides the effects of the other gene.”

FUTURE WORK

- Identify QTL responsible for the resistance response in Recombinant Inbred Lines – RIL, as well as in natural populations.

ACKNOWLEDGEMENTS

- To the co-authors, as well as Kent Eskridge, all of them members of the Supervisory Committee for their support throughout the development of this research.
- Plant pathology friends for help in inoculations.
- UNL Department of Agronomy and Horticulture and the PHREC-Scottsbluff, NE for financial support.

REFERENCES

Grilled Zucchini, White Bean, Tomato and Tortellini Pasta Salad

**Ingredients**

**Pasta Salad:**
- 1 10 oz package cheese tortellini
- 2 cups zucchini grilled and diced
- 2 cups white kidney (cannellini) beans rinsed and drained
- 1 cup tomatoes cherry; halved
- 1/4 cup parmesan cheese shredded
- salt and pepper to taste

**Basil Vinaigrette:**
- 1/4 cup basil fresh; leaves, lightly packed
- 1 1/2 tbsp white wine vinegar
- 1 tbsp olive oil
- 1 tbsp honey
- 1 tbsp water
- 1 tsp mustard Dijon
- 1/2 tsp garlic minced
- salt and pepper to taste

**Instructions**

**Pasta Salad:**
1. Cook the tortellini according to package instructions. Rinse under cold water, drain and place into a serving bowl.
2. Add in the remaining ingredients along with the basil vinaigrette and toss together until coated. Taste for seasoning then serve immediately or cover and refrigerate until ready to serve.
3. If you plan to make this in advance, wait until just before serving to add the vinaigrette.

**Basil Vinaigrette:**
1. Put all of the ingredients for the vinaigrette in a blender and blend until smooth. Taste for seasoning and set aside.
INTRODUCTION AND OBJECTIVES

- Bean rust, caused by *Uromyces appendiculatus*, is a major disease of common and snap bean (*Phaseolus vulgaris*) worldwide (Stavely, 1984).
- Although host resistance is an important component of rust management (Mmbaga et al., 1996), populations of the rust pathogen comprise an extensive and shifting virulence diversity that could render susceptible all known rust resistance genes in common bean.
- Conversely, it has been suggested that certain tepary bean (*Phaseolus acutifolius*) accessions are broadly resistant to bean rust (Miklas & Stavely, 1998).
- The objectives of this study were to verify if tepary beans are resistant to eight races of the bean rust pathogen, which overcome all known rust resistance genes in common bean. Then, to select the resistant genotypes to cross with common beans without embryo rescue.

MATERIALS AND METHODS

- Genotypes: 22 tepary beans, 5 common bean lines, 5 interspecific (common bean-tepary) beans were immune (1=no visible symptoms) to all eight races (Table 1). However, they showed typical common bean resistance reactions to rust (2, 2+, 2++=hypersensitive reaction, 3= tiny pustules, f2=faint chlorotic spots without sporation) (Fig. 2B, 2C).

RESULTS

All common bean checks were susceptible to one or more than one of the bean rust races used in this study (Table 1). Conversely, six domesticated tepary beans were immune (1=no visible symptoms) to all eight races (Fig. 2A). The immune reaction exhibited by tepary beans is not known to occur in common bean. Two tepary beans and six interspecific (common bean-tepary) were resistant to at least six of eight rust races (Table 1). Conversely, six domesticated beans were resistant to at least six of eight rust races (Table 1). Conversely, six domesticated beans were resistant to at least six of eight rust races (Table 1).

In sum:

- Immune
- HR
- Resistant
- Susceptible

All resistant tepary beans were used in crosses with common bean.

CONCLUSIONS

- The immune response to bean rust showed by tepary beans confirms its high value as resistant genetic sources for improving common bean.
- These results show the presence of new and unique rust resistance reactions in tepary beans that maybe are conferred from different resistance genes.

REFERENCES


ACKNOWLEDGMENTS

The authors want to express special thanks of gratitude to the Nebraska Dry Bean Commission for the financial support in this research. Also, the authors want to thank Dr. David Bubolz from the International Center for Tropical Agriculture (CIAT) and Dr. Tim Porch from the USDA for providing the genotypes for this study.
Dry beans in Nebraska and other areas of the Central High Plains are commonly affected by both fungal and bacterial diseases. The four major bacterial diseases include common blight, halo blight, brown spot and wilt. Some of the more common fungal diseases that growers may confront are rust, white mold, and several root rots caused by *Fusarium*, *Rhizoctonia* and *Pythium*.

The severity of diseases and their appearances are highly dependent upon local environmental conditions, thus making their effects different from year to year. Furthermore, they can be strongly influenced by other factors such as planting non-certified seed, proximity to infected volunteers, and using equipment that causes wounding and movement of soil and infected residue between and within fields.

A modification of this article appeared in the Bean Bag several years ago, but I thought it may be useful as a reminder to growers and consultants as we prepare for another cropping season. Below are some suggestions or recommendations that should help manage some of the more common diseases in dry beans that we may see in Nebraska.

