MICHIGAN
CROP IMPROVEMENT
ASSOCIATION ™

2023/2024
MCIA Annual Report

Cover photo of detasseled seed corn field in St. Joeseph County, by Tom Siler.

ANNUAL REPORT OF THE
MICHIGAN CROP IMPROVEMENT ASSOCIATION

ON BEHALF OF THE MICHIGAN CROP IMPROVEMENT
STAFF AND BOARD OF DIRECTORS, WE ARE PLEASED
TO SHARE THE 2023/2024 ANNUAL REPORT WITH YOU.

JANUARY 1, 2023 – DECEMBER 31, 2023 | C. JAMES PALMER, MANAGER

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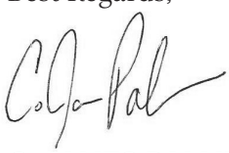
Manager's Address

It is my pleasure to lead the Michigan Crop Improvement Association for the benefit of the long-time members, our vast array of customers and ultimately the farmers in Michigan. Each year at this time, our annual report gives us an opportunity to highlight the many aspects of our business including the accomplishments of our team over the previous year, the events we have attended and the certifications we maintain. Inside this report you will also find a great deal of additional material relating to your Association. Team members are introduced, board members are listed, and financial results are printed. We detail the research projects funded with the contributions made through the research fees collected on foundation seed purchases. We highlight the MSU and Mason High School Scholarship recipients and feature the honorary membership award. Please take time to review the information we provide herein which helps illustrate the strides we are taking towards achieving our goals of providing excellent service, value, and results for all of the customers who buy our products and use our services.

Each year I like to highlight one significant change which improves the efficiency and value of our products or services. In 2023 we began a pilot program to eliminate paper copies of field inspection reports. Through the programming efforts of Tom Siler, we successfully launched and implemented an app to streamline the inspection process and remove duplicative work for our staff. The results of this initial project were a major success. So, in 2024 we will be moving completely towards an electronic system which will allow our office staff and inspectors to be much more efficient while allowing our growers to receive their information in real time. We believe this will be a win/win for MCIA and its customers. This is just a single example of the desire our team has to innovate and improve the customer experience for our users.

As I mentioned above, it is an honor and privilege to lead MCIA. I appreciate the long-standing relationship this organization has with the agricultural community in which we serve. Our team is eager to continue to evolve and implement continued positive improvements for the Association. I invite you to delve into the comprehensive content of this report which is a further testament to our unwavering commitment of our teams' desire to make this organization a success. We wish you a prosperous 2024 and look forward to meeting all your needs in the years to come.

Best Regards,



C. JAMES PALMER
MANAGER, MCIA

Field Inspectors

Corn inspectors are not included on this list

LENAWEE, MONROE, WASHTENAW
CHRIS TIEDJE
P.O. Box 21008
Lansing, MI 48909
517-332-3546

EATON, IONIA
TOM SILER
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Lansing, MI 48909
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CLINTON, GRATIOT
LAUREN MEZO
P.O. Box 21008
Lansing, MI 48909
517-332-3546

SHIAWASEE, INGHAM
JOHN DURLING
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Perry, MI 48872
517-256-7272

BARRY, BRANCH, KENT, KALAMAZOO, ST. JOSEPH
PHIL ANDERSON
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Three Rivers, MI 49093
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HURON, TUSCOLA
ALLISON HAWKEN
1594 Quanicassee Rd.
Reese, MI 48757
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LAPEER, ST. CLAIR, SANILAC
RANDY JUDD
Perry, MI
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BAY, MIDLAND, ISABELLA, SAGINAW
DEB LEVASSEUR
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Kawkawlin, MI 48631
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Board of Directors

CHRIS SCHMIDT
PRESIDENT
Northern Region
Auburn, MI

JEFF DREHER
VICE PRESIDENT
Upper Thumb Region
Palms, MI

TOBY BROWN
SECRETARY/TREASURER
Southwestern Region
Three Rivers, MI

DR. DOUG BUHLER
MSU REPRESENTATIVE
MSU, East Lansing, MI

JEFF MARTUS
INDUSTRY REPRESENTATIVE
Star of the West
Richville, MI

MICHAEL PHILIP
MDARD REPRESENTATIVE
Michigan Department of
Agriculture and Rural Development
Lansing, MI

ALAN MOORE
Central Region
Elsie, MI

CARL WAGNER III
Southern Region
Niles, MI

MATT LUTZ
Thumb Region
Sebewaing, MI

Our Team

MCIA employees are an experienced and well-trained team focused on accomplishing the goals of the Association. Currently, our team consists of 7 full-time employees and numerous part-time staff. Our full-time staff members are listed below in the order of date of hire:

THOMAS SILER

SEED PRODUCTION QUALITY MANAGER (2022)

Thomas is the newest addition to our team. He is responsible for inspections of all seed crops, but especially focusing on seed corn. Thomas has a background in agriculture and holds a master's degree from MSU in Crop and Soil Science. Thomas is also very proficient with data management and updates all our data collection and reporting procedures.

LAUREN MEZO

SEED INSPECTION AND SEED TESTING TECHNOLOGIST (2020)

Lauren is the second newest member to the MCIA team. She is responsible for the field inspections in Gratiot and Clinton Counties as well as seed corn inspections as needed. Lauren performs planting and purity duties in the seed lab when needed. Lauren has passed the germination segment of the Registered Seed Technologist (RST) program. She is currently studying for the purity exam which is the last part prior to becoming an RST. She also manages our website, keeping interactive documents and appropriate links current as well as posting relevant information and content for our members' benefit.

LEE SILER

SEED PLANT COORDINATOR/QUALITY MANAGER (2018)

Lee is responsible for directing and managing all quality aspects in the seed and organic food processing plant while maintaining compliance with all regulations for USDA, FDA and BRC. He oversees scheduling incoming and outgoing shipments of seed and food products. Lee also manages our warehouse staff.

JANET POLICELLA

OFFICE MANAGER (2013)

Janet is responsible for accounts payable, accounts receivable, cash receipts, invoicing, statements, financial records, and processing certification applications. She has other office duties including answering phones and handling customer inquiries. Janet is also responsible for royalty collection and royalty payment to our genetics suppliers.

JOYCE HIEBERT

LAB TECHNICIAN (2011)

Joyce's responsibilities include coordinating and performing all seed laboratory tests including sample log in, planting, reading out, TZ tests, purity tests and tag printing. Joyce prints tags and keeps the lab work procedures up to date. Joyce is also responsible for lab and tag billings.

C. JAMES PALMER

MANAGER (1995)

Jim became the Manager of MCIA in 2020. Under the direction of the Michigan Crop Improvement Association Board of Directors, Jim is responsible for the day-to-day decisions for the Association. He keeps the Board informed of pertinent information as necessary. Jim also develops budgets, identifies and reviews purchases, looks for new business opportunities, identifies promising seed varieties and manages seed multiplications.

CHRIS TIEDJE

FIELD AND LAB SUPERVISOR (1988)

Chris is responsible for hiring and training the MCIA inspection staff of over 35 employees. He also holds a supervisory role in the seed lab where he guides the team and lab operations. Chris holds a Registered Seed Technologist (RST) designation which demonstrates his outstanding proficiency in seed evaluation and testing.

Financial Results

MCIA finished 2023 with a positive change in net assets. Our expenses were well controlled, and our revenues were higher than the year prior. The Association benefited greatly from the increased corn inspection acres as well as a substantial rebound in the market. Our team did a superb job of focusing on the customer needs which helped to drive these excellent results. Please find a summary of the MCIA finances printed below:

SCHEDULES OF REVENUES AND EXPENSES BY BUDGET CLASSIFICATION
FOUNDATION SEED DIVISION | YEARS ENDED DECEMBER 31, 2023 AND 2022

	2023		2022	
	Actual	Budget	Actual	Budget
REVENUES				
Gross profit				
Barley	$ 6,804	$ 6,200	$ 6,186	$ 2,000
Kidney beans	233,309	185,050	153,945	192,500
Beans	156,688	159,000	182,416	143,000
Oats	15,939	12,000	15,368	11,000
Soybeans	2,000	2,000	3,503	2,000
Wheat	199,856	162,000	158,016	175,600
Chemical and bag cost of sales	947	-	11,289	6,000
Freight	(18,389)	(18,000)	(21,329)	(24,000)
Sales discounts and inventory adjustments	(2,101)	(1,000)	(633)	(5,000)
Gross profit	595,053	507,250	508,761	503,100
Services				
Custom processing	114,676	102,000	113,750	100,000
Color sorter	35,905	41,000	47,520	36,000
Rogueing	1,380	-	-	-
Organic processing	25,262	25,000	37,799	29,500
Collection fees	2,876	50,000	6,451	18,000
Other	10,604	-	14,497	-
Total service revenue	190,703	218,000	220,017	183,500
Other income	7,340	1,200	6,383	1,250
Investment return, net	64,907	(450)	(100,806)	4,750
TOTAL REVENUES	858,003	726,000	634,355	692,600
EXPENSES				
Salaries and benefits	323,539	359,500	377,765	357,700
Payroll taxes	23,097	25,000	24,234	25,000
Training, workshops and meetings	3,379	6,000	7,827	3,000
Travel and vehicle	5,838	9,000	7,106	11,500
Telephone	2,406	2,700	2,844	2,700
Office supplies and postage	5,481	7,400	6,763	7,800
Maintenance and repairs	29,185	42,500	41,690	43,000
Rent	1,341	10,000	9,842	10,000
Warehouse supplies	10,124	9,000	11,355	9,000
Insurance	13,408	10,500	10,183	9,500
Utilities	14,243	28,500	22,910	28,750
Depreciation	127,244	111,000	113,290	100,000
Dues and subscriptions	6,140	4,000	5,143	4,000
Research	93,646	2,250	42,394	2,250
Professional services	17,714	27,200	36,550	31,000
Promotion and advertising	7,146	5,000	6,488	8,000
Directors' expenses	2,389	3,000	2,676	2,400
Miscellaneous	5,992	6,500	6,934	6,000
TOTAL EXPENSES	692,312	669,050	735,994	661,600
CHANGE IN NET ASSETS	$ 165,691	$ 56,950	$ (101,639)	$ 31,000

No assurance is provided on the financial statements.
See independent accountant's compilation report.

Financial Results, continued

SCHEDULES OF REVENUES AND EXPENSES BY BUDGET CLASSIFICATION
FIELD AND LAB SERVICES DIVISION | YEARS ENDED DECEMBER 31, 2023 AND 2022

	2023		2022	
	Actual	Budget	Actual	Budget
REVENUES				
Services				
Inspections and tags				
Wheat	$ 48,621	$ 32,000	$ 43,949	$ 37,000
Rye	1,692	1,000	891	2,200
Oats	4,007	4,000	4,221	4,000
Barley	1,902	1,600	1,954	1,400
Soybeans	74,271	62,000	63,853	66,500
Corn	745,722	635,500	651,472	580,000
Beans	9,529	10,100	12,499	12,650
Mulch	786	500	660	100
Other tags	55,883	47,850	53,104	65,750
IRM inspections	6,295	-	6,370	-
Testing	116,713	87,000	102,003	77,850
Total service revenue	1,065,421	881,550	940,976	847,450
Other income	(1,544)	1,200	1,399	1,250
Investment return, net	76,686	-	(88,510)	9,500
TOTAL REVENUES	1,140,563	882,750	853,865	858,200
EXPENSES				
Salaries and benefits	775,337	617,300	618,694	554,400
Payroll taxes	50,233	38,000	40,424	39,000
Training, workshops and meetings	9,469	13,000	16,671	6,000
Field inspections	85,593	56,000	62,709	57,000
Telephone	2,406	3,000	2,844	3,000
Office supplies and postage	9,479	13,300	11,778	14,800
Maintenance and repairs	14,996	22,300	19,860	24,100
Lab supplies	9,142	10,000	21,777	8,500
Outside lab testing	2,197	3,000	3,068	4,500
Tags	-	10,000	19,737	20,000
Insurance	13,410	10,500	10,182	9,400
Utilities	13,108	15,000	13,794	16,100
Depreciation	18,381	24,000	24,655	25,000
Dues and subscriptions	11,502	8,000	9,566	8,000
Professional services	23,082	30,400	20,420	31,000
Promotion and advertising	13,154	12,000	14,084	13,000
Directors' expenses	2,390	3,000	2,676	2,400
Bad Debt	-	1,000	345	1,000
Miscellaneous	11,586	10,500	12,400	8,400
TOTAL EXPENSES	1,065,465	900,300	925,684	845,600
CHANGE IN NET ASSETS	$ 75,098	$ (17,550)	$ (71,819)	$ 12,600

Current Services to Assist Our Members

Field

- Field inspection for Seed Certification Programs.
- Quality Assurance Inspections for brand marketing of seed.
- Disease Inspection for dry beans and other crops.
- Data system direct customized field inspections.
- Field Assessments used to directly manage pollen control for hybrid seed corn.
- Perform pre-harvest services for seed corn.
- In-field seed corn disease sampling and evaluation.
- Official ASL report of analysis for international shipping.

Seed Lab

- Perform standard warm germination and purity tests.
- Assess seed vigor with TZ, accelerated aging and cold tests.
- Provide seed count, seed moisture and testing with seed treatments.
- Herbicide trait verification and GMO testing.
- Perform purity and noxious weed exams for international shipping.
- Official ASL report of analysis for international shipping.

Seed and Processing

- Provide quality foundation and parent seed stock for our seed growers.
- Provide custom processing services for seed, grain and feed.
- Offer field rogueing services.
- Certified Organic and BRCGS Food Safety Certified.
- Perform color sorting services to remove unwanted defects or contamination.

Facility Upgrades

Notable Improvements in 2023

- Acquired Quick-Scan machine to test and quantify presence of GMO in crops.
- Installed dust collector system for the color sorter.
- Replaced flooring, installed new read-out counter and air filtration system in the lab.
- Purchased a new Toyota forklift for seed plant.
- Updated controls on the walk-in germinator.
- Began accepting credit card payments through the office or website.
- Updated display board for tradeshows.
- Upgraded programming to digital platform for all corn field inspection reports.
- Acquired floor scrubber for seed warehouse.

