



32nd Annual Cambridge Potato Conference, 2021

Robinson College, Cambridge 14 & 15 December



Sponsored by



In association with



Eric Allen Memorial Lecture

Eric Allen's Impact on USA Potato Industry

Neil C Gudmestad



Sponsored by



In association with



Eric's Journey Into USA's Potato World

- **Circa 1999:** United Potato Board (Potatoes USA) organized a US potato grower tour of the UK potato industry, including a tour of CUF potato research.
- **2001:** Eric speaks at a RDO/CSS Farms agronomy meeting.
- **2004:** CSS Farms establishes a NFT facility; a facility Eric will work very closely with over the years from 2007 onward.
- **2005:** RD Offutt Company organizes a major initiative to transform their seed production into single-drop, whole seed. This was in response to field trials performed by A & G.
- **2010:** CSS and RPE form a partnership in Tasteful Selections to grow and distribute small “bite-size” potatoes.
- Numerous other companies retain Eric to assist in improved agronomy implementation and seed production.



A Partial List of Eric Allen's NA Clients

- **Mountain King Potatoes- Cary Hoffman-** improved agronomy, variety improvement
- **Frito-Lay/Pepsico-** variety selection for Euro markets
- **CSS Farms/Tasteful Selections/RPE-** small potato production, variety improvement, whole seed production, NFT production
- **RD Offutt Farms-** whole seed production, general agronomy
- **Walther Farms-** improved seed production
- **McCain's-** improved seed production
- Eric's USA influence was over approximately 65,000 hectares!



Improved NFT Production & Performance

CSS Farms



Sponsored by



In association with

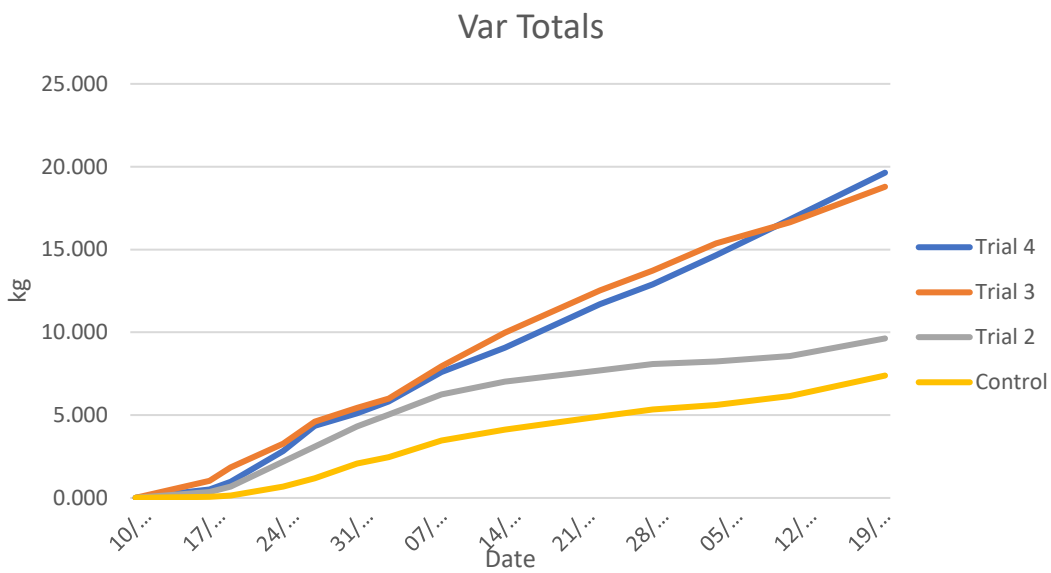


Eric spent many trips either alone or with others visiting the NFT facilities of CSS in Colorado City, CO.

One of his many important contributions to improving NFT production and performance in the glasshouse and in the field was in improving nutritional requirements of the transplants.