1. **Integrated Pest Management (IPM)** – This term is used frequently by pathologists. The idea behind this concept is the use of multiple strategies for disease management rather than just a single one, which theoretically will enhance chances of success. For example, if genetic resistance for a desired cultivar is not available for a certain disease, the problem may still be addressed with proper rotation, or prepared to apply a fungicide if needed.

2. **Know and understand the potential problem** – there are large amounts of information available to help in disease identification and management. We are driven to obtain and share information that will provide accurate symptoms and key points about diseases that growers may encounter. Differentiating diseases can be difficult, and as a result, questions and/or submissions to Extension Educators, or the Disease Diagnostic Clinic at the PHREC are welcomed.

   Similarly, we strive to get timely information out as diseases are occurring. Whether it is through UNL websites (Cropwatch), the Bean Bag, radio spots, or newspaper articles, it is important to stay informed.

3. **Correctly identify the potential problem** – Scouting and diagnosis are important parts of disease management. If someone is uncertain what disease(s) occurs, it is very difficult to make informed decisions about the selection of specific management tools. For example, a foliar fungicide application would not be effective in managing any of the bacterial diseases, thus a misdiagnosis would result in losses from both the incorrectly treated disease and the waste from the unnecessary use of the chemical.
4. **Cultural practices** may also be useful in managing diseases.

**Rotation** - dry beans generally grow and yield better after crop rotations. Three to four-year rotations are generally recommended, as many pathogen problems will be diminished by this length of rotation. However, they will not likely completely disappear. It is not advised to sequentially plant beans in the same locations in multiple years. Many dry bean pathogens commonly survive and overwinter in infested crop debris, particularly the bacteria.

**Tillage** practices may also have a profound effect on diseases. Any form of tillage that breaks up residue will help to reduce problems with bacterial diseases by removing the sources of survival. Bacterial pathogens cannot live long freely in the soil. Tillage practices can also be of benefit by burying the overwintering structures (sclerotia) for the white mold pathogen. Lastly, tillage will also assist in diminishing soil compaction issues. This condition retards proper plant root growth, and often will predispose bean plants to root rot infections.

5. **Seed Treatment and Selection** – Dry bean seed may be treated with various chemical that can protect against some bacterial and fungal pathogens. Although these products will not last for the entire season, they can improve emergence and plant stands. The establishment of a healthy and vigorous stand is critical for beginning the production of a profitable crop.

Selecting and planting certified, disease-free seeds with disease tolerance or resistance where available can also be useful. It is not advised to plant saved seed from previously diseased fields.

6. **Foliar Fungicides** – On dry beans, the most important diseases in need for managing with fungicides are rust and white mold. Both diseases can reduce yield and seed quality dramatically.

**Rust** - as a rule of thumb, the critical time for rust applications is when the disease appears early (before pod bump). We often do not see rust until early September. Fortunately, this is usually late enough in the season that the plant has filled seeds and pods, and yields will likely not be adversely affected. Thus, no fungicide applications are necessary.

**White mold** - ironically, it should also be remembered that white mold becomes more problematic under conditions that enhance higher yield potential. Extensive foliar plant growth and high levels of moisture will also will encourage disease initiation and economic losses. Treating for white mold should also be considered from fields with a history of the disease, or if they have recently been planted to other white mold hosts like sunflowers, potatoes, or canola.

7. **Cultivar resistance** – proper selection of a particular cultivar may be the most important decision you make. If you have a field history of rust or common blight, planting a cultivar with some resistance may also be the most cost-effective disease management tool available. Resistance will not guarantee complete control of immunity for any pathogen, but may reduce or soften severe crops losses in the event of a severe epidemic.

8. **Engagement** - stay engaged in general, be informed and open for adaptation if necessary. In the future, we would anticipate diseases and methods for their management may change. New diseases, new resistant cultivars to combat them, and new fungicides or other chemical products, accompanied with new recommendations will continue to evolve and emerge.
Introduction: The purpose of this study was to compare four different Great Northern (GN) bean varieties in a direct harvest bean production system, looking at both yield and harvest loss. Currently, most dry beans in western Nebraska are harvested in a two-step process starting with a cutting windrowing operation, and then combining. Direct harvest is simply one pass through the field with the combine. A good upright bean variety, proper level field conditions and a combine header suitable for direct harvest are essential to minimize harvest loss and economically justify direct harvest.

With dryer weather this year we are ahead on dry bean planting. Most of the beans are planted and many are emerging. We are certainly beyond the point of choosing varieties for this year but this information on Great Northern varieties will be valuable for the future. These studies were conducted under the direct harvest system and thus the upright plant architecture and pod height at harvest are critically important. As we know the Great Northern varieties have not been advanced as far as Pinto varieties in terms of upright plant architecture, but we are still seeing some good yields despite higher than desired harvest loss. The studies below were conducted in 2018 and 2019. Note excessive nitrogen in 2018 and hail in 2019 contributing to lower than desired pod heights and higher than desired harvest loss.

This year with Nebraska On Farm Research we have 5 dry bean population studies and one dry bean inoculum study under way. Stay tuned this fall for results from these studies!

For further information and results from Nebraska studies visit the On-Farm Research website: https://cropwatch.unl.edu/on-farm-research or the results finder on the On-Farm Research website http://resultsfinder.unl.edu/ to connect with on-farm research and access other dry bean studies from the past few years.