Quickscan II GMO Testing Setup

2023 Scholarship Recipients

Michigan State University Scholarships

Each year MCIA awards 10-$2000 scholarships to deserving MSU students who are studying programs with an emphasis in agriculture. The scholarships are intended to encourage a greater number of students to enter the field of agriculture. 2023 recipients and the leaders of tomorrow are:

BROCK HOLEK — CSS
LENNON, MI

JAMES JASPER — CSS
SAWYER, MI

CAMERON LYNCH — CSS
MT. PLEASANT, MI

SYDNEY MASSERANT — CSS
NEWPORT, MI

ALETHIA PRATAS DA COSTA — CSS
BRAZIL

ETHAN SMITH — CSS
PEWAMO, MI

JOSIE WAGAR — CSS
CLIMAX, MI

EMMA WOLLER — CSS
MONTAGUE, MI

MITCHEL KARG — IAT AG INDUSTRIES
HARBOR BEACH MI

BRANDON BARKER — IAT AG INDUSTRIES
HOLLAND, MI

Scott Judd Memorial Scholarships

The Scott Judd Scholarship was established in 2019/2020 to honor the long time MCIA Manager Randel H. Judd who lost his son to cancer at an early age. The applicants must attend Mason High School and be planning to attend MSU in a STEM or Ag related field. There are two recipients per year who receive $1,000 scholarships. This scholarship continues for ten years. The 2023 recipients are:

VICTORIA UCHENDU
MASON, MI

KATHLEEN DONETH
MASON, MI

Research Priorities

The MCIA Board of Directors develops priorities to help guide them when making decisions on funding research proposals. This document was reviewed in 2023 and changed to include more emphasis on small grains such as barley, oats and rye. This document will be continually monitored to reflect the current needs of the Association members. Priorities are below:

Dry Bean Research

A. Development and release of superior dry bean varieties to MCIA members.

1. High yield potential.
2. Upright plant architecture (direct cut ability).
3. Disease resistance for Bacterial Blights, Anthracnose, Rust, BCM Virus, and Root rots.
4. Industry acceptable color, size, and canning quality.
5. Defect free in the sense of color and appearance that result in excessive dockage/pick.
6. Sustainable varieties that capture grower market share/acceptance for multiple seasons.

B. Important areas.

1. **Development of varieties resistant to Common Bacterial Blight.** Bacterial blight diseases have been the major factor causing the dry bean seed industry to move its seed production to western states. Research into resistance to bacterial blights would greatly enhance the ability of Michigan dry bean seed producers to compete and become successful in this market.
2. **There is a need for the re-selection of popular or high use varieties.** Dry bean varieties tend to last longer than varieties of other field crops. Re-selection will ensure that clean seed stocks are available through the life of the variety. This practice will normally extend the life of the variety.
3. **Development of root rots resistance in dark red kidney beans.** Root rots can cause stand reductions and affect the grower's ability to successfully raise kidney beans.
4. **Development of a high yielding navy bean.** There is a need for a high yielding navy bean variety for MCIA members.

Wheat Research

A. Development and release of superior red and white wheat varieties to MCIA members.

1. High yield potential.
2. Excellent lodging resistance, high test weights, sprout resistance, and good winter hardiness.
3. Disease resistance for scab, septoria, powdery mildew, and rust.
4. Industry acceptable milling and baking qualities.
5. The importance of wheat in a cropping system.
6. Threshing ease: Ambassador =10, Jupiter = 1.
7. Bearded varieties, both red and white, are desired in high deer population areas (most of Michigan).
8. Non-Glycosidic Nitrile(Non-GN) varieties for malting/Distillation. Non-ethyl carbamate compound producers.
9. Early maturing varieties suitable for double cropping.

B. Disease Resistance.

1. **Development of scab resistance varieties.** Scab resistant varieties would greatly benefit the Michigan wheat industry from producer to processor. Soft white wheat is really a specialty crop used in the Michigan milling industry. It is important to keep competitive varieties available so that we don't lose this industry. In the past 10 years many farmers have switched to corn or soybeans and away from wheat in their cropping systems.

C. Wheat Management.

1. **Determine the best management practices for newly developed MCIA wheat varieties.** As new varieties are released there is a need to determine the best way to manage these new wheat varieties. Research should focus on fertility, disease susceptibility and other factors that affect maximizing wheat profitability.

Oat Research

A. Developing, testing, and evaluating new oat varieties in Michigan climates to help oat producing MCIA members know which varieties will do best in their area.

1. High yield potential.
2. High test weight and milling qualities.
3. Improved disease resistance and good agronomic qualities.

Barley Research

A. Testing and evaluation of malting barley varieties in Michigan climates to fill the need for locally produced malting barley. MCIA members would like to be able to supply this market.

1. High yield potential.
2. Proper malting properties.
3. Improved disease resistance and good agronomic qualities.

B. Testing and evaluation of feed barley varieties in Michigan climates. MCIA members would like to be able to supply this market.

1. High yield potential.
2. Proper malting properties.
3. Improved disease resistance and good agronomic qualities.

Rye Research

A. Developing, testing, and evaluating new rye varieties in Michigan climates to help rye producing MCIA members know which varieties will do best in their area.

1. High yield potential.
2. High test weight and milling qualities.
3. Improved disease resistance and good agronomic qualities.

Projects Funded

MCIA project number: MSU PD #67155

Title: Supporting Adoption of Elite Oat and Barley Varieties in Michigan

Principal Investigator:

Dr. James DeDecker
MSU Upper Peninsula Research and Extension Center
E3774 University Dr.
Chatham, MI 49816
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Cooperators:

Dr. Brook Wilke
MSU Kellogg Biological Station
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Hickory Corners, MI 49060
wilkebro@msu.edu

Justification:

This proposal speaks to MCIA's Priority A under the Oat Research and Barley Research categories. Spring oats and barley are well adapted to the relatively short growing season and cool summertime temperatures found in Michigan, especially the Northern Lower and Upper Peninsula. Approximately 50,000 acres of oats and 8,000 acres barley were planted in the state during 2023 (USDA-NASS). Oats and barley are commonly grown as a nurse crop or rotational crop. However, growers' interest in oat and barley production for market has increased again in recent years. This is being driven by several factors, including emerging niche markets for malting, distilling and milling, as well as erratic fall weather more frequently delaying winter wheat planting across Michigan.

Farmers considering transitioning acres to oats or barley have been somewhat hesitant due to the previous lack of research-based information regarding oat and barley variety performance in Michigan. In addition to local agronomic, yield and test weight data, producers also require information on feed, milling and malting quality of available oat and barley varieties to enhance marketability and value in the craft beverage and food-grade grain sectors.

After several years of oat and barley variety trials in cooperation with MCIA, the national Uniform Early Oat Performance Nursery (UEOPN) and Eastern Spring Barley Nursery (ESBN) projects, we now have sufficient evidence highlighting superior oat and barley varieties available to MCIA members. However, seed producers, grain growers and processors often still require direct experience with new varieties at scale before they consider producing certified seed or planting large acreages.

Objective and Hypothesis:

Trial elite oat and barley varieties adapted to Michigan on commercial farms and in craft malt houses to encourage adoption and diversification.

Significant differences in agronomic qualities, disease resistance, yield potential, test weight and quality will be observed between check and new oat and barley varieties.

continues on following page

Procedures:

We will once again partner with Michigan growers, maltsters and millers to conduct a three-location oat and barley strip trial at the MSU Upper Peninsula Research and Extension Center (UPREC) in Chatham, MI and on two commercial farms supplying Michigan malthouses or millers (at least one Lower Peninsula location with irrigation capacity). The trial will include elite commercial oat and barley varieties (three each) identified in past research and solicited from MCIA, breeders, seed companies and end users like maltsters and millers (Star of the West for oats). The experimental design will be a RCBD with three replications. Oats and barley will be planted in their own respective blocks/fields. Plot size will be at least 2.5 acres to accommodate minimum malting batch sizes. Planting, in-season management, and harvest will be conducted by staff from UPREC at the Chatham location and by cooperating farmers at the other two locations.

Measurements of stand establishment, crop disease or pest damage, average heading date, straw height, lodging, yield and test weight will be recorded for each variety in the field. In-season observations and data analysis will be completed by UPREC staff. Harvested samples will be analyzed for feed, milling and malting quality, including the presence of mycotoxins, and barley samples will be malted at pilot scale. Post-harvest analysis for quality parameters will be completed at the UPREC Malting Barley Quality Lab (grain quality) and Hartwick College (malt quality). All data will be analyzed and interpreted using appropriate statistical methodology.

Progress to date:

In 2023, we conducted a three-location spring malting barley strip trial and small plot oat trials with support from MCIA. Oats were tested in small plots due to limited maltster and brewer interest in available new varieties. As a result, the oat strip trial proposed for 2024 will target the milling market specifically. Results of the barley study are summarized in Tables 1 and 2 below. Barley yields were exceptional at Chatham and Johannesburg, but weather compromised yields at Shepherd and grain quality at Shepherd and Johannesburg (preharvest sprout). However, it is worth noting that commercial KWS Fantex was harvested a week prior to the strip trial at the Johannesburg location and was not sprouted (data not shown). Despite weather challenges, conducting this research at the commercial scale across three unique environments provided valuable insight on the strengths and weaknesses of the studied cultivars.

Funds requested: $15,303.48

Matching Funds: NA

Impact on Michigan agriculture:

Providing local data on oat and barley varieties for Michigan will aid variety selection and help farmers and grain buyers be more confident in growing and contracting these crops. Increased diversity from adding spring small grains will help to mitigate financial and environmental risk on farms. These crops may also improve climate resilience by serving as an alternative to wheat when adverse fall weather prevents timely winter wheat planting. Additionally, conducting variety performance trials will provide data to breeders of spring small grains to help speed the development and release of new superior varieties to MCIA members.

Budget: (attachment)

Principal Investigator Signature:

Projects Funded, continued

Table 1. Raw grain quality of malting barley varieties

Location	Variety	Heading Date	Height (in)	Yield (bu/ acre)	Protein (%)	Moisture (%)	Plump (%)	Thin (%)	Germination Energy 4ml (%)	Germination Capacity (%)	RVU	DON (ppm)
Chatham	LCS Odyssey	12-Jul	27.0	119.47	11.0	16.90	99.10	0.10	46.00	90.00	144	0.21
Chatham	LCS Genie	12-Jul	16.00	118.42	11.20	16.60	98.70	0.10	54.00	91.00	152	0.30
Chatham	KWS Fantex	12-Jul	22.00	124.18	11.50	17.30	98.60	0.30	81.00	95.00	136	0.40
Chatham	2ND32529	7-Jul	31.00	109.34	11.30	16.80	99.50	0.10	88.00	98.00	10	0.30
Johannesburg	LCS Odyssey	7-Jul	19.25	113.00	9.80	17.00	95.90	0.60	53.00	95.00	113	0.39
Johannesburg	LCS Genie	7-Jul	17.83	101.00	10.10	17.40	97.00	0.30	35.00	91.00	111	0.25
Johannesburg	KWS Fantex	7-Jul	16.17	107.00	10.10	16.70	96.10	0.40	86.000	91.00	71	0.47
Johannesburg	2ND32529	5-Jul	23.67	110.00	10.50	17.00	95.70	0.70	55.00	55.00	7	0.44
Shepherd	LCS Odyssey	25-Jun	NA	27.00	12.80	14.70	96.40	0.38	91.00	92.00	21	0.25
Shepherd	LCS Genie	25-Jun	NA	32.33	13.00	14.50	93.50	0.60	93.00	95.00	53	0.29
Shepherd	KWS Fantex	30-Jun	NA	20.00	13.60	14.70	95.70	0.43	91.00	95.00	23	0.25
Shepherd	2ND32529	2-Jul	NA	41.33	11.90	16.30	95.50	0.44	74.00	90.00	4	0.63

Table 2. Malt quality of malting barley varieties

Location	Variety	Extract (%)	Color (SRM)	glucan (mg/M)	Soluble Protein (%)	S/T (%)	FAN (mg/L)	Diastatic Power (L)	Alpha Amylase (DU)	Filtration time	Clarity	pH
Chatham	LCS Odyssey	81.8	1.66	965	4.24	34.8	176	80	38.4	Normal	Clear	5.76
Chatham	LCS Genie	82.0	2.02	822	4.70	38.2	203	104	40.5	Normal	Clear	5.72
Chatham	KWS Fantex	81.5	1.92	960	4.47	37.9	201	89	39.1	Slow	Clear	5.75
Chatham	2ND32529	81.0	2.02	811	4.69	39.7	199	79	29.8	Slow	Slightly Hazy	5.52
Johannesburg	LCS Odyssey	82.9	2.03	316	4.77	43.4	211	94	55.6	Normal	Clear	5.68
Johannesburg	LCS Genie	82.9	1.91	304	4.78	44.7	207	114	48.4	Normal	Clear	5.70
Johannesburg	KWS Fantex	82.5	2.02	461	4.6	40.7	215	88	49.9	Slow	Clear	5.62
Johannesburg	2ND32529	81.1	2.86	532	4.71	40.3	205	65	28.7	Slow	Hazy	5.45
Shepherd	*raw grain quality not sufficient to malt*											

Projects Funded

continues on following page

MCIA project number: (to be assigned by AgBioResearch)

Title: Supporting winter rye and barley production in Michigan for food, feed and craft beverages

Principal Investigator:

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Cooperators:

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Dr. Julie Doll
Michigan Agriculture Advancement
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Justification:

Winter cereals are well suited for our Michigan climate, but summer annual crops (e.g. corn and soybean) still dominate our farm landscapes. Fall planted cereal crops are beneficial in cropping systems either as a main crop or as a cover crop due to their benefit to soil health, subsequent crop yields, and environmental quality through mechanisms such as carbon sequestration and reduction in nutrient loss to surface and ground water (Snapp et al. 2005). For these fall planted crops to be economically competitive with corn and soybeans, much effort is needed to improve genetics, evaluate variety and breeding line options, expand markets, and optimize management.

Snapp, S.S., Swinton, S.M., Labarta, R., Mutch, D., Black, J.R., Leep, R., Nyiraneza, J. and O'Neil, K. (2005), Evaluating Cover Crops for Benefits, Costs and Performance within Cropping System Niches. Agron. J., 97: 322-332.