Russet Burbank



Control



Trial 2



Trial 3

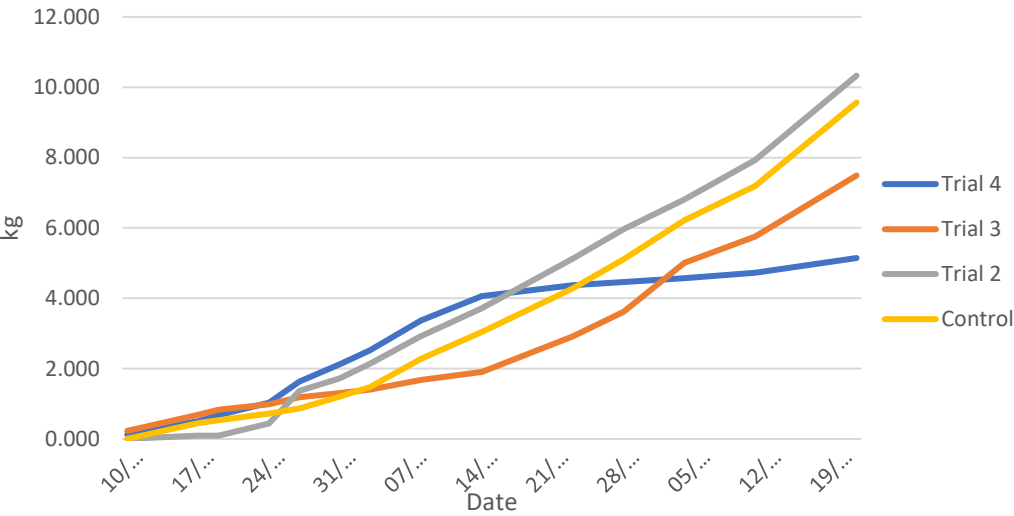


Trial 4



Clearwater

Var Totals



Control



Trial 2



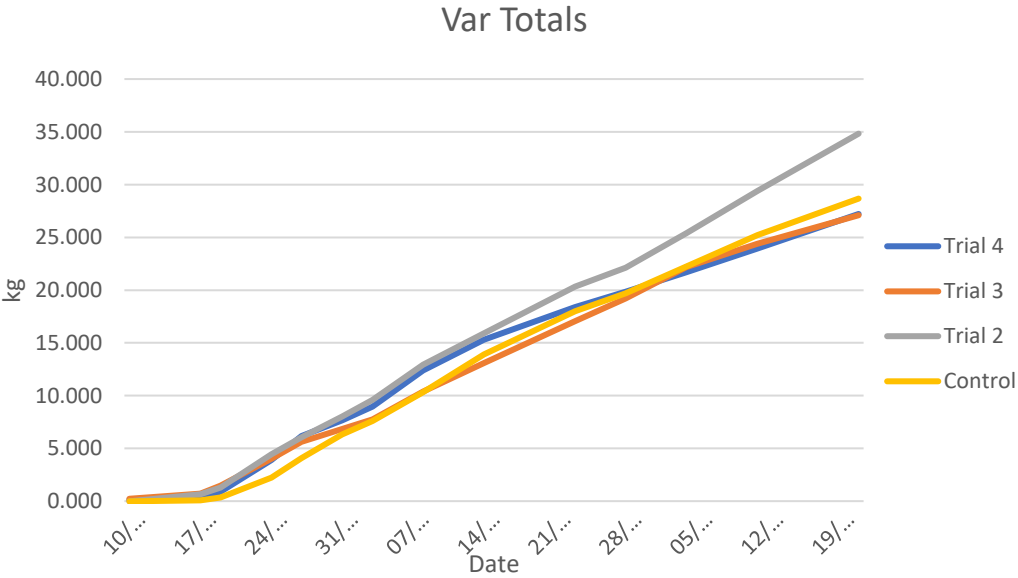
Trial 3



Trial 4



FL 1867



Control



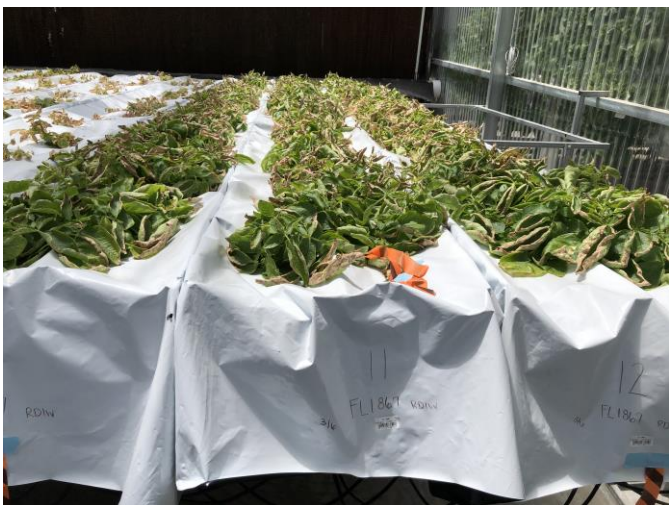
Trial 2



Trial 3



Trial 4



Eric's Contribution to NFT Production

- For major potato varieties occupying half a glasshouse range or more, prescriptive variety specific nutrient regimes improved productivity.
- With three cycles per year, dormancy and chronological age were substantial production constraints:
 - Production cycles were analyzed and studied in the R&D glasshouse
 - Temperature and chitting cycles were evaluated to reduce dormancy periods, a SOP today
 - Further chitting at the seed farm initiated by Eric led to more uniform emergence of 3rd cycle NFTs