### Great Northern Varieties for Direct Harvest

**Study ID:** 0808157201801  
**County:** Scotts Bluff  
**Soil Type:** Tripp very fine sandy loam 0-3% slope  
**Planting Date:** 6/5/18  
**Harvest Date:** GN 14164 on 9/13/18; 13172 and 14172 on 9/14/18; 14168 on 9/26/18  
**Row Spacing (in):** 22  
**Reps:** 4  
**Previous Crop:** Corn  
**Tillage:** Double disk then zone tillage with Schlagel till  
**Herbicides: Pre:** 14 oz/ac Outlook® and 2 pt/ac Prowl® H2O on 6/5/18  
**Post:** 4 oz/ac Raptor®, 1.2 pt/ac Basagran®, and 1 qt/100 gal NIS on 7/4/18  
**Seed Treatment:** Cruiser®  
**Foliar Fungicides:** 4 oz/ac Priaxor® on 7/19/18  
**Fertilizer:** 53 lb/ac N in manure application; 2 qts/ac UAN with herbicide on 7/4/18  
**Irrigation:** Pivot, Total: 8.5  
**Rainfall (in):**

<table>
<thead>
<tr>
<th>Soil Sample</th>
<th>Residual N (lb/ac)</th>
<th>P2O5 (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>89</td>
<td>23.9</td>
</tr>
</tbody>
</table>

---

**Introduction:** The purpose of this study was to compare four different Great Northern (GN) bean varieties in a direct harvest bean production system, looking at both yield and harvest loss. Currently, most dry beans in western Nebraska are harvested in a two-step process starting with a cutting windrowing operation, and then combining. Direct harvest is simply one pass through the field with the combine. A good upright bean variety, proper level field conditions and a combine header suitable for direct harvest are essential to minimize harvest loss and economically justify direct harvest.
The study evaluated GN 14172, GN 14168, GN 14164, and GN 13172 (Virgo) Great Northern dry bean varieties. The plots were planted with a 33 foot Monosem planter in 22” row spacing. The targeted population for the study was 94,000 plants per acre. Because of inaccuracy in the planter based on vacuum pressure and varying seed size between varieties, our actual plant populations determined by early season stand counts were 88,803 seeds/ac for GN 14172, 77,740 seeds/ac for GN 14168, 93,704 seeds/ac for GN 14164, and 88,135 seeds/ac for GN 13172 (Virgo), therefore planting populations were approximately 10% greater at 97,900 seeds/ac, 85,800 seeds/ac, 103,400 seeds/ac and 96,800 seeds/ac respectively. Low hanging pods are a major cause of harvest loss in the direct harvest process; therefore, pod height measurements were taken to determine the percent of pods greater than 2” above the ground just before harvest.

The plots were harvested with a John Deere 9500 combine and a Deere 925 flex auger head. Due to differences in maturity date between the varieties, the plots were harvested on different dates; GN 14164 was harvested on 9/13/18 with a temperature of 84°F and a relative humidity of 29%, GN 13172 (Virgo) and GN 14172 were harvested on 9/14/18 with a temperature of 83°F and a relative humidity of 35%, and GN 14168 was harvested on 9/26/18 with a temperature of 72°F and a relative humidity of 25%.

Results:

<table>
<thead>
<tr>
<th>Variety</th>
<th>Stand Count (plants/ac)</th>
<th>Pods &gt;2” above ground (%)</th>
<th>Harvest Loss (bu/ac)</th>
<th>Small (%)</th>
<th>Split (%)</th>
<th>Foreign Material (%)</th>
<th>Moisture (%)</th>
<th>Density (lb/bu)</th>
<th>Seeds per lb</th>
<th>Yield† (bu/ac)</th>
<th>Marginal Net Return‡ ($/ac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GN 14172</td>
<td>88,803 B</td>
<td>77 A</td>
<td>12.7 B</td>
<td>0.6 AB</td>
<td>1.8 A</td>
<td>0.3 A</td>
<td>13.7 A</td>
<td>62 A</td>
<td>1,268 A</td>
<td>54 B</td>
<td>632.85 B</td>
</tr>
<tr>
<td>GN 14168</td>
<td>77,740 C</td>
<td>67 B</td>
<td>14.8 AB</td>
<td>0.3 B</td>
<td>2.3 A</td>
<td>0.7 A</td>
<td>12.5 C</td>
<td>62 A</td>
<td>1,153 B</td>
<td>46 C</td>
<td>544.99 C</td>
</tr>
<tr>
<td>GN 14164</td>
<td>93,704 A</td>
<td>80 A</td>
<td>16.5 A</td>
<td>0.8 A</td>
<td>2.3 A</td>
<td>0.5 A</td>
<td>12.9 BC</td>
<td>62 A</td>
<td>1,145 B</td>
<td>42 D</td>
<td>468.51 D</td>
</tr>
<tr>
<td>GN Virgo</td>
<td>88,135 B</td>
<td>85 A</td>
<td>12.5 B</td>
<td>0.5 AB</td>
<td>1.8 A</td>
<td>0.2 A</td>
<td>13.4 AB</td>
<td>62 A</td>
<td>1,295 A</td>
<td>58 A</td>
<td>684.40 A</td>
</tr>
<tr>
<td>P-Value</td>
<td>&lt;0.001</td>
<td>0.001</td>
<td>0.035</td>
<td>0.033</td>
<td>0.237</td>
<td>0.507</td>
<td>0.001</td>
<td>0.200</td>
<td>&lt;0.0001</td>
<td>&lt;0.0001</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