Objectives and hypotheses:

1. Conduct winter barley and rye variety trials at two locations in Michigan. Hypothesis: Yield and agronomic characteristics vary between variety with an interaction by location.

2. Evaluate quality characteristics of winter barley and rye varieties for various end uses. Hypothesis: Quality characteristics vary between varieties and locations (no interaction).

Procedures:

Replicated winter barley variety trials were planted in September 2023 at Kellogg Biological Station (KBS) in Hickory Corners and the Upper Peninsula Research and Extension Center (UPREC) in Chatham. Commercial varieties and advanced breeding lines included in the Winter Malting Barley Trial (WMBT) were provided by the University of Minnesota. We also sourced varieties from Virginia Tech, Origin Malt, and commercial two-row varieties that are of interest for Michigan's climate with potential relevance to the region for a total of 27 entries.

Projects Funded, continued

The project team will manage the locations according to protocol from the WMBT trial network, including planting, soil fertility and pest management. The trial design is a horizontal lattice with three replications. Individual plots measure 5 by 15 feet and will be harvested using a conventional plot combine. In-field measurements will include winter survival, heading & maturity date, height, and disease levels. Grain weight, test weight and moisture will be measured immediately after harvest. Grain samples will be composited from each variety in the WMBT for quality analysis. The malting barley analysis lab at MSU Upper Peninsula Research and Extension Center (UPREC) will process the grain samples, and varieties that meet certain quality standards will be sent to the USDA Cereal Crops Research Unit for micro-malting and analysis. Quality analysis is critical when determining which varieties and practices to promote.

In the fall of 2024, we will follow the same protocols for establishing the next year's winter barley variety trial, and we will add a rye variety trial at the same locations. There's not currently a network of sites conducting rye variety trials, but we do have experience with and sources for over 20 rye varieties from previous work, and have collaborators at other universities.

Progress to date:

Wilke and DeDecker have been leaders in barley, rye and oat research at Michigan State University since 2015, including conducting variety trials and other areas or research prioritized by the industry. Collectively they are well positioned to continue leading small grain variety trials in Upper and Lower Michigan, with land, resources, equipment, experienced technicians, and connections with the industry. Results from previous trials are located on the MSU Malting Barley website.

We've been able to conduct ongoing winter barley variety trials since 2016 by partnering with the University of Minnesota's Winter Malting Barley Trial (WMBT). Small grants to support those winter barley trials were awarded from the American Malting Barley Association (AMBA), but AMBA has indicated a desire to fund future research focused on cropping systems and double cropping rather than variety evaluation. We were able to plant a winter barley variety trial at two locations in the fall of 2023 for 2024 harvest, but do not yet have funding for harvest and quality analysis, or ongoing variety trial support. Funding from the Michigan Craft Beverage Council allowed us to conduct cereal rye variety trials from 2020-2023, but that body of research is ending and we were not able to plant a rye variety trial for 2024 harvest.

Funds requested: $9,600

Matching Funds:

$8,789 grant from American Malting Barley Association in partnership with Michigan Brewers Guild and Bells Brewery.

Impact on Michigan agriculture:

Rye and winter barley are underutilized as crops in Michigan, in part due to the lack of information on variety suitability for specific end uses. The distilling and cover crop markets for rye are growing, but much of the seed that is traded does not have variety identified. Previous research on rye varieties conducted by Wilke, DeDecker, and colleagues found up to threefold differences in yield between rye varieties, with substantial quality variation. Farmers have a lot to gain by understanding the yield, agronomic and quality characteristics of rye varieties, and choosing the best fit for their end use.

Winter barley can be a phenomenal crop for the southern part of Michigan, with high yield potential and the realistic possibility of double cropping soybeans or dry beans after barley harvest. Barley has largely fell out of the mainstream market in Michigan, but there's renewed interest for barley as a feed ingredient as well as to satisfy local and national malting/brewing demand. Breeders at several universities (e.g. Ohio State, Minnesota, Virginia Tech, Nebraska, Cornell) are developing improved winter barley varieties for malting and feed end uses, and these new lines need to be tested in Michigan alongside commercial varieties to identify profitability and potential for various end uses.

As we uncover the best varieties of winter barley and rye for various end uses, which is the expected outcome of this research, we will work closely with Michigan Agriculture Advancement, MSU Extension, Michigan Craft Beverage Council, and other partners to share research results as well as gather feedback on additional research needs for enhancing the profitability of these crops.

Projects Funded

continues on following page

MCIA project number:

Title: Developing Dry Edible Bean Cultivars with High-Yield Potential, Disease Resistance, Stress Tolerance, and Improved Canning Quality suitable for Michigan Production

Principal Investigator:

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Jim Palmer
Manager
MCIA
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Justification:

Michigan is the second largest producer of dry bean in the U.S., contributing significantly to the Michigan economy. To compete with other major crops, dry bean yields must remain competitive and meet Michigan industry standards for both growers and processors. To achieve this goal, a cooperative effort by researchers, producers, and the elevator industry is required. Michigan bean producers expect high-yielding, disease resistant cultivars with appropriate maturity, upright architecture for direct harvest, and good canning quality. These target traits are used as selection criteria to guide cultivar development in the MSU dry bean breeding program. Sustained research and breeding efforts are required to continuously increase dry bean yield-potential to deliver maximum profit for growers. Breeding lines must be evaluated across years and locations to assist in the selection of new cultivars based on superior performance that is stable across the major production region of Michigan. Plant architecture continues to be a major breeding target for all major market classes (black, navy, and small red). Plants with upright architecture and a long-hypocotyl that maximizes pod-to-ground distance to facilitate efficient harvest are preferred to minimize yield and seed quality losses from direct harvesting as well as provide avoidance to white mold. Breeding for disease resistance affecting dry bean production continues to be a priority. White mold continues to be a major disease; while avoidance provides some tolerance, physiological resistance to white mold is still necessary as narrow row widths exacerbate mold development. New methods such as genomic selection are being explored to better combat this disease. Root rot is the second most important disease hindering dry bean production in Michigan. Bean cultivars lack high levels of root rot resistance, specifically largeseeded Andean types. Significant effort has been invested in recent years to identify and incorporate improved levels of resistance into kidney beans. Disease resistance to common bacterial blight (CBB), anthracnose, and bean common mosaic virus (BCMV) continue to be incorporated using phenotypic and molecular tools into all market classes. An additional resistance gene for anthracnose (Co-5) has been successfully introgressed from un-adapted germplasm into agronomic black bean breeding lines, and efforts are underway to further deploy it into navy bean. Seed quality traits such as color retention in black beans, seed coat checking in great northerns, slow darkening in pintos, seed shape in white kidneys, and color uniformity in reds and pinks are strictly selected to meet commercial standards. Selection for efficient dry down at maturity to reduce the need for crop desiccation is performed. Research and collaboration continue to identify new uses for dry bean to increase consumption in the U.S. This effort focuses on bean flour, fast cooking times, and other food applications. A continued investment to maintain an active breeding program at MSU offers an opportunity to deliver competitive cultivars which meet the needs of dry bean producers and address short-term and long-term issues like seed quality, genetic diversity, sustainability, and the opportunity to expand bean production.

Projects Funded, continued

Objectives and hypotheses:

Select for high-yield, disease resistance, appropriate maturity with uniform dry down, upright architecture for direct harvest, and good canning quality in major bean market classes grown in Michigan. Continued evaluation of navy and black bean classes in key target environments such as Huron county will ensure identification of stable lines across major production areas. Incorporate BCMV and anthracnose resistance into black, navy, pintos, great northerns, reds, and pink seed classes. Continue to improve root rot resistance in kidney and yellow bean market classes. Develop new molecular tools to assist in marker-assisted selection (MAS) for major diseases. Explore the use of genomic prediction models for more complex quantitative traits (e.g., yield, mold, canning quality). Deploy new high-throughput phenotyping tools to phenotype for plant architecture, disease resistance, and maturity. Maintain the genetic integrity and purity of varieties at advanced stages of breeding for overall uniformity and quality.

Procedures:

Develop new germplasm through elite-by-elite crosses. Evaluate early generation nurseries using phenotypic and MAS to efficiently advance breeding lines resistant to anthracnose and BCMV in black, navy, pinto, pink, small red, great northern, and kidney bean classes. Evaluate replicated alpha-lattice yield trials for each of these major market classes and collaborate in statewide trials to identify high-yielding varieties with improved disease resistance and uniform dry down suitable for direct harvest. Introgress the Co-5 gene into additional market classes such as navy and small reds to enhance durability of anthracnose resistance. Genomic prediction models for yield will also be explored. A high-throughput phenotyping pipeline using unmanned aerial system (UAS) will be deployed to estimate maturity and plant height.

Progress to date:

The MSU dry bean breeding and genetics program conducted 24 yield trials in 2023 in ten market classes across 4 locations and participated in the evaluation of the Cooperative Dry Bean, Midwest Regional Performance, National Drought and the National Sclerotinia (NSI) Nurseries in Michigan and winter nursery in Puerto Rico. The nurseries were planted (June 6-14) and received an average of 14.2" of rain (June - Sept). Drought stress at planting through June 26 delayed early growth and flowering, followed by abundant rainfall during July/August and cool damp weather in September led to a delayed harvest. The program evaluated ~1,720 early generation breeding lines as part of the W4150 collaborative winter nursery. Navy and black bean yield trials were evaluated in Huron County under heavy white mold pressure, while kidney and yellows were tested in Montcalm County, as this expanded on-farm testing has proven useful in recent seasons to ensure selection of broadly adapted advanced breeding lines. Other research focused on halo blight tolerance in light red kidney beans in collaboration with Dr. Chilvers' group to characterize current cultivars as well as pre-commercial germplasm from both public and private breeders. UAS was used to estimate key agronomic traits plant height and maturity. Genomic selection for white mold avoidance in black and navy bean market classes was evaluated and showed modest prediction ability based on a training population of two years data. Prediction models will be continuously updated with additional data in forthcoming seasons.

Funds requested: $50,000

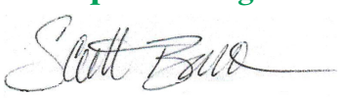
Matching Funds:

Royalty funds from current MSU varieties; MSU continues to provide field, greenhouse and lab facilities and equipment; Continue to collaborate with PRAB to conduct statewide testing of elite MSU breeding lines with funding from MDARD Block Grant and MBC; Funds from NSI will be leveraged for research on white mold.

Impact on Michigan agriculture:

New high-yielding, good quality, and disease resistant bean cultivars suitable for direct harvest would help sustain the Michigan dry bean industry estimated at a farm-gate value of $140 million with an additional $25 million in handling and shipping the commodity. Impact will be measured by known acreage of varieties grown in Michigan. Breeding for high yield, disease resistance, appropriate maturity, uniform dry down, and N use efficiency will maximize bean producer profitability by reducing inputs and will significantly improve the ecological impact in the Great Lakes watershed.

Principal Investigator Signature:



Projects Funded

continues on following page

Title: Development of Soft Winter Wheat Varieties for Michigan and the Great Lakes Region

Principal Investigator:

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Justification:

New wheat varieties with increasingly higher yield potential are necessary to enhance the competitiveness of wheat production in Michigan and enhance profitability across the entire network of seedsmen, end users and wheat growers. The Michigan State Wheat Breeding and Genetics program aims to develop elite soft winter wheat varieties with high yield potential, disease resistance and quality parameters required by all stakeholders in the Michigan wheat industry.

Hypothesis and Objectives:

1. Make crosses to incorporate new sources of yield potential, PHS and FHB resistance into soft red and soft whiter winter wheat breeding populations.
2. Make selections in early generation bulk breeding populations to fix high heritability traits including flowering date, plant height and disease resistance.
3. Implement genomic selection to identify lines that have high agronomic potential based on model predictions.
4. Conduct preliminary and advanced yield trials to identify lines with high yield potential.

Procedures:

1. *Crossing:* 600 crosses are targeted in spring and fall cycles. The fall crossing block is underway with 98 soft red and white winter wheat parents. All crosses have been designed to generate progeny with resistance to FHB, leaf rust and stripe rust as well as high yield potential.
2. *Early generation selection:* Populations are randomly advanced from the F1 the F4 generation in the greenhouse using the mini-bulk system. F4 seed of each population is space-planted in bulk plots of 400 plants. Single plants are selected from each population based on agronomic type, phenology and disease resistance.
3. *Genomic selection:* DNA is isolated from 3000 selected plants to generate genome-wide SNP marker data. Genomic estimated breeding values (GEBVs) are developed for grain yield, DON mycotoxin and Preharvest sprouting (PHS). A total of 500 selected plants are grown in an augmented design for yield testing, observation and seed increase. Selections are grown in two reps in the misted FHB nursery. A set of 250 plants are then advanced into replicated yield testing.
4. *Yield testing:* Preliminary yield trials are comprised of ~340 entries that include new F4-derived lines as well as parents used as checks in two replications at four locations in MI. A set of 40 lines in Advanced yield trials are tested at seven locations in MI. Extensive evaluation and stringent selection for pre-harvest sprouting and Fhb resistance are applied. A total of ~100 commercial and experimental wheat varieties, including 20 MSU entries, are tested in three replicates at seven locations in the Michigan State Wheat Performance Trials.

Projects Funded, continued

Progress to Date:

In 2022, 457 crosses were made focused on yield potential, quality and resistance to FHB. Segregating F4 populations were developed from all crosses. Selections were made within 560 F4 and F5 bulk populations at Mason, MI. A total of ~3,000 new inbred lines were derived. GEBVs were estimated for grain yield, DON and PHS and 500 individuals were planted in small plots for yield testing, observation and seed increase. Selections were made among ~500 lines in a single plot observation nursery. A total of 250 of these were advanced into replicated yield testing.

Selections were made among 250 lines in preliminary yield trials (PYT) tested at Mason, Monroe and Richville locations. A set of 40 soft red winter wheat lines and checks are being tested at 26 locations across the eastern US and Canada. A set of 14 soft red and 6 soft white winter wheat lines have been advanced to commercial yield testing.