Whole Seed Production

RD Offutt Farms & CSS Farms



Sponsored by

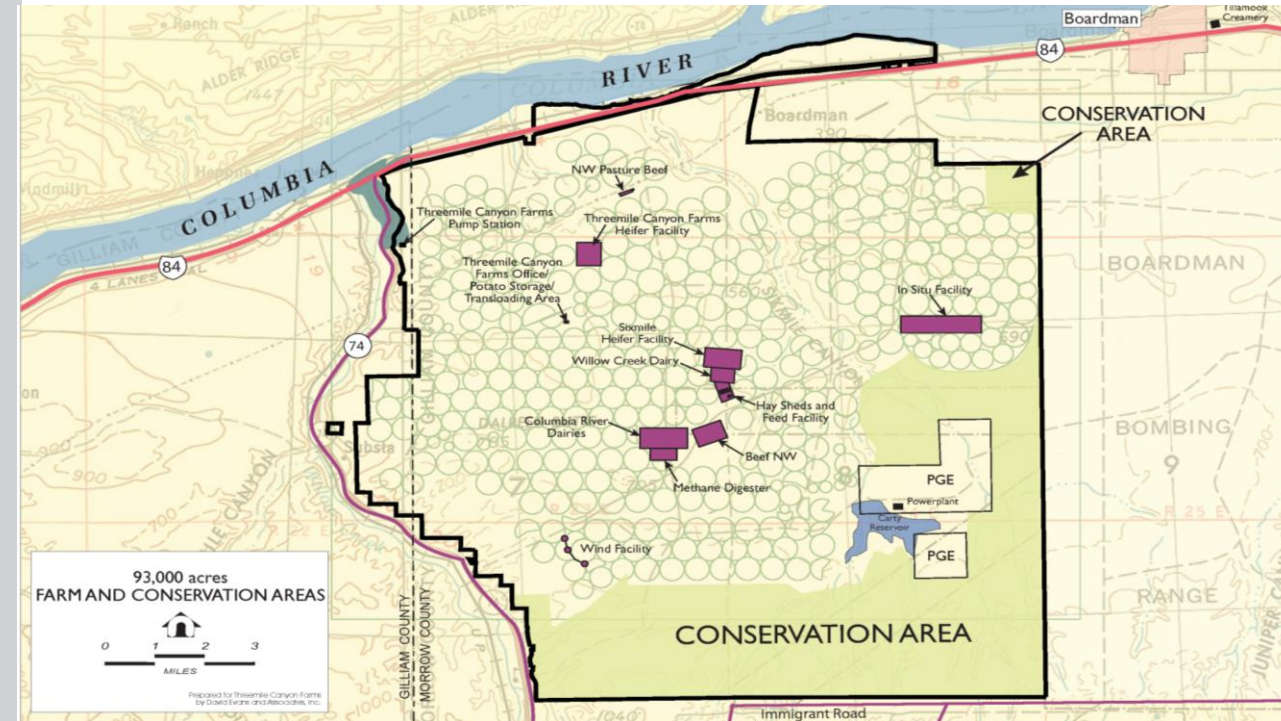
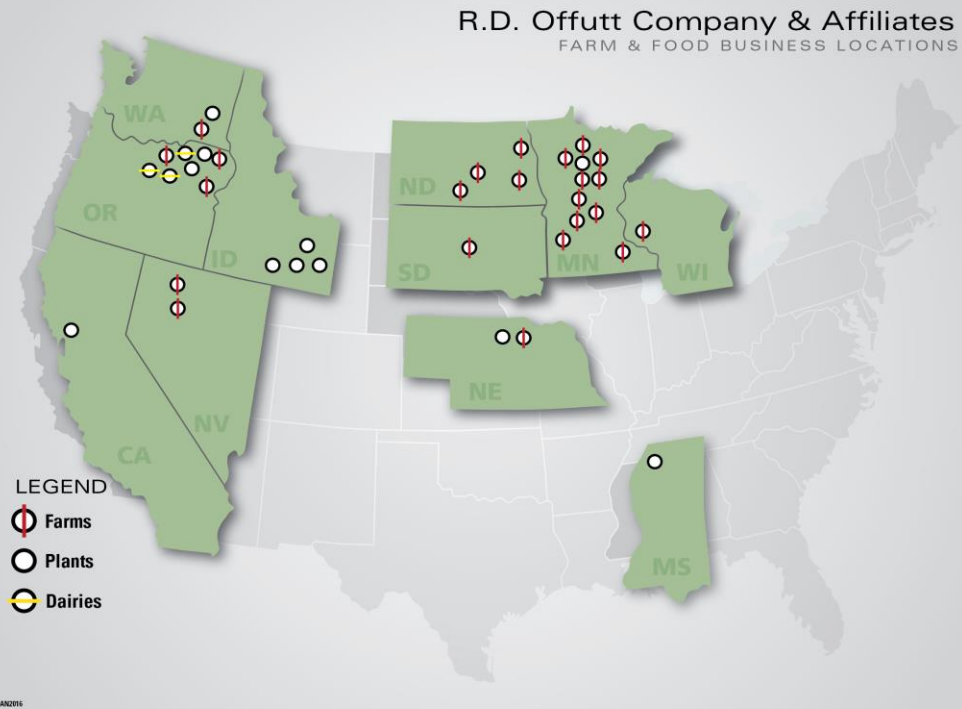