*Values with the same letter are not significantly different at a 90% confidence level.
†Bushels per acre corrected to 14% moisture and adjusted for clean yield (% splits, % small, and % foreign material removed).
‡Marginal net return based on $22/cwt ($13.20/bu at 60lb/bu). The seed cost was $79/100,000 seeds. There was no difference in seed cost for the varieties tested. Actual planted populations were slightly different due to different seed size and shape, therefore treatment costs were adjusted accordingly. Seed costs for each treatment were: $77.34/ac for GN 14172, $67.78/ac for GN 14168, $81.69/ac for GN 14164, and $76.47/ac for GN 13172 (Virgo).
Summary:

- Stand counts differed significantly between treatments.
- The percent of pods greater than 2" above the soil was lower for GN 14168, which was also the variety with the lowest seeding rate and was harvested last.
- Harvest loss was greater for GN 14164, the first harvested variety, than for GN 14172 and GN 13172 (Virgo).
- GN 14164 also had a higher percentage of small beans than GN 14168.
- Moisture also differed between the varieties.
- GN 13172 (Virgo) and GN 14172 has more seeds per pound than GN 14168 and GN 14164.
- There was no significant difference in percent splits, percent foreign material, or density.
- Yield and net return were significantly different between each variety tested. Yield was highest for GN 13172 (Virgo), and was 3.9 bu/ac higher than the next highest yielding variety GN 14172. GN 14164 was the lowest yielding variety, 16 bu/ac less than the highest yielding variety. Seed costs were very close between the treatments, therefore the net return ranking was the same as the yield ranking.
- Several factors contributed to excessive harvest loss in this study. Based on the residual soil N, the N in the manure application and the UAN with the herbicide, there was greater than 140 lb/ac of N in this field. A normal N recommendation is around 120 lb/ac. Excess N application can result in excessive top growth which can cause plants to lodge. The crop was also planted on beds, which in the event of plants lodging and going down, can cause the plants to fall into the depressions between beds which can increase harvest loss. It is possible that a newer flex draper header with multiple adjustments could have reduced harvest loss by several bu/ac as well. With only one year of data and numerous factors contributing to harvest loss, these varieties need to be looked at further to determine their acceptability for direct harvest. Given the harvest loss that occurred, the yields were excellent.

**Dry Bean Direct Harvest Great Northern Variety**

**Study ID:** 0152013201901  
**County:** Box Butte  
**Soil Type:** Duroc sandy loam 1-3% slope; Duroc sandy loam occasionally flooded; Keith sandy loam 0-1% slope  
**Planting Date:** 6/12/19  
**Harvest Date:** 10/7/19  
**Seeding Rate:** 110,000  
**Row Spacing (in):** 15  
**Reps:** 4  
**Previous Crop:** Corn  
**Tillage:** Disked once and rolled before planting  
**Herbicides:** Pre: 30 oz/ac Prowl®, 15 oz/ac Outlook®, 1 qt/ac Roundup® on 6/10/19 Post: 30 oz/ac Basagran®, 4 oz/ac Raptor®, and 15 oz/ac Select® on 7/15/19; Desicant/harvest aide: 2 pt/ac Gramoxone®, 1 qt/ac Crop oil on 9/16/19  
**Seed Treatment:** Apron XL®, Maxim®, Rancona®, Dynasty®, and Cruiser®  
**Foliar Insecticides:** None  
**Foliar Fungicides:** Copper plus on 8/1/19  
**Fertilizer:** 50 lb N/ac and 50 lb P/ac, dry spread; 900 gal/ac 32-0-0 through pivot  
**Irrigation:** Pivot, Total: 7  
**Rainfall (in):**
**Introduction:** The purpose of this study was to compare four different Great Northern bean varieties in a direct harvest bean production system, looking at both yield and harvest loss.

The study evaluated Draco, Andromeda, Virgo, and 14172. The study was planted with a 20-foot soybean drill in 15" rows. The target population for the study was 110,000 plants per acre. Because of the inaccuracy of drills, normally as a result of seed size and seed flow through the machine, actual plant populations determined by early-season stand counts were 82,115 plants/ac for Draco, 74,928 plants/ac for Andromeda, 85,819 plants/ac for Virgo, and 83,967 seeds/ac for 14172. Planting populations were assumed to be approximately 10% greater at 90,300 seeds/ac for Draco, 82,420 seeds/ac for Andromeda, 94,400 seeds/ac for Virgo, and 92,400 seeds/ac for 14172. Low hanging pods are a major cause of harvest loss in the direct harvest process; therefore, pod height measurements were taken to determine the percent of pods greater than 2" above the ground just before harvest. A serious hail on September 10th contributed to the plants being broken down and having lower pod height at harvest.

