


What buttons can we push to improve our Corn?

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What is our Limiting Factor?



Soil Fertility

Weed Problems

Poor Stand

Pest Issues

Hybrid Selection

Soil Compaction

Water Stress

Hybrid Selection



- New hybrids were very impressive
- Drought affected dryland performance

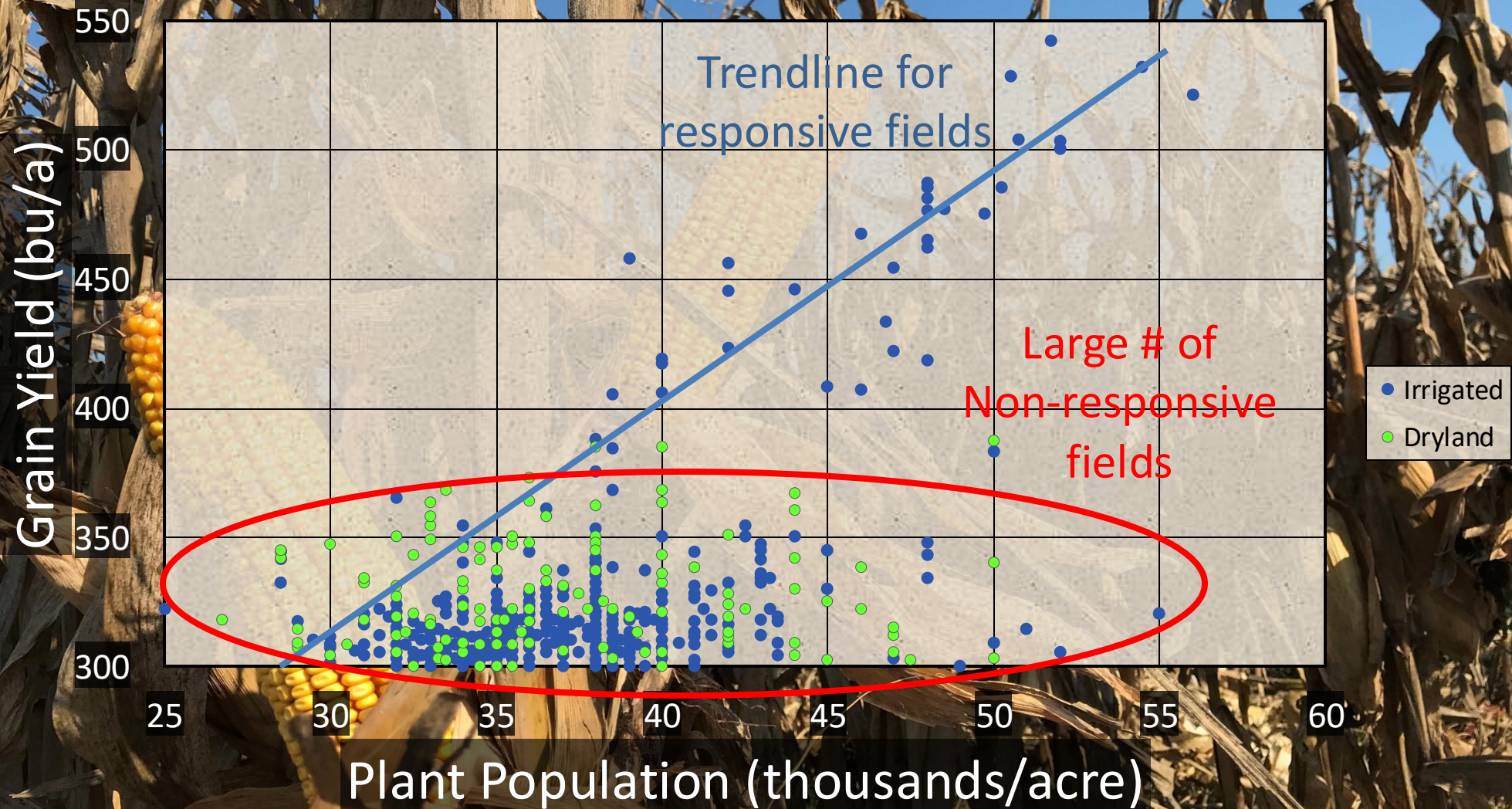
Corn Yield Response to Seeding Rate



Corn ROI Response to Seeding Rate



NCGA Yield Contest Entries > 300 bu/a



MSU Corn Hybrid Demonstration Program

2024 Grain Yield Summary (bu/a)

Dryland Locations

Brand	Hybrid	Varda- Natchez	man	Artesia 30K	Artesia 36K	Bolton	Brown Loam	Aber- deen	West Point	Ponto- toc Sta	Ponto- toc	NMREC Verona	MSU** Starkville	Average Yield*
AgriGold	A647-79	222	124	124	122	176	203	124	147	128	207	124	234	171 BCDE
DEKALB	DKC65-99	217	116	134	139	198	196	119	149	131	210	127	235	174 ABCD
DEKALB	DKC66-06	237	118	106	87	181	210	131	135	146	188	115	241	170 BCDEF
DEKALB	DKC68-35	243	132	134	115	214	197	140	144	149	193	127	240	179 AB
DEKALB	DKC70-45	227	127	120	94	190	206	135	156	124	198	121	236	172 BCDE
Dyna-Gro	D54VC14	208	120	121	120	199	198	142	118	133	203	115	212	165 CDEF
Dyna-Gro	D56TC44	198	142	129	117	202	202	128	150	142	213	117	235	175 ABC
Great Heart	HT-7393	228	116	119	88	192	196	129	139	99	179	106	219	161 F
Innvictis	A1551	223	116	121	112	194	196	115	124	123	208	111	223	165 DEF
Pioneer	P14830	202	106	103	65	145	186	111	138	104	206	85	216	150 G
Pioneer	P17677	230	115	43	41	184	192	129	135	149	186	129	238	161 F
Progeny	PGY 9114	218	127	129	106	172	187	132	121	142	202	102	229	166 CDEF
Progeny	PGY 2118	207	113	112	108	172	198	115	142	153	184	136	222	165 EF
REVERE	1627	229	141	151	142	201	200	141	158	163	211	131	232	183 A
REVERE	1839	230	116	135	97	212	204	132	160	140	243	126	237	179 AB
Location Average		221	122	119	104	189	198	128	141	135	202	118	230	169