In association with



RD Offutt Farm & Food Division

Three Mile Canyon Farm- WA




CUPGRA
Cambridge University Potato Growers Research Association





Eric's recommendation on bed planting had a significant impact on increasing both yield and improving size profiles on RDO seed farms.



7 row bed, 3.7m,
32cm between rows

Russet Burbank Whole Seed Production- RDO

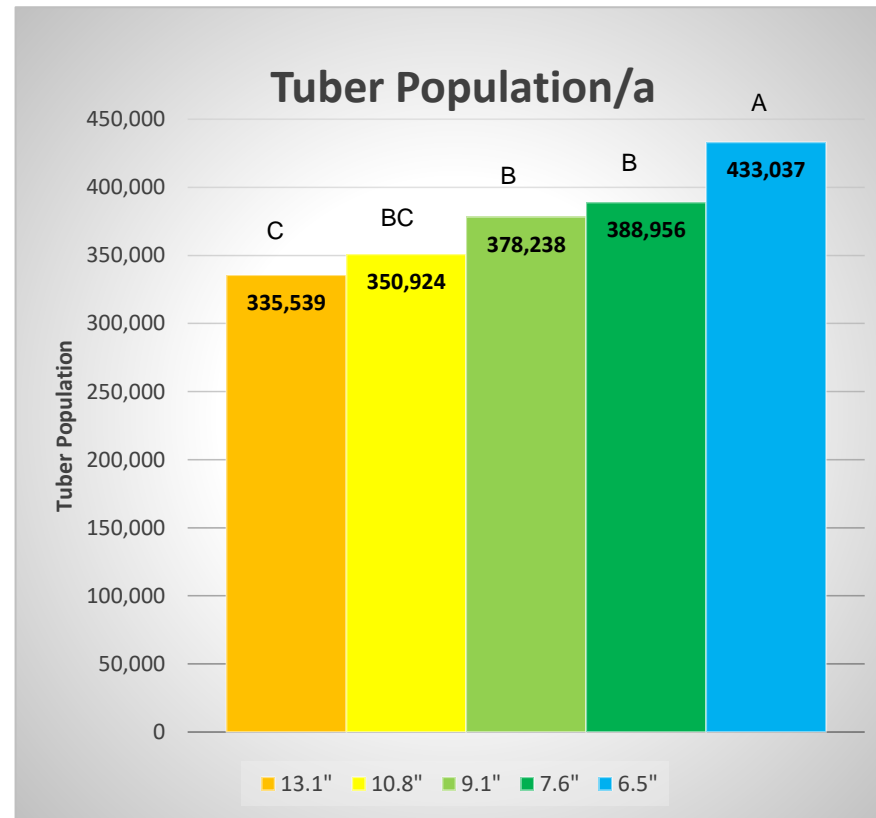
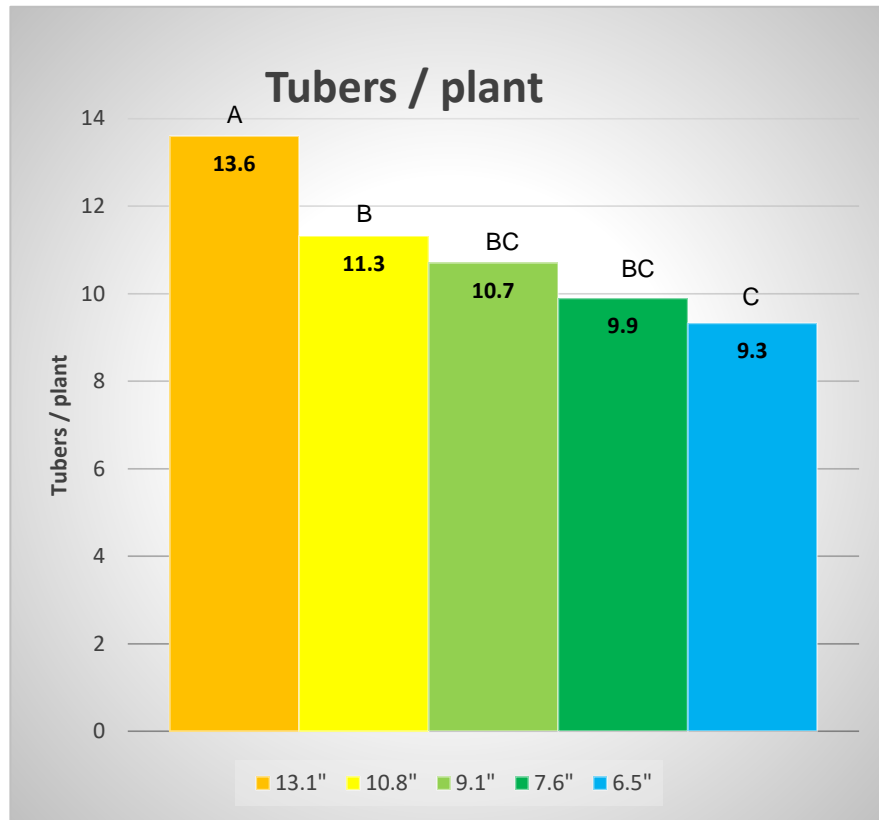
Year	35-45 mm (%)	45-55 mm (%)	>55 mm (%)
2018	15	63	22
2019	12	70	18
2020	6	45	49
2021	9	48	43