The plots were direct harvested on October 7 with a Case\textregistered 7088 combine with MacDon\textregistered 30-foot flex draper head. The temperature at harvest was 69 °F and 15% relative humidity. Temperatures for this harvest were moderate where as hotter and drier weather conditions could have resulted in even greater harvest loss through pod shattering.

**Results:**

<table>
<thead>
<tr>
<th>Early Season Stand Count (plants/ac)</th>
<th>Pods &gt; 2&quot; above-ground (%)</th>
<th>Harvest Loss (bu/ac)</th>
<th>Small (%)</th>
<th>Split (%)</th>
<th>Foreign Material (%)</th>
<th>Damaged (%)</th>
<th>Moisture (%)</th>
<th>Density (lb/bu)</th>
<th>Seeds per lb</th>
<th>Yield (bu/ac)†</th>
<th>Marginal Net Return‡ ($/ac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GN Draco</td>
<td>82,115 AB*</td>
<td>38 B</td>
<td>13 A</td>
<td>2 AB</td>
<td>1 B</td>
<td>1 A</td>
<td>4.2 A</td>
<td>14.2 A</td>
<td>57.8 A</td>
<td>1,240 B</td>
<td>36 B</td>
</tr>
<tr>
<td>GN Andromeda</td>
<td>74,928 B</td>
<td>46 B</td>
<td>16 A</td>
<td>1 B</td>
<td>1 A</td>
<td>1 A</td>
<td>3.7 A</td>
<td>14.4 A</td>
<td>57.1 A</td>
<td>1,023 C</td>
<td>35 B</td>
</tr>
<tr>
<td>GN Virgo</td>
<td>85,818 A</td>
<td>67 A</td>
<td>8 B</td>
<td>2 AB</td>
<td>1 B</td>
<td>0 A</td>
<td>3.2 A</td>
<td>13.6 B</td>
<td>59.1 A</td>
<td>1,258 B</td>
<td>44 A</td>
</tr>
<tr>
<td>GN 14172</td>
<td>83,967 AB</td>
<td>50 B</td>
<td>13 A</td>
<td>2 A</td>
<td>1 AB</td>
<td>1 A</td>
<td>3.3 A</td>
<td>13.4 B</td>
<td>59.0 A</td>
<td>1,340 A</td>
<td>32 C</td>
</tr>
<tr>
<td>P-Value</td>
<td>0.076</td>
<td>0.003</td>
<td>0.004</td>
<td>0.117</td>
<td>0.048</td>
<td>0.232</td>
<td>0.317</td>
<td>0.001</td>
<td>0.388</td>
<td>&lt;0.0001</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

*Values with the same letter are not significantly different at a 90% confidence level.
†Bushels per acre adjusted to 14% moisture and adjusted for clean yield (% splits, % small, and % foreign material removed).
‡Marginal net return based on $30/cwt ($18/bu at 60lb/bu). Seed cost for the bean seed was $73/100,000 seeds. Seed costs for each treatment were adjusted to represent the estimated actual seeding rate based on stand counts: Draco $75/100,000 seeds; Andromeda $79/100,000 seeds; Virgo: $77/100,000 seeds; 14172: $77/100,000 seeds.

**Summary:**

- There were significant differences in stand counts among the treatments.
- Virgo had a higher percentage of pods greater than 2" above the soil than the other varieties; however, the percent of pods greater than 2" above the soil was lower than desired for all varieties tested.
- A greater percentage of pods 2" above the soil, resulted in Virgo having less harvest loss than the other varieties tested.
- Percent splits and percent smalls varied among treatments, however values for all varieties were fairly low and in an acceptable range.
- There was no difference among varieties in percent foreign material, density, or percent damage. Market value for net return was adjusted for beans having more than 2% damage in Great Northerns.
- Seeds per lb varied among treatments with 14172 having the greatest number of seeds per lb.
- Virgo had the highest yield, followed by Draco and Andromeda. 14172 had the lowest yield.
- Net return followed the same pattern as yield; Virgo had the highest net return followed by Draco and Andromeda. 14172 had the lowest net return.
- The surrounding field was planted to Draco variety Great Northerns and the overall average yield for the surrounding field was 35 bu/ac.
Thank You for your assistance with Dry Beans in the Nebraska Panhandle

Congratulations and good luck in your retirement!

Nebraska Extension Dean and Director,
Former University of Nebraska-Lincoln’s Panhandle Research and Extension Center Director,
Dr. Chuck Hibberd

University of Nebraska-Lincoln’s Panhandle Research and Extension Center Director,
Dr. Jack Whittier

John Thomas
Two years of photo’s from
Great Northern variety trials
and research project
The National Weather Service is here to Serve the Agricultural Community!
By Aviva Braun, Gerry Claycomb, and Jared Allen

The National Weather Service’s mission is to protect life and property. Our vision is to create a Weather-Ready Nation – a nation of people who can protect themselves and their property as they need to for incoming significant weather. *We sincerely want to assist you in getting your daily tasks done in the most economical means possible.*

Your decisions are largely based on weather – when will thunderstorms move through, when we’ll be seeing our first freeze, if we expect a prolonged dry period, if another significant snowstorm or blizzard is forecast for your area – and we want to help you get the best handle on the weather when it matters most. *We understand how incredibly weather sensitive you are in your day to day operations!*

You may get your weather from a variety of sources, but we are here, planted in your communities. We hear the concerns of your local officials and organizations. We hear about what affects you, and care about the damage storms may have caused to your farms or ranches. Imagine what you could do if you had hours or days of advance notice of impending impactful weather! We can provide you with this advanced notice so you can mitigate potential damage. We also provide weather data to your local Farm Service Agency folks when you’ve filed for compensation after being negatively impacted due to weather. And by being planted in your communities, we receive feedback on our forecasts, and work on ways to improve and best serve your community in future events.