In 2021, all lines in preliminary and advanced yield trials were evaluated for FHB resistance in an irrigated and inoculated nursery. Data were collected on severity, incidence and DON mycotoxin. Lines with high levels of resistance were identified and are in advanced stages of yield testing and are being used in the crossing program. All inbred lines in the breeding program were evaluated for resistance to leaf rust in the greenhouse and many resistant lines were identified. Leaf rust data were used to advance lines in the program and identify parents for crossing.

Currently, 250 PYT entries are planted in two replications at four locations in MI, 500 small plots of single plant selections and 560 F4 bulk populations, have been planted at Mason. The MI commercial yield trial, includes 20 MSU entries, and has been planted at seven locations in Michigan.

Funds Requested:

MSU Wheat Breeding and Genetics is requesting $45,000 to support research associates, undergraduate employees, consumables for field, greenhouse and lab activities and summer salary for the project PI.

Matching Funds:

Michigan Wheat Program: $116,001

US Wheat and Barley Scab Initiative: $105,960

Total Matching Funds: $221,961

Impact on Michigan Agriculture:

Improved wheat varieties have great potential to impact the Michigan wheat industry and agricultural economy. Each bushel per acre increase across 500,000 acres statewide at $5.00 per bushel translates into 2.5 million dollars of increased farm revenue. MSU Wheat Breeding and Genetics has the capacity for continued impact by developing soft winter wheat varieties with increased yield potential, high quality and improved disease resistance.

Principal Investigator Signature:

Authorizing Organizational Representative

Projects Funded

continues on following page

MCIA project number: (to be assigned by AgBioResearch)

Title: Development of an MSU Enviroweather Wheat Growth Model to Improve Wheat Production.

Principal Investigator:

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Keith Mason
MSU Enviroweather
Dept of Geography, Environment and Spatial Sciences
Michigan State University
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Cooperators:

Dennis Pennington
MSU Wheat Specialist
MSU Extension

Justification:

This project will provide a much-needed tool to Michigan wheat growers to help them achieve higher yields. As we increase our knowledge about variety selection and agronomy through programs like the Yield Enhancement Network (YEN), knowing and understanding the growth stages of wheat is becoming increasingly important. Moreover, being able to track when key growth stages will be occurring will help farmers plan their workload and stay on top of key management timings.

Growing degree days (GDD's) have been extensively studied for wheat using a base temperature of 0 Celsius. Tracking GDD's from emergence to tillering in the fall can help farmers determine management priorities for the spring. For example, late planted wheat with low GDD accumulation would suggest early application of nitrogen in the spring. Other key growth stages include Feekes 6 (first node), Feekes 9 (flag leaf fully emerged) and Feekes 10.5.1 (onset of flowering). Predictors of when each of these growth stages will be reached can help a grower prioritize their workload on the farm and gives growers the opportunity to stay ahead of crop development, and then timing of fertilizer, fungicide and plant growth regulators can be more easily scheduled.

Having a tool online that growers can quickly access for updated GDD accumulation (and corresponding growth stages) will help them to know when it is time to scout their crop, and subsequently it will help a grower time a pesticide application or other management activity for the correct growth stage. Eliminating unneeded pesticide applications, and correctly timing required applications will help increase yield and profitability.

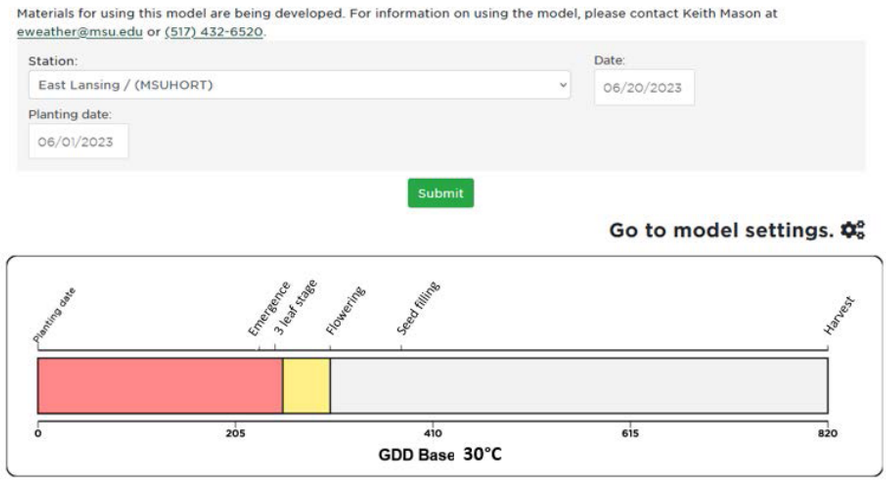
Objectives and hypotheses:

1. Create a growing degree-based Wheat Growth model on the Enviroweather website that predicts when key wheat stages are expected to occur. Hypothesis: Growers that use the Wheat Phenology model to identify key growth stages and time management actions will see higher yield and profitability.
2. Educate growers about how to use the model to track growth and plan management activities for key stages of development. Hypothesis: Growers that attend presentations on using the model will see higher yield and profitability.

Projects Funded, continued

Procedures:

Enviroweather programmers will use field data collected by MSU Wheat Extension Specialist Dennis Pennington and his collaborators in Yield Enhancement Network variety trials to create the Wheat Growth Model. Trials were held from 2021 to 2023 at multiple sites across Michigan. The data that were collected documented the progression of wheat growth and pinpointed the timing of critical stages through wheat development. Enviroweather staff will fit these data to a relationship that describes the average number of GDDs needed to complete each stage in wheat development, and that relationship will form the basis for the algorithm that drives the wheat growth model. This tool will track growing degree days and display the accumulated growing degree days (base 30°C) as a progress bar that shows the current GDD total (in red), and the expected total based on 1 week of National Weather Service (NWS) forecast data is also shown on the bar in yellow. (See figure above).



Mockup of the Wheat Growth Model. A progress bar expands to show current and forecast GDD totals and wheat growth stage.

To fulfill the educational objective of this project, team members will give presentations at MSU Extension field days during the growing season as well as at MSU Extension or other grower meetings in the off-season. Team members will also write an article for MSU Extension eNews for the release of the model on the MSU Enviroweather website (enviroweather.msu.edu). The team will also demo this tool at the Field Crops Virtual Breakfast webinar series.

Progress to date:

This project will build on multiple years of Yield Enhancement Network data collected by Dennis Pennington and collaborators.

Funds requested: $5731

Matching Funds: $4498

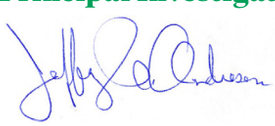
Dr. Keith Mason (2% effort), Enviroweather Program Coordinator, will manage developer workflow, coordinate meetings, and facilitate communication between Enviroweather developers and MSU Extension educators during model development. Dr. Jeff Andresen (1% effort) and Dr Mason will present project results and give model demos to industry stakeholders at MSU Extension meetings.

Impact on Michigan agriculture:

Tracking GDD's from emergence to tillering in the fall can help farmers determine management priorities for the spring. For example, late planted wheat with low GDD accumulation would suggest early application of nitrogen in the spring. This tool will also improve disease management by predicting when critical growth stages and key times for management or scouting will occur. This approach will help a grower correctly decide if a pesticide application is needed, and if so, help ensure the application is made at the correct growth stage. Eliminating unneeded pesticide applications, and correctly timing required applications will help increase yield and profitability and reduce environmental impacts.

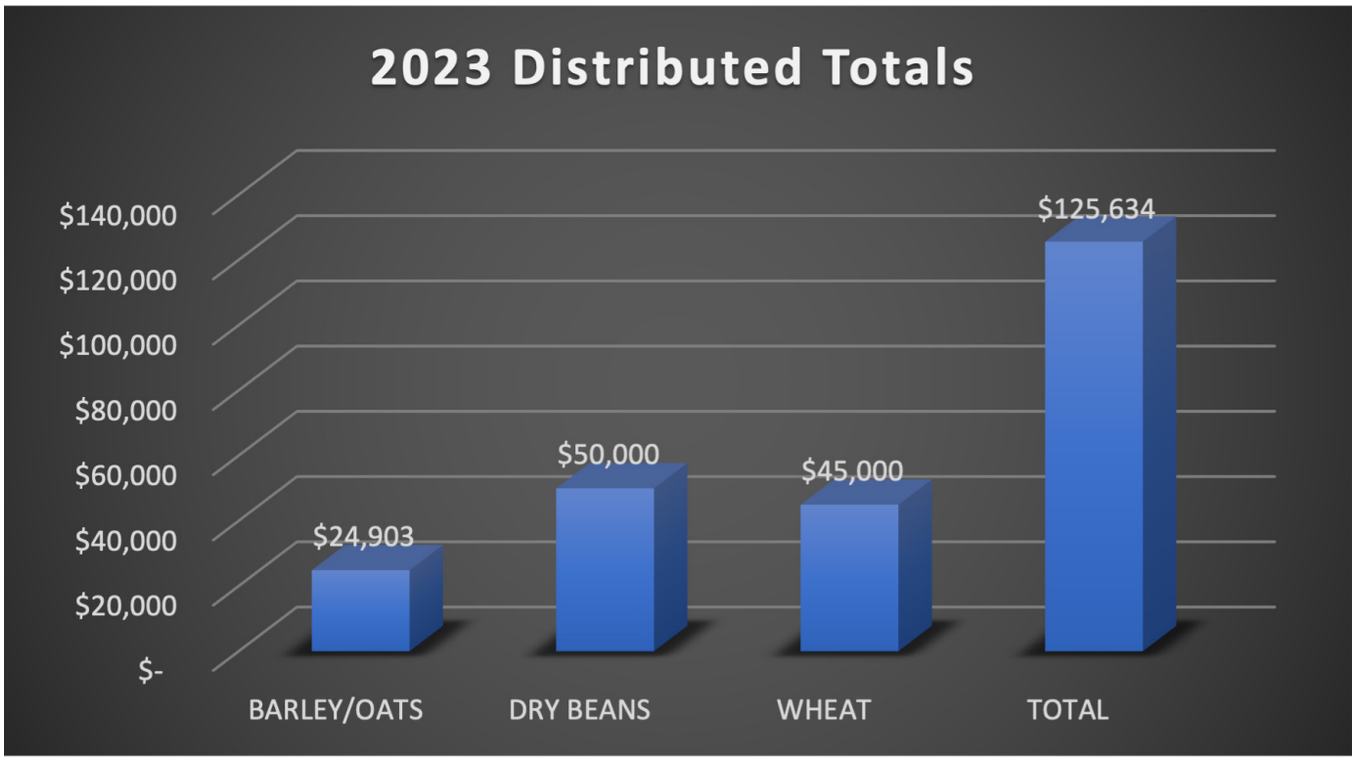
Budget: (attachment)

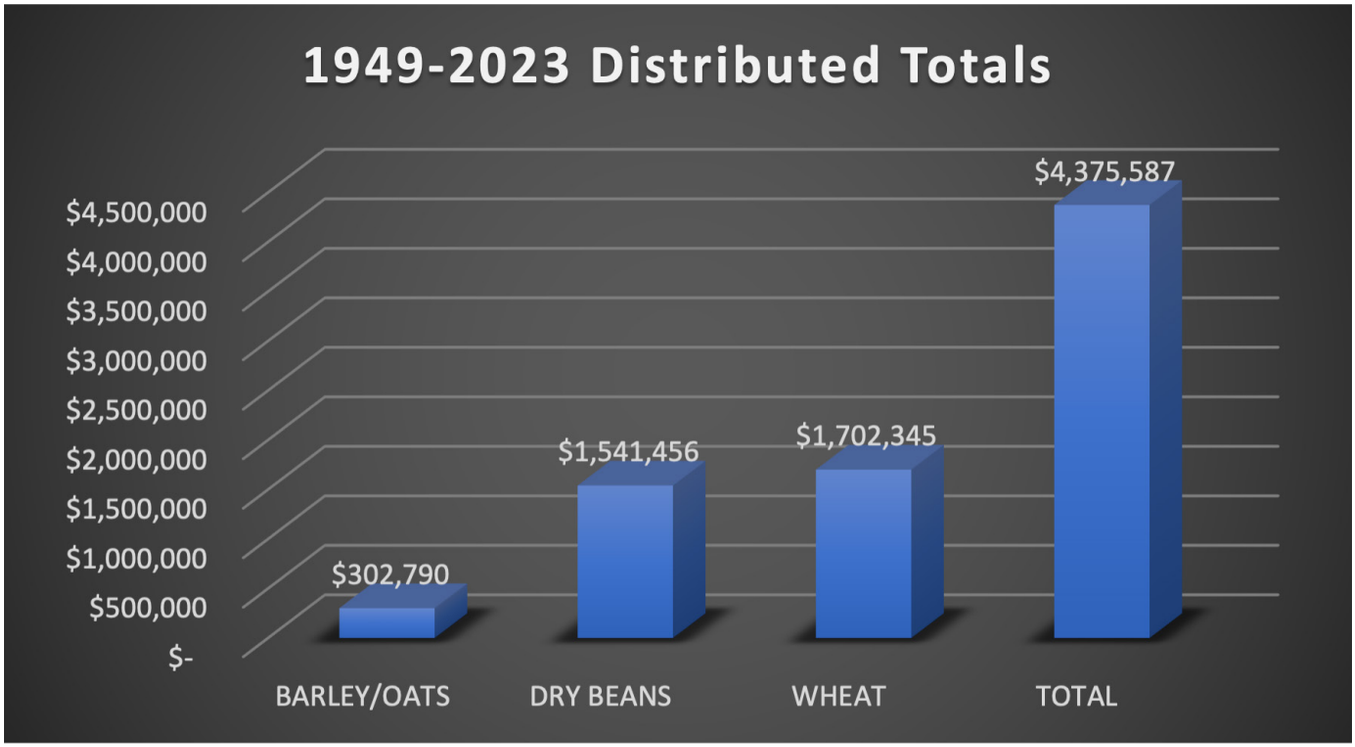
Principal Investigator Signature:



MSU Research Funded

Funds collected on sales of Foundation Seed are used to support these critical areas of research at MSU. Programs funded help provide new and improved varieties as well as key yield and agronomic research. Research proposals are funded based on the established MCIA research priorities. Yearly funding and historical support history is listed below.