Whole Seed for Tasteful Selections

- TS plants potatoes year round and under some severe environmental conditions, i.e., high heat
- Needed to optimize % Gala whole seed for TS, Eric designed and assisted in data collection
- Defined tuber population and seed size distribution for lone seed yields
- From this distribution, he defined the ideal tuber population that will maintain or surpass lone historical yields and achieve tuber seed size profile that is >70% <55mm for Gala, >80% for Ciklamen
- These data take advantage of the extra 1-2 weeks of growing season and achieve higher yields while maintaining optimum size

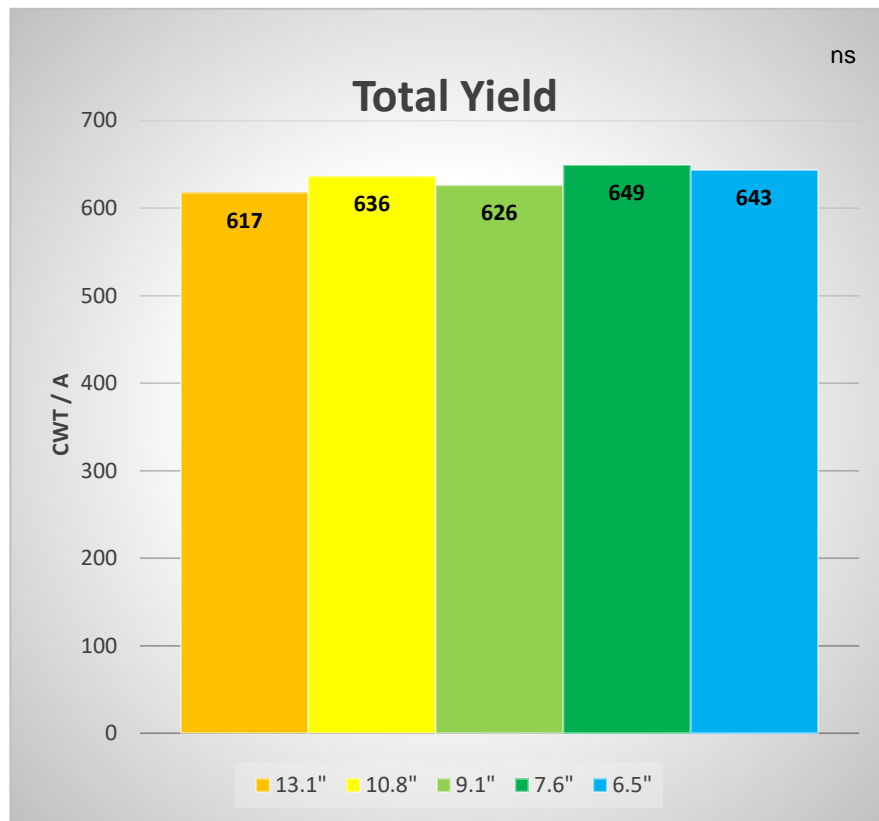