The National Weather Service in Cheyenne provides many resources to fill your weather needs. We hope you’ll take advantage:

1. Visit our website at weather.gov/cheyenne and click where you live on the map. This is our point and click function. You can adjust the location if you hit the wrong location.
2. Visit our Weather Story site for a clear and easy way to know the main weather headlines: weather.gov/cys/weatherstory. See example Weather Story graphics below.
3. To get the forecast on your mobile phone, just enter: mobile.weather.gov. Enter in your location and save to home screen; it’ll always open to your saved location.
4. Visit us on Facebook or Twitter at @NWSCheyenne. All pertinent information, including warnings, gets posted here as well.
5. We are just a phone call away and are staffed 24/7/365. Count on us for your weather needs: 307-772-2468 #7.
6. Tune into NOAA Weather Radio - broadcasting 24/7 with the latest weather hazard information.
7. Every spring we come out into your community with the help of local emergency management and conduct what’s called Spotter Talks. Come join us and learn about your local weather! Weather.gov/cys/skywarn for listings. This year we went virtual – find the recordings online!
8. If you’re part of a local farm/ranch organization, get your leadership to reach out to us – we may be able to come for a targeted weather talk.

Note: the above Weather Story graphics are examples. Shown on the left is an example of how we use the Storm Prediction Center’s graphics for a targeted overview of severe weather expected in the area.
ON THE LIGHTER SIDE

DIY Ideas > Arts & Crafts Ideas

Archeological Dinosaur Dig Bin

Materials List
1. beans (assorted dry) - black-eyed peas, large lima beans, split peas, & pinto beans
2. beads (brown glass)
3. plastic dinosaurs
4. popsicle sticks
5. rake
6. containers to sift & sort
7. plastic container or tub

For more information see: https://www.kiwico.com/diy/Arts-and-Crafts-Ideas/1/project/Dinosaur-Dig-Sensory-Bin/1185

"HUMOR"

"If you make a mistake and tell your secret on a farm, three things will happen. The first is that the potatoes have eyes and they will see. The second is that corns have ears and they will hear. The third and most dangerous is that beans will stalk you."

"JUST OUTSIDE THE BOX"

The secret lives of giants: How to make a milkshake
1. Shake cow vigorously.
2. Gently squeeze over glass.

Q: What acting job did the bean audition for?
A: The casseROLE.

A teacher asked her students to use the word "BEANS" in a sentence.
1st: "My father grows beans."
2nd: "My mother cooks beans."
A third student spoke up, "We are all HUMAN BEANS."
Youth in Agriculture

The Morrill-Mitchell FFA Chapter, led by advisors Krystal Wilke and Walker Dobry, had a successful year. Despite the State FFA Convention being canceled due to the Covid-19 pandemic, the chapter achieved many goals and milestones throughout the year.

At the beginning of the year the officer team set the goal to have 9 teams and 32 students qualify to make the trip to State Convention. After the last round of contests in March, the chapter had 38 students, 12 teams and 9 State FFA Degrees ready to take on state competition. One of the most excited groups was the Agricultural Communications team, which placed 2nd at the district level and would compete for the first time at the state level.

The chapter’s communications team members were: Bernadette Pieper, Jessie Lamp, Isabel Hubbard and Jacque Bowles. The girls worked for over a month to develop a media plan that was judged at districts in order to determine state qualification. This year’s prompt for the contest was to assume the role of a communication team for a commodity board. When brainstorming began the team wanted to use a local board that was unique to our area.

“It was quickly decided to use the Nebraska Dry Bean Growers Association with the hope of standing out in Lincoln.”

The media plan for the event required the team to explain promotional events in detail. A budget, written plan and evaluation tool were all created in a 14 page document. The team planned to run a booth at various town celebrations over the course of the summer and fall of 2020. Some celebrations included in the plan were: KNEB Farm and Ranch Show, Scotts Bluff County Fair, Oregon Trail Days and Nebraska State FFA Convention. In the proposal, the team explained how they would play games and give away different items related to dry beans for promotion.

While the chapter is deeply disappointed by the cancelation of the State Convention, there is still a lot to be proud of. In addition to the Ag Communications team, the chapter as a whole has worked with more producers and businesses this year than ever before. Many members have volunteered time at local events and represented Morrill-Mitchell FFA in the agriculture industry. As the next school year comes into focus, the chapter is dedicated to continue to set and reach goals of success.
Nebraska Dry Bean Commission
FY 20-21 Research Projects

During the February 2020 meeting, the Nebraska Dry Bean Commission approved funding for FY 20-21 research projects.