MCIA Programs

- **Seed Certification** – Traditional certification for public varieties in cooperation with other state agencies within the United States.
- **Quality Assurance (QA)** – Quality verification system for private labeled seed marketed by brand name.
- **Identity Preserved (IP)** – Verification and traceability system for grain with added value traits.
- **Source Identified** - Verification system for native species/germplasm to show adaptability based on genetic origin and seed production location.
- **Forage and Mulch** – Inspection program to prevent the spread of noxious weeds in feed material and mulch used in plant seedings.
- **Compliance Audits** – A sequence of questions and evaluations used to document compliance to guidelines or standards.

MCIA Certifications and Accreditations

- **MDARD** – The Michigan Department of Agriculture and Rural Development(MDARD) authorizes MCIA to verify that all seed certified and sold in Michigan meets the State of Michigan standards.
- **AOSCA** – MCIA is a member of the US and International Seed Certification Agencies collectively known as AOSCA (Association of Official Seed Certification Agencies).
- **OECD** – MCIA is authorized by USDA to verify that seed shipped to the European Union (and other member countries) meets the minimum OECD (Organization for Economic Co-Operation and Development) certification and shipping standards.
- **USDA** – MCIA is authorized as the official certification agency for interstate seed sales according to the Federal Seed Act.
- **SCST** – MCIA is a member of the Society of Commercial Seed Technologists (SCST), an organization of professional seed analysts and labs across the US and Canada.
- **ASL** – The MCIA seed lab is accredited by USDA to perform official testing as an Accredited Seed Lab (ASL).
- **BRCGS** – Brand Reputation through Compliance of Global Standards. The MCIA processing plant is third party audited and an approved food safe handler with an AA rating.
- **Organic Handler** – The MCIA processing plant is designated a Certified Organic Handler audited yearly by Minnesota Crop Improvement Association.
- **FDA** – MCIA is a registered food facility under authority of the FDA.
- **MDARD** – MCIA has two Commercial Pesticide Applicators in the seed plant.

Events Attended

Our team was able to take advantage of many in-person field days and seminars in 2023 as well as attend several virtual events. We used these opportunities to listen and learn as well as network in the ag community. A list of some events attended is below:

- MABA Winter Conference and Trade Show
- Independent Professional Seedsman Association Conference
- AOSCA Regional and Annual Meetings
- AOSA/SCST Annual Meetings
- Wheat Growers Summer Field Day and Annual Meeting
- Soybean Quality Workshops by SODAK
- Saginaw Bean and Beet Field Day
- Thumb Ag Day
- Agro-Expo
- Great Lakes Crop Summit
- Seed Treatment Seminar
- Fumigation Seminar
- Facility Pest Control in Agriculture
- SCST Organizational Webinar
- Great Lakes Expo for Fruits and Vegetables
- Germination Short Course at Iowa State
- OECD Seed Scheme Meetings

Field Services Report

In 2023 MCIA field inspections totaled 114,479 acres, which is an 8% decrease from the previous year. Wheat acres were up but not enough to offset the decrease in corn. Inspection programs include: OECD certification for international seed sales, AOSCA certification for in-state and national seed sales, Quality Assurance (QA) for brand labeling of seed, and Identity Preserved (IP) for grains marketed for specialty products. The focus of MCIA field inspections is to provide official unbiased information as it relates to genetic purity and seed quality for certification. Field inspections are an opportunity to identify and isolate potential problems in the field to keep the final product pure. This step has been valuable to companies as well for their internal quality management system. MCIA inspectors can serve to collect and input specific information into their data systems.

Crop Year

2023 might be one for the records. Brown grass in May is never usual or wanted and is a telling statement. The spring drought in the country began out West with high temperatures and below normal rainfall. This resulted in widespread wildfires in the US and Canada. The smoke was so prevalent that it spread throughout the US and health alerts were raised for people at risk with minimal outdoor exposure encouraged. Numerous days were smoggy and it could be felt in the lungs. Planting occurred with little delays. In crop production there are 3 basic stages of plant development – vegetative, reproductive, and maturation. Rain (or lack of) affects each of these differently, but reproductive is the most important to the plant. A plant lacking rain during vegetative growth will delay (lengthen) development in efforts to have a more ideal time for the reproductive stage. A plant lacking rain during reproductive stages will shorten the stage in efforts of having enough resources available for the seeds produced.

Small Grain

In 2023, 9,527 acres of wheat were inspected, which is a 26% increase over last year. The acreage split between red and white wheat continues to grow with acreage being 71% red and 29% white. Whitetail continues to be the most popular wheat variety. Wheat plantings and winter survival were good, but drought in pollination and grain fill is never good. Wheat plants were short. Yields were surprising with many fields reaching average or planned goals. Spring planted grains were not as fulfilling. Some fields were barely emerged in early June. Triticale, rye and barley acreages were up with certification acreages being 756, 269, and 288 respectively. Oat acres were down with only 580 acres certified.

Corn

In 2023, 66,332 acres were inspected, representing a 10% decrease from last year. MCIA continues to perform daily inspections on seed corn fields serving two purposes: assisting in pollen management and verification for certification. Fields were planted in good sequence allowing a good maturity spread for timely pollen management. However, the dry spring delayed development which pushed pollination into a more concentrated timeframe. As sometimes it happens, thunderstorms came in that window. Corn plants have an ability to develop rapidly in this situation which made detasseling a bit challenging. Water during pollination is otherwise a good thing and generally leads to higher yields. The majority of seed corn is inspected according to accreditation guidelines for labeling as USA Certified. The accreditation process involves field inspection with an audit review for other seed certification related functions. MCIA continues to assist the State of Michigan in collecting corn tissue samples for the purpose of disease inspection. Samples are collected after the pollination period when diseases are more visible.

Dry Bean

Dry edible bean acreage was significantly lower than last year, totaling 374 acres. Approved acreages consisted of 49 acres of kidney beans, 15 acres of pinto beans, and 310 acres of black beans. Kidney bean seed acres followed the shrinking commercial market and black bean decreases are a result of the loss of the new Adams variety. Both late plantings and dry weather pushed harvest much later than desired. Numerous commercial fields were harvested in October. Anthracnose was found in a few fields. The new strain of anthracnose was found again, with some cases being severe, but there were no reports or findings of bacterial wilt. Lab testing has also shown an increase of Halo blight over common blight. Halo blight seems to be more virulent.

Soybean

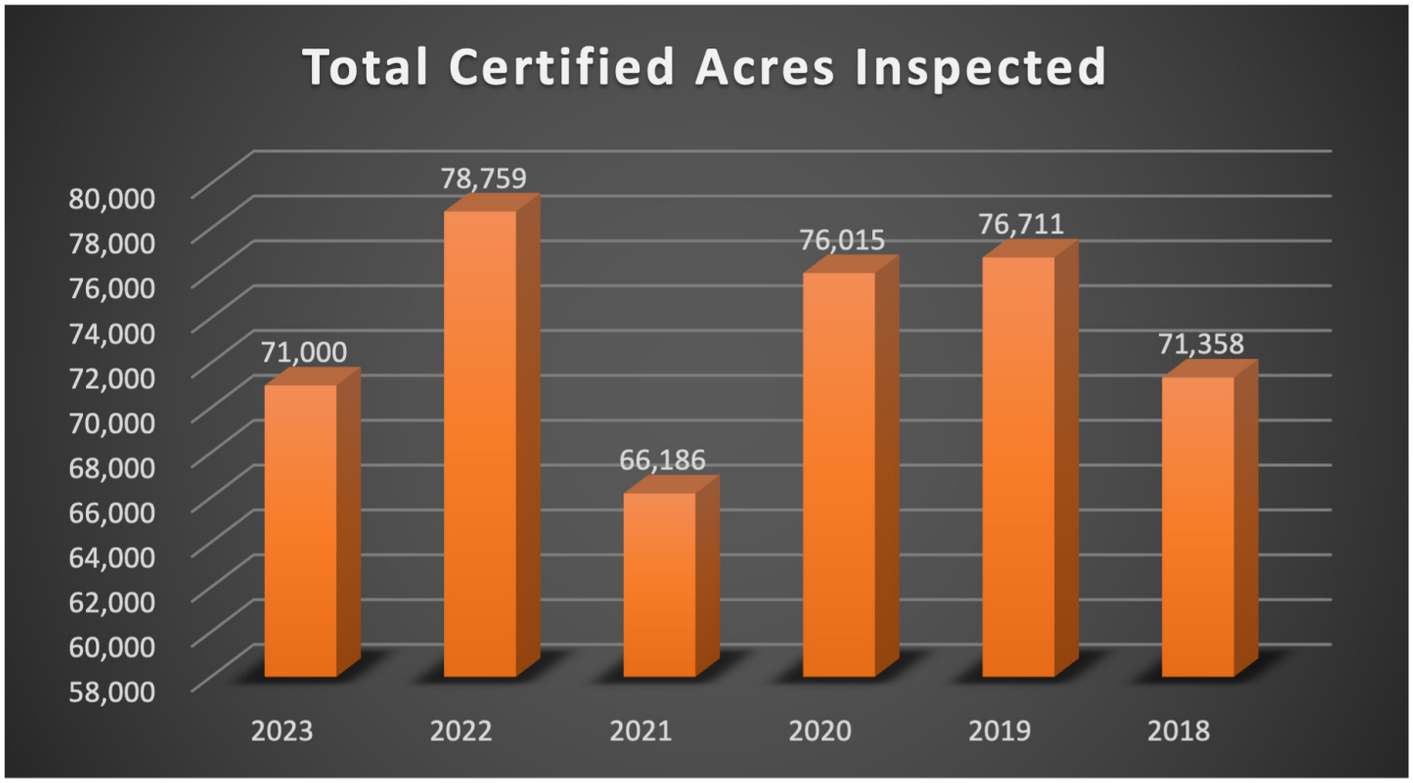
Soybean acreage was down 10% from the previous year. It included 10,677 acres of Quality Assurance, and 15,416 acres of interagency and service inspections. Planting was timely but growth and early development were hindered due to lack of adequate moisture. Many fields had 1 to 3 weeks difference in flowering just based on soil type or terrain. Rain did come in August which brought on some plant disease pressure. There are numerous diseases which sometimes can be hard to distinguish such as SDS, charcoal rot, brown stem rot, red crown rot, and fusarium root rot. However, white mold seems to be the most recognized and gets the most attention/blame. Harvest was a challenge due to the uneven maturity and late development. Seed quality suffered on the later harvests. Quality Assurance inspections are offered to seed companies for the evaluation and documentation of private genetics. Early soybean inspections focus on crop management information such as weed escapes, volunteer corn, diseases, insect activity, and blossom color. These inspections can also be used to verify trait purity in new herbicide resistant varieties following herbicide applications. A fall inspection is performed to identify off-types and evaluate the varietal purity. MCIA continues the real time electronic inspections where information is documented on an iPad with an app specific for seed inspections.

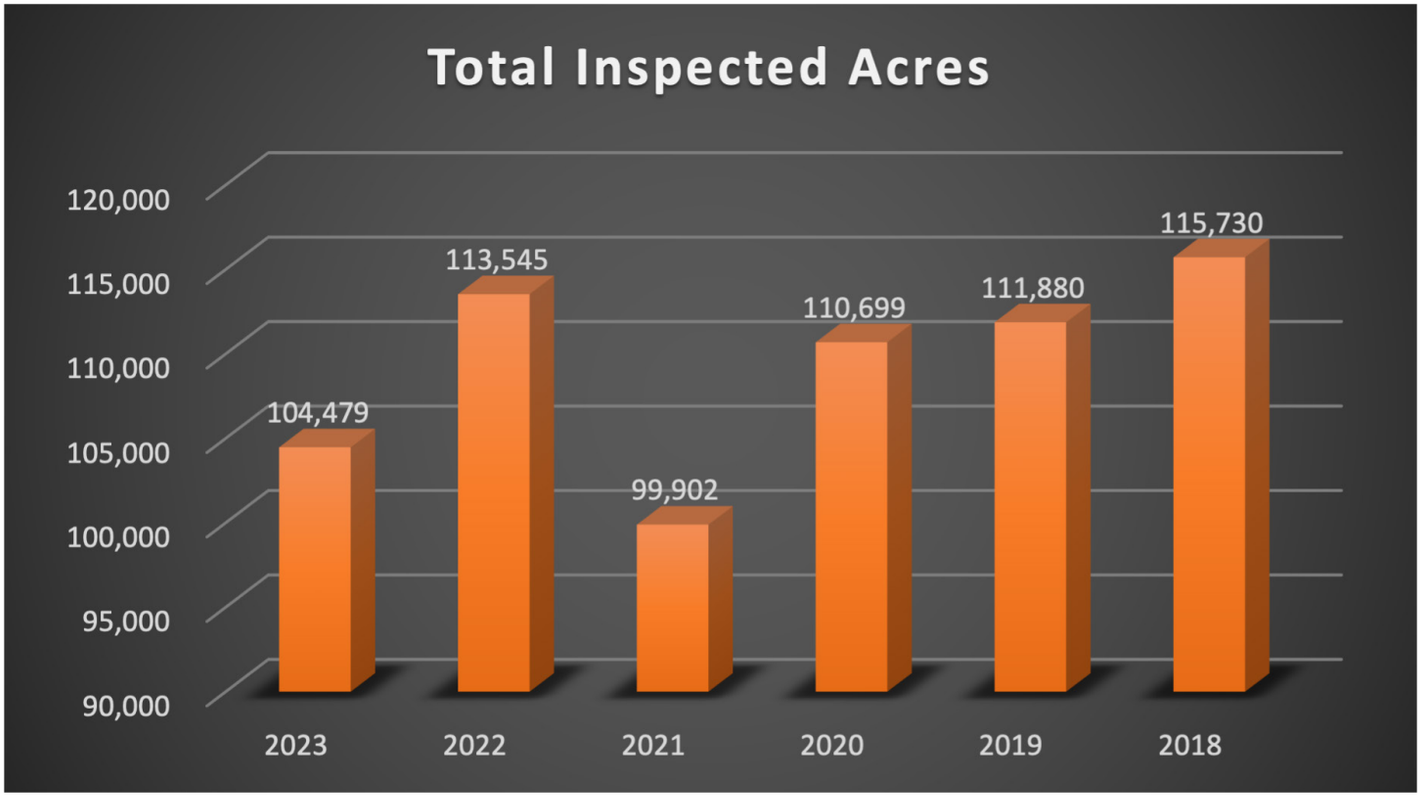
Summary

There are some years where it seems it is a miracle that things turn out as they do. In this changing environment of temperature, moisture, and disease, it is surprising how plants adapt and manage to sustain themselves to produce for the new generation through seed. It is a joy to explore with you.