Gala Tuber Populations- Ione Seed Farm for TS

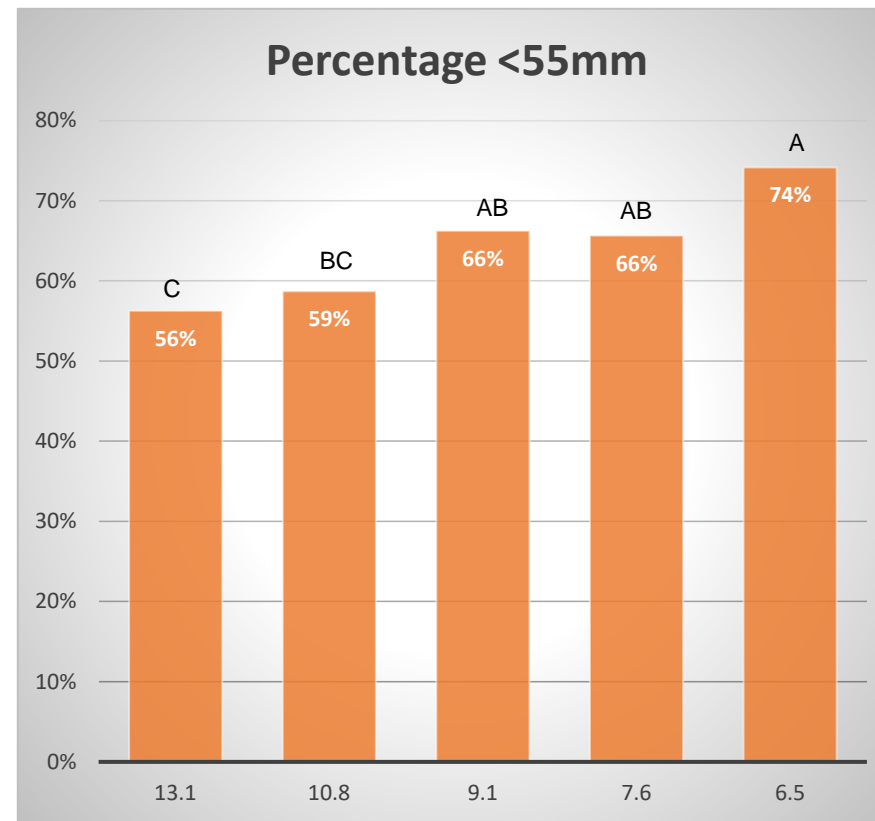


Different letters are a significant difference at a 90% confidence interval

Yield



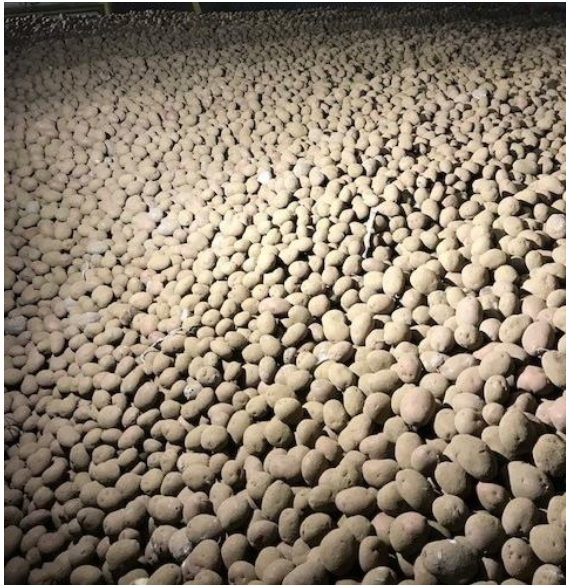
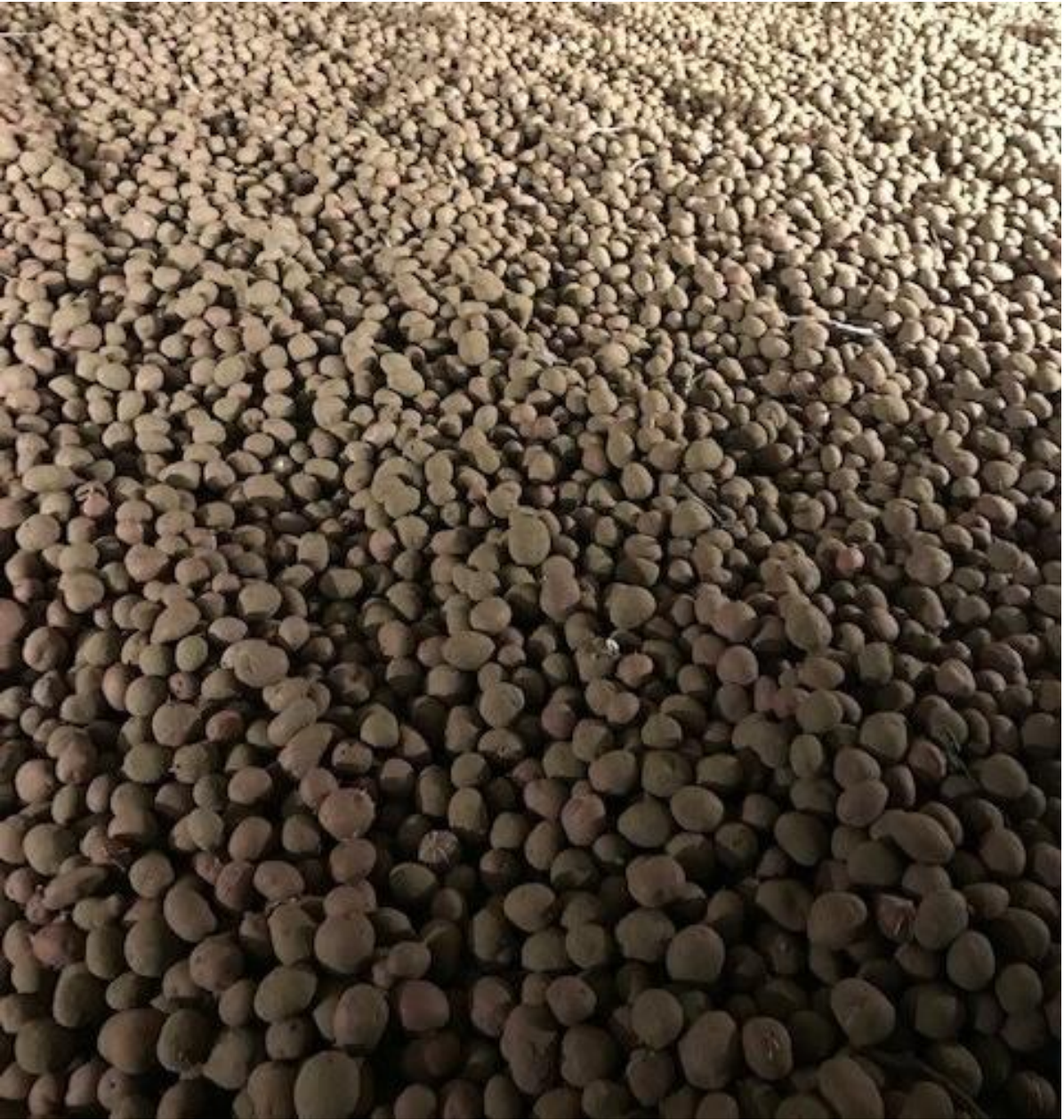
No significant difference among treatments



Different letters are a significant difference at a 90% confidence interval

Size Grading & Bulk Storage





Ciklamen In-Row Spacing-7 Row Bed

In Row Spacing (cm)	Plant Population (per Ha)	Stem Population (per Ha)	Tuber Population (per Ha)	35 mm (%)	35-55 mm (%)	>55 mm (%)	Yield MT/HA
15	118,997	892,477	1,558,118	18	82	0	56.0
25	71,978	515,847	1,259,628	8	92	0	54.6
35	51,472	406,065	1,235,355	9	89	2	56.8

Ione-Size Profile for Gala & Ciklamen

Variety/Year	30-40mm (%)	40-55mm (%)	>55mm (%)
Gala-2020	8	84	8
Gala-2021	12	71	15
Ciklamen-2020	9	80	11
Ciklamen-2021	16	79	5



Tasteful Selections



Tasteful Selections

- Formed in 2010, joint venture between CSS growing small potatoes and RPE distributing and retailing them.
- In early 2010, Eric hosted CSS and RPE representatives on a tour of small potato businesses in the UK.
- As of November 2021, TS and RPE are wholly owned subsidiaries of CSS Farms.
- **TS is now the largest producer of small potatoes in the USA.**