1. Breeding dry beans within different market classes with multiple disease resistance with high performance in Western Nebraska – Dr. Carlos Urrea $ 72,440.00

2. Evaluation of dry bean cultivars for performance in Western Nebraska – Dr. Carlos Urrea $ 15,000.00

3. A PhD Assistantship – Dr. Carlos Urrea $ 42,822.00

4. Nebraska On-Farm Research Network – John Thomas $ 11,500.00

5. Examining the fungal rhizobiome associated with resilient dry beans bred for changing climate conditions in Western Nebraska – Dr. Joshua Herr $ 24,000.00

6. Development of CRISPR-Cas9 gene edited dry beans for non-GMO genetic modification – Dr. Amitava Mitra $ 12,000.00

7. New Copper-Alternative products for managing bacterial diseases in dry beans in Nebraska – Dr. Robert Harveson $ 9,000.00

8. Developing a Real-time IoT based White Mold Alert System for dry bean production in Scotts Bluff County – Dr. Robert Harveson $ 15,000.00

9. Use of sequential applications of Outlook to extend suppression to late emerging weeds in dry beans - Dr. Nevin Lawrence $ 4,500.00

10. Expanding group 15 herbicide use in dry beans – Dr. Nevin Lawrence $ 4,500.00

11. Enhancing profitability of dry bean production through a systems approach using Core project investigations in the Nebraska Panhandle – Core Project $ 36,000.00

12. Using dry bean agronomic traits to identify Nebraska cultivars having high value in maintaining human gut health – Dr. Henry Thompson $ 15,000.00

Total FY 20-21 Research Funding $261,262.00

Nebraska Dry Bean Commission is charged with the duty of investing dry bean check-off funds in programs of research, domestic and international promotion and consumer education.
Chairman’s Comments
By Brian Kaman

As I am writing to you this fine summer day, I reflect over the past few months since the outbreak of COVID-19 and the changes that have affected so many in our nation and around the world. The Nebraska dry bean industry has been busy during this pandemic delivering dry edible beans to consumers across the U. S. as the industry saw a significant increase in demand.

According to the USDA’s March Prospective Plantings report, Nebraska dry bean producers reported intentions to plant 145,000 acres of dry beans up from 2019 120,000 acres, dry bean producers in the United States reported intentions to plant 1,372,000 acres of dry beans, an increase from 2019 1,287,400 acres. Overall, 2020 planting conditions have been excellent with most producers completing planting by mid-June.

Each year the Nebraska Dry Bean Commission (NDBC) meets in June to approve its annual budget for the upcoming fiscal year. During this budget meeting, Board members prioritize expenditures in the areas of research, domestic and international promotion and consumer education. Historically, NDBC’s funding for dry bean research accounts for approximately 40-42 percent of the annual budget. Most of this research is conducted by the research faculty at the University of Nebraska Panhandle Research and Extension Center in Scottsbluff, NE, in the heart of the bean growing region. Faculty at PREC are actively planning for this year’s Bean Field Day or most recently named PARTT planned for August 20, 2020. Hopefully the COVID-19 pandemic has subsided and in-person presentations will be the same as in years past, only time will tell!

I would like to congratulate Jeff Jenkins on his re-appointment to NDBC to serve as the At-Large Grower Representative for Districts 1 & 2. At the time I am writing this column, Governor appointed positions are still pending Governor Ricketts appointment, however, current representatives will continue to serve on the Commission until new appointments are approved.

Due to the COVID-19 pandemic, the US Dry Bean Council (USDBC) has decided to cancel its scheduled Summer meeting and will be holding this year’s meeting virtually. The US Dry Bean Convention, normally held in conjunction with USDBC’s Summer meeting, has also been cancelled this year. I want to wish everyone a successful growing season and look forward to a bountiful harvest.
Beans, Beans the magical food  
_by Lynn Reuter, NDBC Executive Director_

Over the past few months as the Covid-19 pandemic spread across the U.S. consumers have changed many of their purchasing habits. Since early March, food companies have been scrambling to keep grocery stores supplied with packaged and canned dry beans.

With the stay-at-home orders being implemented in many states across the nation, here at the Nebraska Dry Bean Commission office I started to notice the increase in consumer questions regarding dry edible beans. Here are just a few:

- I found a bag of beans in my pantry and I can’t read the use by date, are they still ok to cook?
- I have never cooked with dry packaged beans before can you give me some tips on how to cook dry beans and how do I know if my beans are fully cooked?
- RECIPES, RECIPES, and more RECIPE requests! (Hits to NDBC website recipe page increase by 200% over last year during the month of March)

According to a recent Nielsion report for the week ending 3/14/19 and the week ending 3/14/20 dried beans proved a popular food item, increasing 377% year-over-year for the period ending March 21, 2020, and 169.1% for four-week period, which lead me to start doing my own internet searching and found there were more food editors writing about dry beans! Some of the notable articles appeared in America’s Test Kitchen, “The Humble Bean”, the New York Times “A Boom Time for the Bean Industry”.

I am sure everyone will be glad to see COVID-19 behind us, the Nebraska dry bean industry will look for opportunities to encourage consumers to continue consuming dry beans at home and in restaurants.

Nebraska Farm Bureau Foundation’s Agriculture In The Classroom

During the 2019-2020 school year, the Nebraska Dry Bean Commission was a sponsor of Nebraska Farm Bureau Foundation’s _Nebraska Agriculture in the Classroom_ activities.