MCIA Inspector in an Ida, MI wheat field.

Inspection Acres





Inspection Acres by Variety

White Wheat Acreage

VARIETY	2021	2022	2023
A/C Mountain	173	18	104
E6012	31	0	0
Jupiter	454	343	402
Moonlight	70	153	99
Whitetail	2034	827	660
Private	153	66	74
Service Wheat	313	982	783
Total White	**3228**	**2389**	**2122**

Red Wheat Acreage

VARIETY	2021	2022	2023
MCIA .357	0	20	120
Starburst	156	0	0
Sunburst	388	268	306
Private	686	586	584
QA Wheat	1487	1689	1467
Service Wheat	1692	1363	2819
Total Red	**4409**	**3926**	**5296**
Wheat Total	**7637**	**6315**	**7418**

Oat Acreage

VARIETY	2021	2022	2023
Antigo	10	0	0
Esker 2020	18	31	22
George	0	14	0
Goliath	7	0	0
Hayden	213	238	173
Horsepower	103	75	47
Ida	302	390	265
Jerry	20	20	0
Rushmore	0	19	73
Private Oats	0	17	0
Oats Total	**673**	**804**	**580**

Barley Acreage

VARIETY	2021	2022	2023
Bowers	135	248	236
LCS Calypso	15	13	12
LCS Odyssey	0	0	20
Kewaunee	13	0	0
Rasmussen	25	18	20
Barley Total	**188**	**279**	**288**

Colored Bean Acreage

VARIETY	2021	2022	2023
Coho	14	0	0
Charro	0	0	15
Montcalm	144	0	0
Red Hawk	40	0	0
Red Cedar	70	0	0
Snowdon	50	136	0
Adams	712	648	0
Zorro	0	30	20
Zenith	137	95	290
Cayenne	17	24	0
QA	300	149	49
Colored Bean Total	**1484**	**1082**	**374**

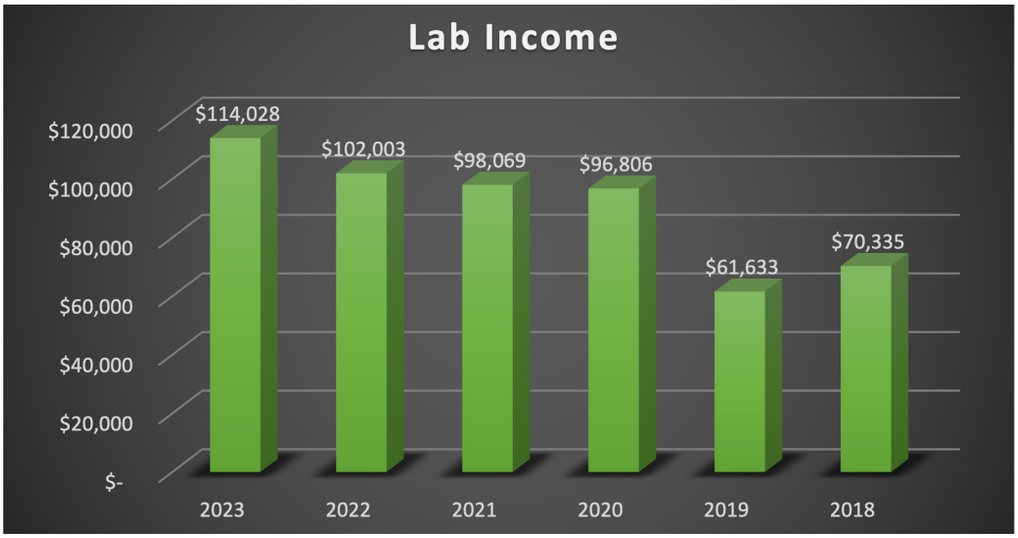
Soybean Acreage

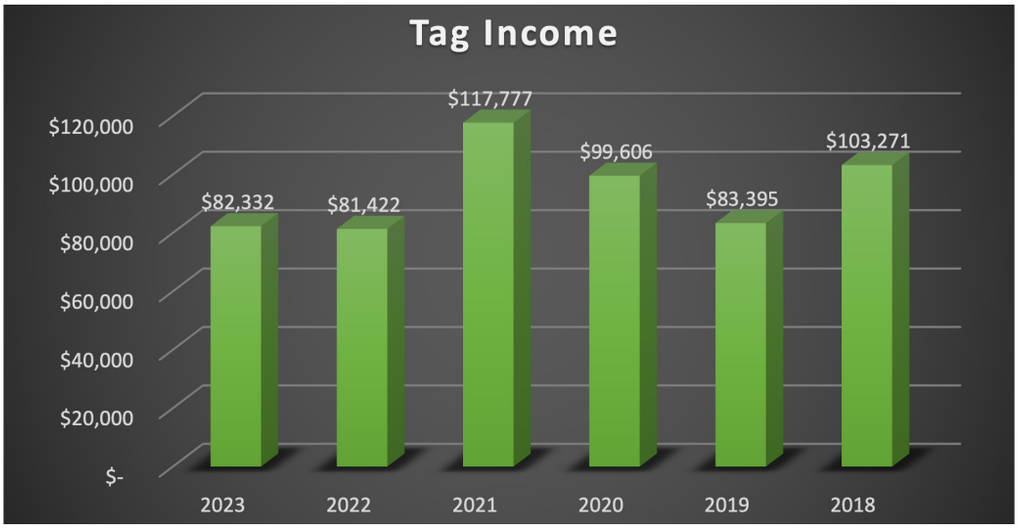
VARIETY	2021	2022	2023
IA 1029	0	23	41
IAS 19C3	0	0	40
IA 2102	0	80	0
IA 3054RA12	0	0	20
Private	0	0	1925
Total	0	103	101
QA	13090	10736	8651
Soybean Total	**13090**	**10839**	**10677**

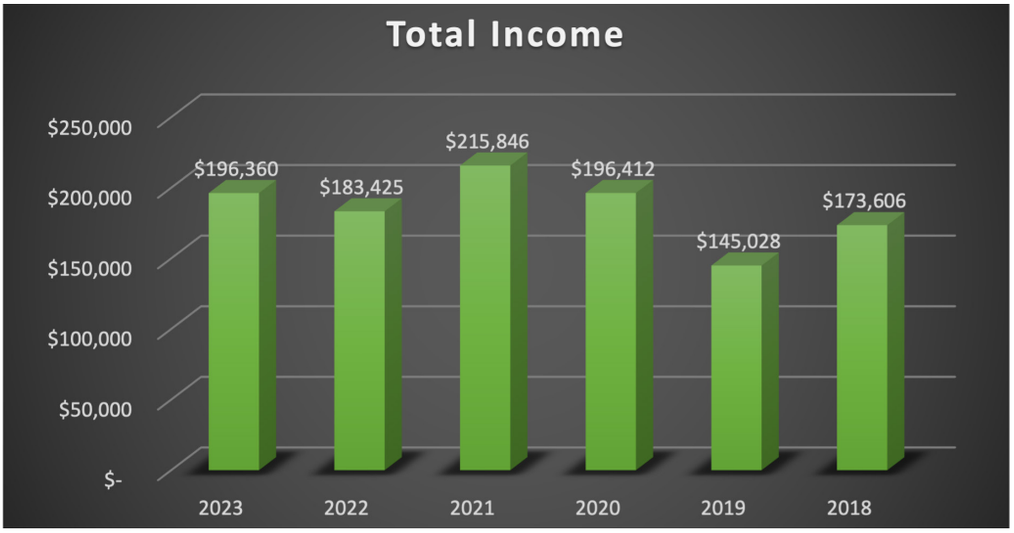
Miscellaneous Acreage

VARIETY	2021	2022	2023
Corn	31277	39915	34060
Rye	421	232	269
Triticale	554	599	756
Identity Preserved	0	0	240
Interagency Cert.	3995	5283	2817
Daily Corn Service	27824	33633	32272
Grand Total	**87143**	**98981**	**89751**
Corn Disease Fields	201	227	288
Soybean Service	12819	14564	14467
Certified Mulch	397	220	261

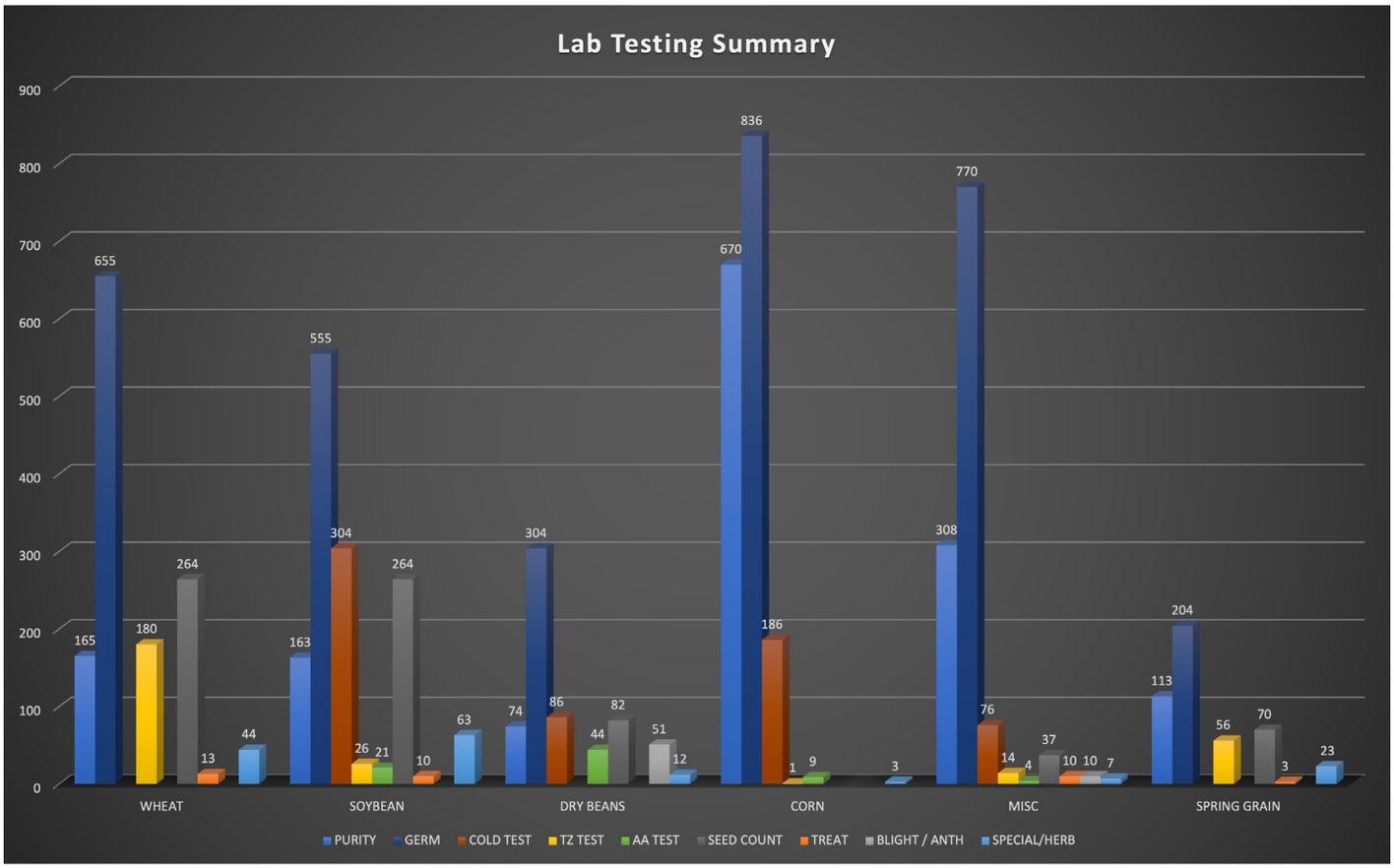
Lab and Tag Income







Lab Testing Summary *(June 1 to May 31)*



CROP	PURITY	GERM	COLD TEST	TZ TEST	AA TEST	SEED COUNT	TREAT	BLIGHT / ANTH	SPECIAL/ HERB	TOTAL TESTS
WHEAT	165	655	-	180	-	264	13	-	44	1,377
OAT	51	87	-	34	-	21	2	-	15	169
BARLEY	28	48	-	12	-	14	-	-	5	40
RYE	34	69	-	10	-	35	1	-	3	138
SOYBEAN	163	555	304	26	21	264	10	-	63	1,514
NAVYS	35	92	40	-	7	29	-	10	-	203
BLACK BEAN	34	163	23	-	35	46	-	28	12	443
KIDNEY	5	49	23	-	2	7	-	13	-	157
CORN	670	836	186	1	9	-	-	-	3	1,931
GRASS	35	121	-	-	-	-	-	-	-	-
VEGETABLE	166	422	2	13	-	-	-	-	-	-
MISC.	107	227	74	1	4	37	10	10	7	465
TOTAL	**1493**	**3324**	**652**	**277**	**78**	**717**	**36**	**61**	**152**	**6,790**

Tagging Summary

Crop	Certified	Foundation	OECD	QA	White	Corn Co. Printed	2023 Total	2022 Total	2021 Total
WHEAT	106,736	11,798	-	69,680	87	-	188,301	207,064	304,578
OATS	17,412	1,030	-	-	-	-	18,442	14,839	22,105
BARLEY	7,879	1,836	-	-	-	-	9,715	10,229	3,529
RYE	23,297	300	-	-	-	-	23,597	13,890	30,634
SOYBEAN	8,271		-	250	-	-	8,521	6,118	12,772
DRY BEAN	8,696	731	-	-	829	-	10,256	24,630	24,927
CORN	21,610	-	-	-	-	502,268	523,878	567,261	429,556
MISC.	45,788	520	-	-	100		46,408	29,040	30,263
Total	**239,689**	**16,215**	**-**	**69,930**	**1,016**	**502,268**	**829,118**	**873,071**	**858,364**