CUPGRA
Cambridge University Potato Growers Research Association

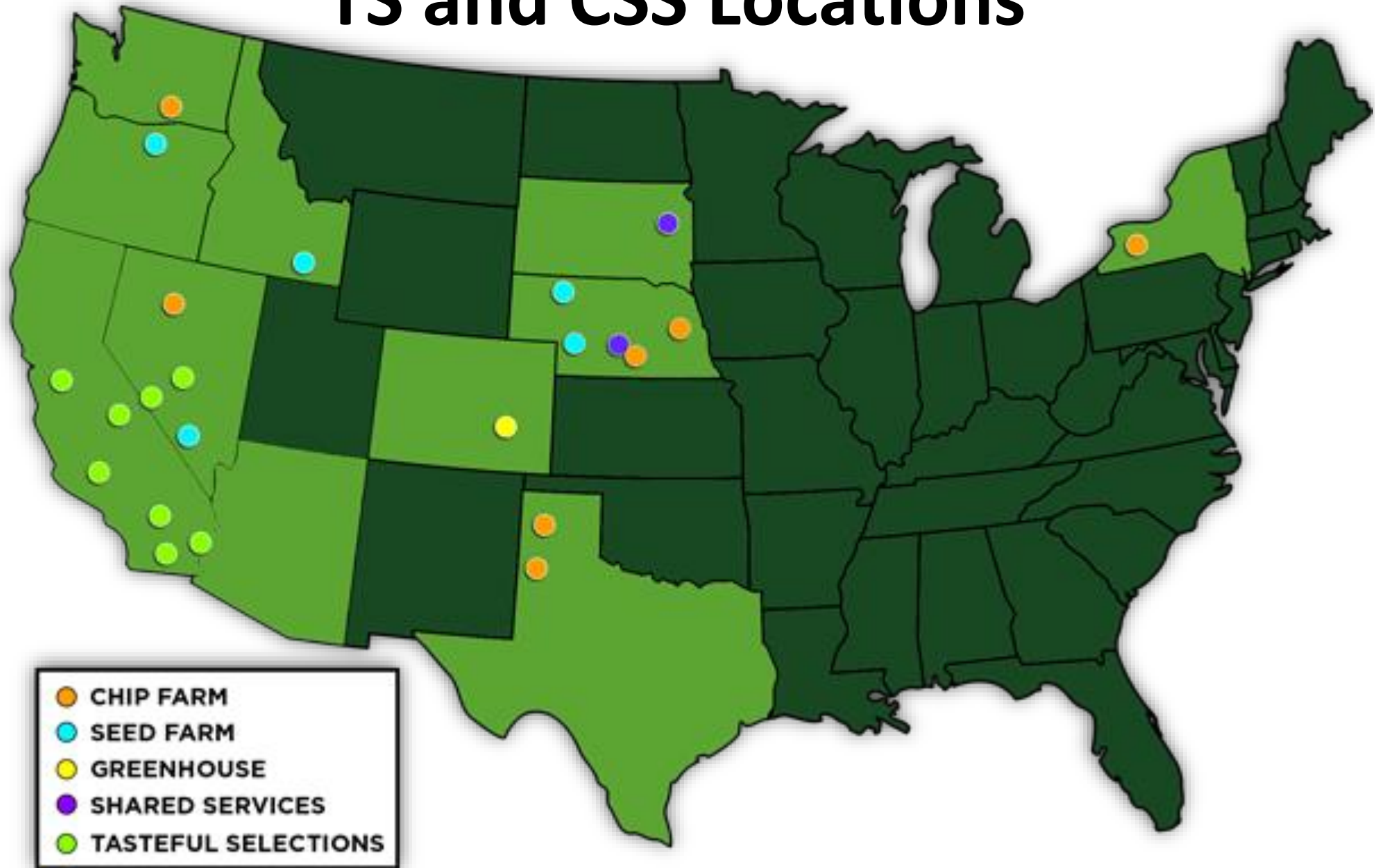


Sponsored by

frontier

166 years
GRIMME

TS and CSS Locations





I cannot stress enough that Tasteful Selections would not exist today if not for Eric Allen. Eric was a driving influence on variety selection, whole seed production, commercial production, sizing/grading. Eric was the driver to a very profitable company for CSS Farms!

Grading Into Storage- Gala & Ciklamen





Eric's Contributions to the US Potato Industry

- Eric Allen's contributions to improving the US potato industry cannot be quantified but were immense!
- In both the 2020 and 2021 growing seasons I often heard many of his former colleagues say "I wish Eric was here", always stated because of a need for an explanation.
- If not for Eric, Tasteful Selections would not exist.
- If not for Eric, a significant portion of the potato industry would not be growing and using whole seed.
- If not for Eric, planting seed and chip potatoes in beds would not exist.





Cheers to Our Old Friend Eric Allen!



Acknowledgements
& thanks to:

Milt Carter
Bob Bender
Nathan Bender
Kelly Kuball
Lindsay Mebane
Bryce Stevenson
Nick Vincent
Keith McGovern
Clark Camilli
Nick David
Chad Ingeman