One of this year’s activities is _Farming In A Glove_, which is designed for 2nd graders to engage in a hands-on activity which aids in understanding how agriculture is essential to everyday life. From the food we eat, to the clothes we wear, to the cars we drive, or to use as a power source, are called crops.

The “farm” is a clear plastic grove with a cotton ball in each of the fingers. A seed is placed on a moist cotton ball and the students were to hang the glove in a window. The students monitor the glove to watch as the seeds germinate. This year students were provided 4 different seeds to represent crops grown in Nebraska: corn, soybeans, wheat and dry edible beans.

Nebraska Farm Bureau Foundation launched a reading resource, _Ag Mag_, in the fall of 2017. _Ag Mag_ is mailed to every 4th grade classroom in Nebraska and is also available in an electronic version. Nebraska dry beans were featured in the Spring 2020 edition of _Ag Mag_.

Agriculture in the Classroom is a program coordinated by the National Agriculture in the Classroom Organization and supported by the United States Department of Agriculture (USDA). In Nebraska, the Agriculture in the Classroom program is managed by the Nebraska Farm Bureau Federation, whose mission is to engage youth, educators, and the general public to promote an understanding of the vital importance of agriculture in the lives of all Nebraskans. For more information about the Nebraska Farm Bureau Foundation, visit [www.nefbfoundation.org](http://www.nefbfoundation.org).
COVID 19 Global Consumer Survey  
People will Eat More Beans!

US Dry Bean Council (USDBC) commissioned a brief study from Rose Research LLC, to better understand the effect the COVID-19 pandemic is having on consumer attitudes, perceptions and behavioral practices towards US dry beans in some of our export markets. Specifically, the following areas of investigation were measured and included behavioral patterns from six months ago, currently, and six months from now: Purchase frequency, Outlets purchasing from, Amount spent in a typical month, Types of dry beans purchased, Purchase intent. The study also looked at whether changes made to shopping habits will continue in the future and the best way to promote dry beans now. A total of 3,771 interviews were completed online, from China, Europe/EU, and Mexico.

The study concluded that the COVID-19 pandemic will have long-term impacts on consumer behavior around the world as many of the consumers indicate that the changes that they’re making today will stay with them. According to the study, dry beans have a number of opportunities to position for success now and in the future. Consumers are more apt these days to be looking for products with a longer shelf life, while alternative sources of protein are also in demand – two key attributes that can potentially differentiate dry beans from other food products/commodities. According to the study, when asked what changes they’re making to their diets, many of the consumers (in each of the markets/regions surveyed) indicated that they’re “eating more pulses/dry beans”, with the vast majority also agreeing that they will be looking for alternative sources of protein (i.e. beans) moving forward than they did prior to the outbreak. The study looked at the impact on numerous food products and dry beans scored among the highest as a permanent dietary change post COVID-19.

U.S./United Kingdom (UK) Trade Momentum Builds Towards Opportunities

Public Consultation: MFN Trade Policy – The UK Global Tariff

USDBC has been expressing strong support for a US/UK trade agreement as an industry trade priority with both UK and U.S. government officials. The UK has been the top export market for US dry beans within the EU/Europe. We have had high hopes that Brexit could bring an expeditious end to the current retaliatory tariffs of 25% on US dry bean imports into the EU. While we still don’t have a sense of when those tariffs will be lifted, in late February 2020, the UK Government conducted a public consultation to determine tariff levels for agriculture imports after December 31, 2020 when the Brexit transition period ends. USDBC submitted commentary requesting zero duty tariffs. This was officially accepted and published on May 19, 2020 as part of the UK’s new “Most Favoured Nation” (MFN) tariff regime called the UK Global Tariff. This replaces the EU’s Common External Tariff as of 1 January 2021. According to the UK Department For International Trade, The UK Global Tariff almost doubles the number of products that are tariff free, relative to what is currently applied, with 47% of products now zero, compared to 27% in the EU Common External Tariff. The UK Global Tariff ensures that 60% of trade will come into the UK tariff free on WTO terms or through existing preferential access from January 2021.

The 25% retaliatory tariffs remain in effect but once these are removed, the US will have zero duty tariffs on all export of dry beans to the UK. Despite lack of progress on removal of retaliatory tariffs, as the UK is still bound by EU trade rules, there is cause for optimism as part of a strengthened trade relationship and momentum towards an agreement.
PLEASE HELP!

We need to keep our mailing list for “The Bean Bag” up to date so if your mailing address has or will be changed, please give us a call at:

(308) 633-1387 or email to:
nebeangrower@allophone.com

or mail the changes to us at:

4502 Avenue I, Scottsbluff, NE 69361

If you raise beans, are a land owner or a bean processor and want to receive the Bean Bag, please contact us and we will get you added to the list.

If you no longer want to receive the Bean Bag please contact us at any of the above options to remove your name.

Thank you!
The Bean Bag is supported by vendor ads and bean checkoff dollars.

Nebraska Dry Bean Growers Association
4502 Avenue I
Scottsbluff, NE 69361

The Bean Bag is supported by vendor ads and bean checkoff dollars.