Year	Certified	Foundation	OECD	QA	White	Corn Co. Printed	Total
2022 Total	214,593	14,354	-	94,911	2,810	546,403	873,071
2021 Total	328,453	9,479		99,076	9,904	411,452	858,364
2020 Total	343,783	23,800	-	44,014	5,001	657,189	1,073,787
2019 Total	245,318	21,009	-	96,407	5,078	682,192	1,050,004
2018 Total	273,682	15,457	-	96,770	4,850	602,896	993,652
2017 Total	257,347	12,966	-	82,572	3,550	539,829	896,264
2016 Total	267,485	28,645	-	93,748	3,417	591,804	985,099
2015 Total	364,434	23,200	-	132,132	4,451	370,949	895,166
2014 Total	307,969	24,522	-	100,903	8,470	626,966	1,068,830
2013 Total	467,323	54,595	-	78,282	2,780	916,036	1,519,016
2012 Total	748,192	38,749	20,644	115,488	7,036	307,276	1,237,385
2011 Total	777,719	28,202	-	71,478	10,639	45,958	933,996
2010 Total	915,493	56,640	-	60,022	6,544	219,700	1,258,399
2009 Total	553,018	28,917	2,214	62,420	7,054	437,096	1,090,719

	2023		2022		2021	
Total Tags	829,118		873,071		858,364	
Company (corn) printed	523,878		567,261		429,556	
Approved (producer) printed	170,840	84%	189,139	87%	300,403	85%
MCIA/FD printed	134,440	16%	116,671	13%	128,405	15%

Foundation Seed Division Report

C. JAMES PALMER

Planting season 2023 commenced briefly in mid-April and then it was quickly halted by several weeks of cold and wet weather. Once planting began again in early May, the crop went in the ground quickly. By Memorial Day many dry beans had already been planted and the soil became overly dry in some areas causing delayed emergence of the dry bean crop. June stayed stubbornly dry, and many thought the wheat crop would be severely damaged. In contrast, July and August recorded some of the highest rainfall totals of all time. These wet conditions caused numerous issues of disease and plant health. At harvest many were surprised by the tremendous amount of wheat harvested. The state average was 83 bushels per acre, equaling the prior year and growers harvested 560,000 of the over 600,000 acres planted. Planting conditions were not favorable in the fall of 2023, and it is estimated that only 430,000 acres of wheat were planted. The average 2023 corn yield in Michigan was 168 bushels per acre unchanged from 2022, while the soybean yield dipped one bushel from the year previous and was reported at 46 bpa. 210,000 acres of dry edible beans were planted in Michigan with an average yield of 2,440 pounds per acre. Considering all the weather challenges 2023 brought, the crops turned out far better than expected.

Overall, Foundation Seed sales numbers were mixed from the previous year. Oat seed sales were down 32% while barley sales were up 13% from 2022. Foundation Red Wheat seed sales were up about 10% while white wheat seed sales were ahead by 11%. Even though sales were good, poor planting conditions for wheat caused many growers to abandon their planting plans and certainly limited the amount of actual wheat acres planted. We anticipate a larger than usual wheat seed carryover for 2024. Losing the variety Adams due to quality issues took a large bite out of our dry bean seed sales. Having sold over 4000 units of black bean seed in 2022 sales dropped to only 1805 units in 2023. The dark red kidney bean market also remained stubbornly over supplied which led to weaker than usual dark red kidney sales. Black bean and dark red kidney bean classes are our most popular and for this reason our overall dry bean seed sales were 37% less than in 2022. On a positive note, we introduced several new varieties to our seed growers, such as Eiger, great northern; Coral, pink bean; and Yellowstone, yellow bean. We are currently increasing the varieties Black Pearl and Kona, two new black bean varieties which show great promise in the market. These will be available to Foundation Seed growers in 2025.

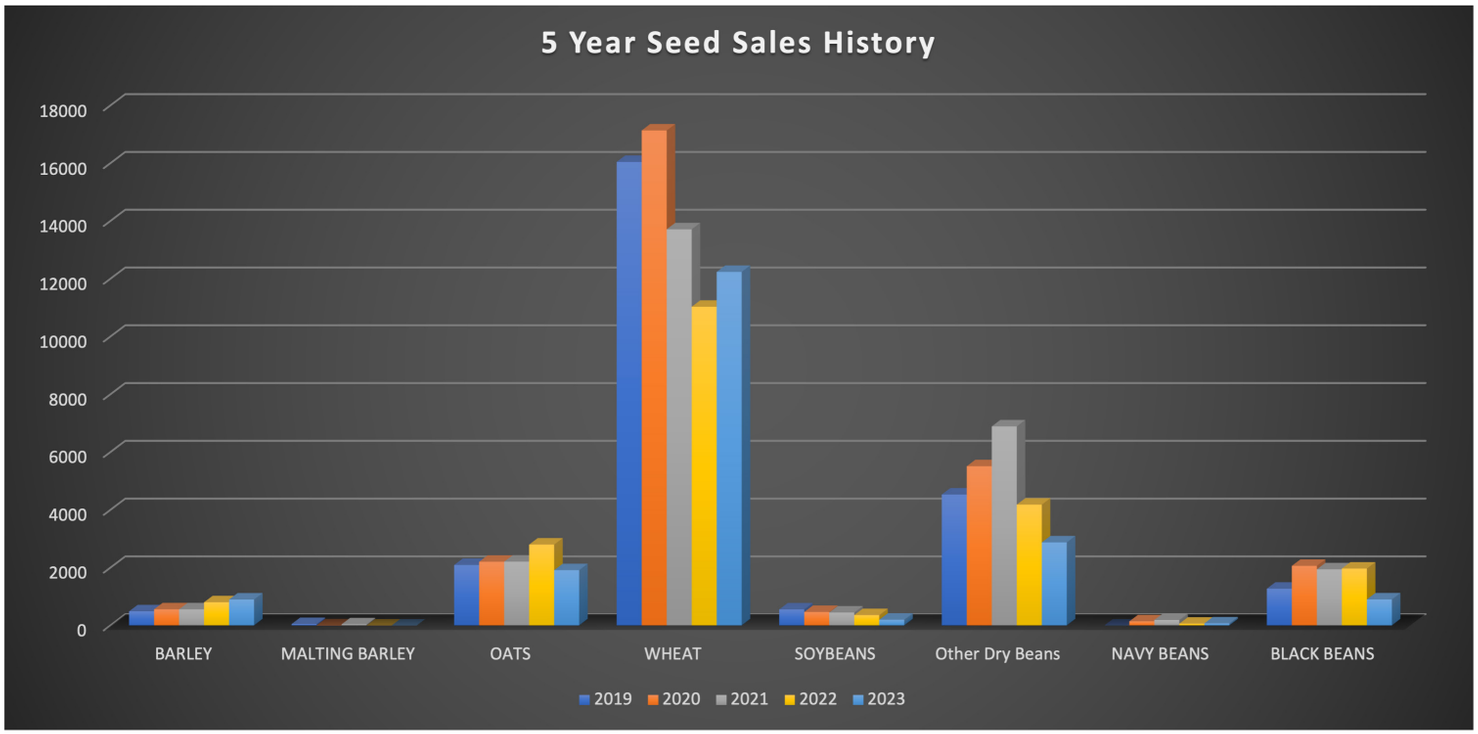
While our seed sales numbers were less than desired, we had a good year in our custom processing business. We also installed a new color sorter which increased our ability to perform difficult separations for customers. We continue to maintain our organic handler status and achieved an AA rating for our BRCGS food safety program. Our team is committed to providing the highest quality products and services possible. We also continue to seek out new opportunities and to use our expertise and processing capacity to benefit our members and customers.

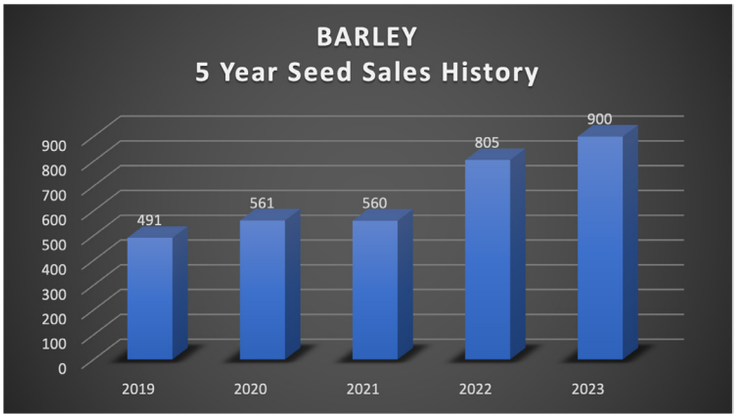
As does every year, 2023 presented some challenges for our Foundation Seed Division. We remain positive knowing our team is knowledgeable, experienced, and well trained to handle these challenges. We have new and exciting seed varieties on the horizon, and we continue to keep in focus the main goal of our team which is quality. Thank you for the opportunity to be part of your success in 2023 and we look forward to serving you in 2024.

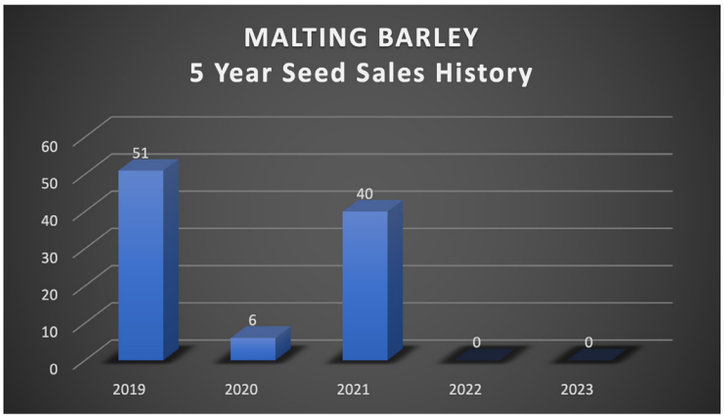
Sales History Report

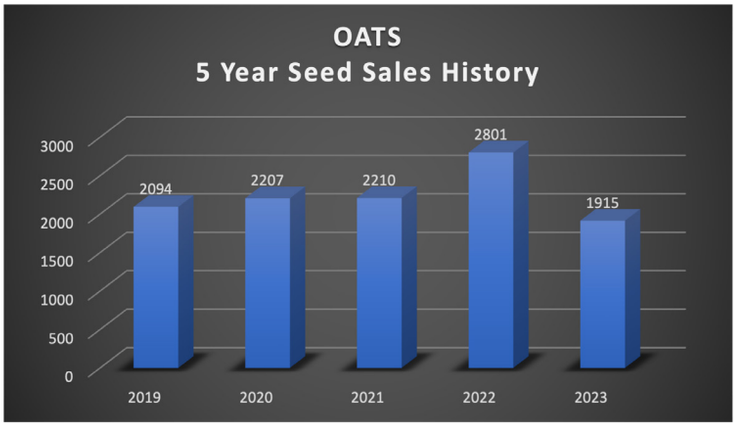
Year	Units in Bushels			50 lb. Units		100 lb. Units		
	Barley	Malting Barley	Oats	Wheat	Soybeans	Other Dry Beans	Navy Beans	Black Beans
1992	1888	-----	5858	34598*	13455*	3885	1629	523
1993	1611	-----	7021	30880*	12052*	2932	2589	763
1994	1719	-----	4245	28261*	12808*	3440	1416	690
1995	1209	-----	4228	30609*	11131*	3240	1813	1403
1996	1155	-----	4578	32593*	12046*	3287	2460	371
1997	1339	-----	4444	31263*	9105*	3390	1705	360
1998	1377	-----	5392	14643*	10926*	2103	546	772
1999	1448	-----	3751	12043	9555*	1676	712	724
2000	863	-----	3060	11868	6451	3658	444	451
2001	778	-----	2211	14089	4977	4044	204	188
2002	714	-----	2835	16300	4632	4725	207	596
2003	1015	-----	2853	18400	4385	3384	189	465
2004	975	-----	2896	18336	2782	4675	204	843
2005	1074	-----	2896	17046	2431	4804	242	767
2006	1225	-----	2526	18576	1615	3963	365	892
2007	740	-----	1546	22739	1426	2363	201	1330
2008	1065	-----	1833	22834	2018	3720	220	1360
2009	919	-----	1817	18120	1396	4563	65	1369
2010	1005	-----	1960	20045	2356	3518	111	2356
2011	1050	-----	2357	19444	3245	2375	53	1794
2012	1071	-----	1792	19319	2735	3311	30	1328
2013	1254	-----	1947	17273	1574	3173	0	1251
2014	1131	-----	1590	15949	557	5536	75	1977
2015	1635	405	2172	17717	580	7186	288	3447
2016	1064	639	1896	16132	609	3453	187	4429
2017	255	45	1439	14922	370	2360	73.5	3558
2018	479	120	1903	15191	864	2786	0	1116
2019	491	51	2094	16047	557	4532	0	1274
2020	561	6	2207	17136	467	5513	144	2065
2021	560	40	2210	13714	450	6892	192	1945
2022	805	0	2801	11033	360	4184	64	1971
2023	900	0	1915	12240	200	2877	73	903
5 yr avg.	663	43	2243	14624	540	4781	80	1674

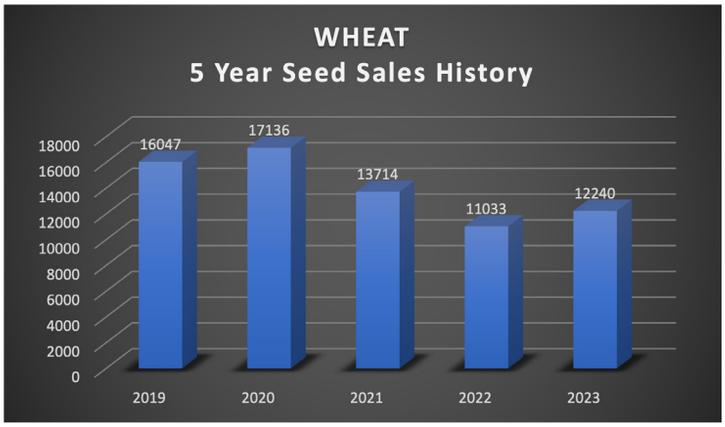
**denote units in Bushels*


5 Year Seed Sales History
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
BARLEY
MALTING BARLEY
OATS
WHEAT
SOYBEANS
Other Dry Beans
NAVY BEANS
BLACK BEANS
2019
2020
2021
2022
2023

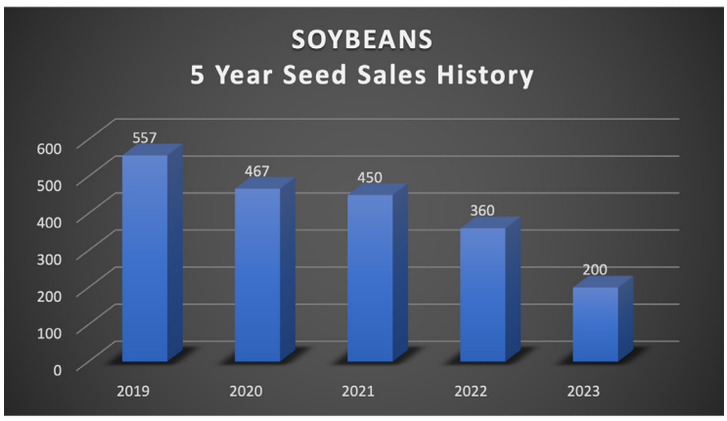

BARLEY
5 Year Seed Sales History
900
800
700
600
500
400
300
200
100
0
491
561
560
805
900
2019
2020
2021
2022
2023

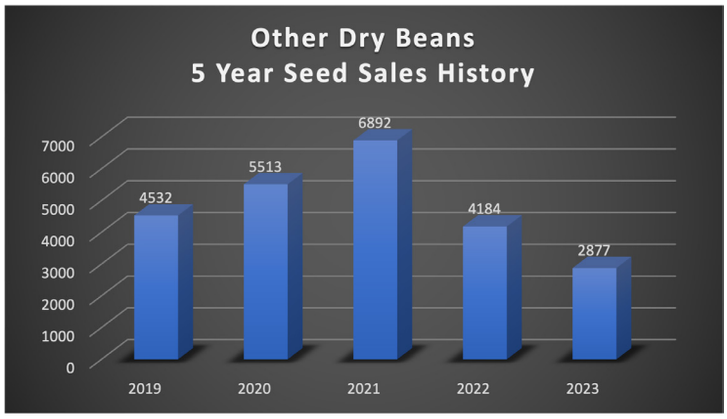

MALTING BARLEY
5 Year Seed Sales History
60
50
40
30
20
10
0
51
6
40
0
0
2019
2020
2021
2022
2023

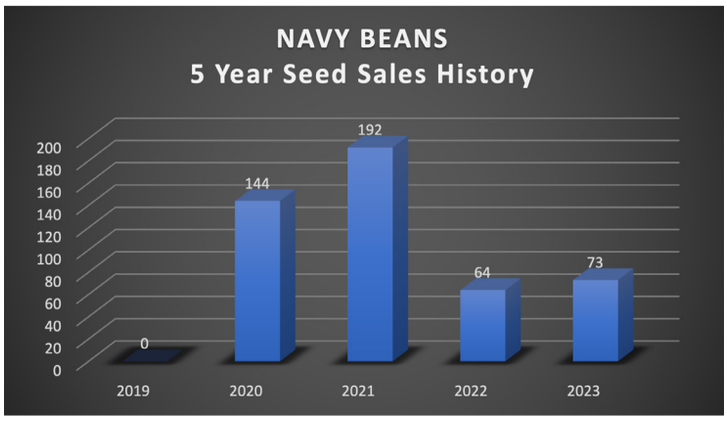

OATS
5 Year Seed Sales History
3000
2500
2000
1500
1000
500
0
2094
2207
2210
2801
1915
2019
2020
2021
2022
2023

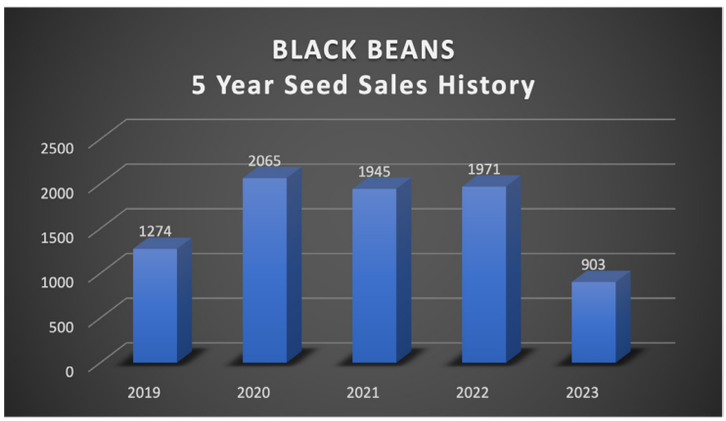

WHEAT
5 Year Seed Sales History
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
16047
17136
13714
11033
12240
2019
2020
2021
2022
2023

Sales History Report, continued









New Seed Varieties

BLACK PEARL – BLACK BEAN

- Upright plant type suitable for direct harvest
- Resistant to anthracnose.
- High yielding black bean variety.
- Medium maturity with good dry down qualities.
- Rates as one of the best beans for color retention and canning quality.

KONA – BLACK BEAN

- Type-II upright plant suitable for direct harvest.
- Consistently one of the highest yielding black bean varieties.
- Maturity similar to Zenith and a day earlier than Black Beard.
- Susceptible to Anthracnose.
- Acceptable seed size and canning scores.

MCIA BARRACUDA – RED WHEAT

- Excellent yield potential.
- Medium maturity.
- Good straw strength.
- Above average test weight.
- Short and awned.

MCIA WHITE LIGHTNING – WHITE WHEAT

- Excellent yield potential
- Good test weight.
- Stands well.
- Good disease package.
- Good choice for high management.

Foundation Seed Pricing

Commodity	Non-Member Price	Member Price	Member Discount Price	Research	Unit
Barley (48#)	$22.50	$18.00	$0.90	Bushel	Bushel
Oat Seed (32#)	$21.25	$17.00	$0.75	Bushel	Bushel
Soybean Seed (50#)	$56.25	$45.00	$1.04	50 lbs	50 lbs
Large Dry Bean Seed (100#)	$225.00	$180.00	$4.50	100 lbs	100 lbs
Medium/Small Dry Bean Seed (100#)	$207.50	$166.00	$4.50	100 lbs	100 lbs

2024 MCIA Pricing

Prices subject to change as determined by the MCIA board of directors

ALL CLASSES

	FEE
Germination (Corn, Beans, Small Grains)	$15.00
Sand Germination (Soybean and Beans)	$25.00
Germination (Small Legumes)	$17.00
Germination (Turf or Pasture Grasses)	$22.00
Germination (Vegetable)	$22.00
Purity (Corn, Beans, Small Grains)	$16.00
Purity (Small Legumes)	$20.00
Purity (Turf or Pasture Grasses)	$30.00
Purity (Vegetable)	$23.00

Mixtures – there will be a $45.00 an hour charge for separation. Each component of mixture will be charged individually for germ.

Cold Test – Soil (Corn, Soybean, and Beans)	$18.00
TZ Test (Small Grain and Soybean)	$28.00
Fast Green/Pericarp	$20.00
Saturated Cold Test	$28.00
Herbicide Testing (Roundup and Enlist)	$30.00
Soybean Non-GMO Test	$100.00
Accelerated Aging Vigor Test (Corn, Beans, Small Grains)	$18.00
Seed Count (Corn, Beans, Small Grains)	$9.00
Treatments	$5.00
Test Weight	$4.00
Bacterial Blight Test (Dry Beans)	$50.00
Anthracnose Test (Dry Beans)	$40.00
Mosaic Test (Dry Beans)	$10.00

TAG FEES

	FEE
Certified and Foundation sew-on tags	$0.10
Certified and Foundation stick-on tags	$0.12
Quality Assurance sew-on tags	$0.10
White Analysis sew-on tags	$0.10
Rush Tag Fee (in addition to tag fee)	$0.02

CERTIFICATION FIELD INSPECTION FEES

	DEADLINE	FEE
Small Grains (Wheat, Rye, Barley, Oats)	June 1	$4.50/acre
Corn	June 15	$10.00/acre
Dry Beans	August 15	$5.00/acre
Soybeans	August 15	$4.50/acre

Withdrawn Acres for Certification – 75% of acreage fees refunded
Late Fee - $.50 cents/acre of $50.00 minimum field charge per grower and minimum field fee of $250 per field for corn.

QUALITY ASSURANCE INSPECTION FEES

	INSPECTION(S)	FEE
Wheat QA Inspection	1 inspection	$4.50/acre
Wheat Service Inspection	1 inspection	$3.00/acre
Dry Beans	1 inspection	$5.00/acre
Corn	4 inspections	$10.00/acre
Soybeans Inspections		
Fall Leaf Drop	1 inspection	$2.50/acre
Blossom and Fall	2 inspections	$4.00/acre

Honorary Membership Award

The Michigan Crop Improvement Association is delighted to announce **Paul Varner** has been chosen by the Board of Directors to receive the 2022/2023 MCIA Honorary Membership Award. This award is given annually to an individual who has made considerable positive impacts on both the Association and the Certified seed industry. This well-deserved recognition is a testament to Paul's significant contributions to both.

Paul was raised in Merrill, MI and grew up on a 100-acre seed farm, producing navy beans, soybean and wheat seed. Today, Paul still owns 40 acres of the original family farm and has added other farms to his operation. He currently raises dry beans, corn, soybean, and sugar beets.

Paul attended and graduated from Breckenridge High School where he participated in the FFA. Some of his achievements were earning his State Farmer degree, serving as State Officer, and serving as President of the state winning Parliamentary Procedure and Agricultural Forum teams.

Paul attended Michigan State University where he earned his B.S. in Crop and Soil Science. During his time at MSU he was particularly interested in seed and still remembers the vast amount of knowledge in seed science passed on to him by Dr. Larry Copeland. While attending MSU, Paul worked at Michigan Crop Improvement as a field inspector for three summers. Later, he went on to earn his M.B.A. from Purdue University in Food and Agribusiness.

He began his career as an agronomist with Auburn Bean and Grain where he managed the Auburn and Bay City facilities. He initiated a seed program there and had the opportunity to purchase significant amounts of certified seed from MCIA seed producers. He later moved to ADM where he was the Seed Division Manager. His years of extensive experience in the seed industry and his passion for seed guided him to purchase Treasure Valley Seed Co(TVS). in 2004. Paul managed TVS for 14 years until he sold the company in 2017.

Paul always kept seed quality at the top of his list and supplied many customers with high-quality disease-free dry bean seed for many years. Paul said "I especially enjoyed working with the dry bean breeders and researchers over the years. If I could explain what the industry needed, those people could come up with something better for growers, processors, and end users."

Outside of work Paul was very active in giving back to organizations he was passionate about. He served on many boards including Pheasants Forever, Michigan Bean Shippers where he was Chairman, the MABA Board, and the Michigan Dry Bean Research Advisory Board, he is currently the President of the Grace Lutheran Church. Paul also served as the Industry Representative on the MCIA Board of Directors from 2005 until 2021, where his commitment to the Association was unwavering, contributing to its growth and success.

Family holds a special place in Paul's heart. He has been married to his wife Linda, for 42 years. He has three children, Zachary, Justin, and Elise. He has also been blessed with 5 grandchildren. Paul and his wife travel as much as they can. When he has spare time Paul enjoys hunting, trapping, fishing, snowmobiling and golf. He also works on improving deer and pheasant habitat and tending to his farms and wooded properties.

On behalf of the MCIA Board of Directors, the MCIA Honorary Membership Award is bestowed upon Paul Varner. A heartfelt thanks goes out to Paul for all his years of service to the MCIA Board, the Seed Industry, and the Michigan Crop Improvement Association.

Past Honorary Members

Each year the MCIA Board of Directors chooses one or more deserving individuals who have donated their time to improve the Association and the certified seed industry and presents them with the MCIA Honorary Membership Award. Below is a list of past recipients:

1979 Stanley Woods
1980 Basil McKenzie
1981 Dr. Herbert Pettigrove
1982 Norman R. Thompson
1983 Dr. Elmer Rossman
1984 Dr. Everett Everson
1985 Dr. Milo Tesar
1986 Dr. Carter Harrison
1987 Dr. Wayne Adams
1988 Dr. Larry Copeland
1989 John Dreves
1990 Dr. Fred Saettler
1991 Allan Houghtaling
1992 Roy Greenia
1993 Dr. Robert Gast
1994 Richard Long
1994 Charles Leipprandt
1995 Ken Rauscher
1995 Glen Harrington
1996 Chester Metz
1996 Larry Metz
1997 Don Keinath
1997 Wayne Sturm
1998 John Majzel
1999 Don Reif
2000 Charles Rhode
2001 Bill Renn
2002 Dr. Russ Freed
2003 Dr. James Kelly
2004 David Woods
2005 Clare Harrington
2006 Larry Ivan, Ken Ivan
2007 Steve McGuire
2008 Kent Houghtaling
2009 John Diehl
2010 Dr. Douglas Buhler
2011 George Zmitko
2012 Robert Clarke
2013 Robert Van Kampen
2014 James Stein
2015 Mark Wittstock
2016 Alan Schiellerd
2017 Hauck Seed Farm
2018 Dr. James Kells
2019 Greg Varner
2020 No Recipient
2021 Dennis Gibbs, Witt Seed Farm
2022 Randel H. Judd
2023 Paul Varner

Obituary

David Penzien

MCIA Seedsman David Penzien, age 67, of Attica, Michigan died suddenly as a result of a tragic auto-pedestrian accident Wednesday, June 28, 2023 in Imlay City, Michigan. David James Penzien was born November 2, 1955 in Lapeer, MI. David grew up on the family's Centennial Farm and worked land around Attica, Capac, and Imlay City all of his life. He was still an active seed grower, raising private label soybean seed as well as certified wheat, oat and dry bean seed. David was a past president of the MCIA Board of Directors where he served three terms from 2004 to 2013. David is survived by his wife Sharon, his three sons and his father. He will be greatly missed.

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