	Adler	Almo	Vaiden	Vaiden	Riedtown	Loring	Prentiss	Griffith	Providence	luka	Marietta	Leeper silty
Soil Type	silt loam	silt loam	silty clay	silty clay	silt loam	silt loam	fine sandy loam	silty clay	silt loam	loam	loam	clay loam
Planting Date	29-Mar	5-Apr	26-Apr	26-Apr	4-Apr	2-Apr	24-Apr	26-Apr	17-Apr	19-Apr	23-Apr	3-Apr

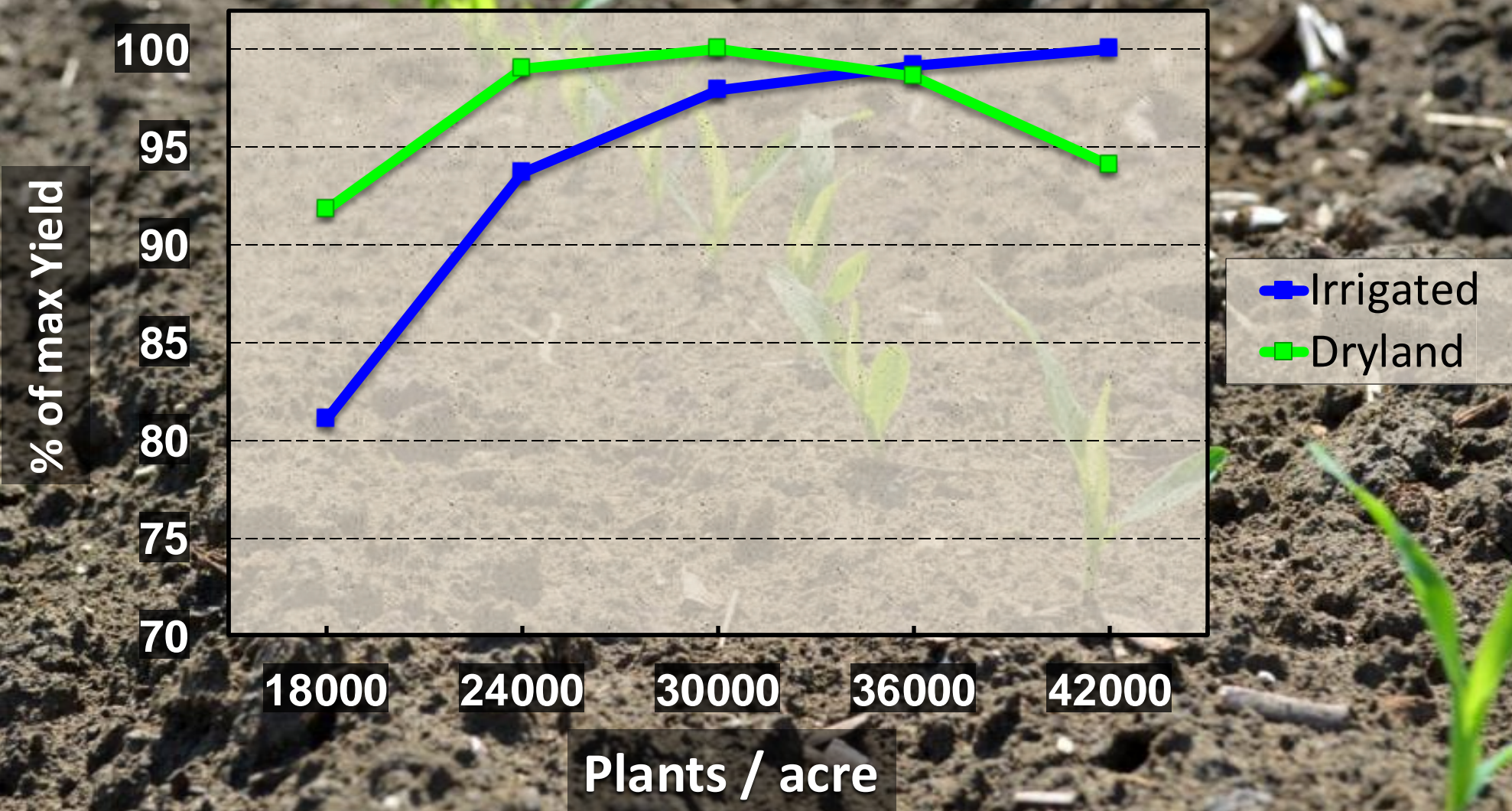
* Grain yields were analyzed and average yield values represented with any combination of the same letter are not significantly different ($P < 0.05$).

**Trials at MSU were grown with three replications of hybrid treatments.



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Environmental affects



Dryland Stress Management

A green combine harvester is shown in the process of harvesting a field of dry corn. The harvester is moving from left to right, leaving a trail of harvested corn stalks and chaff behind it. The sky is a clear, bright blue with a few wispy clouds. The overall scene depicts a typical agricultural harvest in a dryland environment.

- Hybrid Selection
- Planting date
- Plant population

What is our Goal for Irrigated Corn?

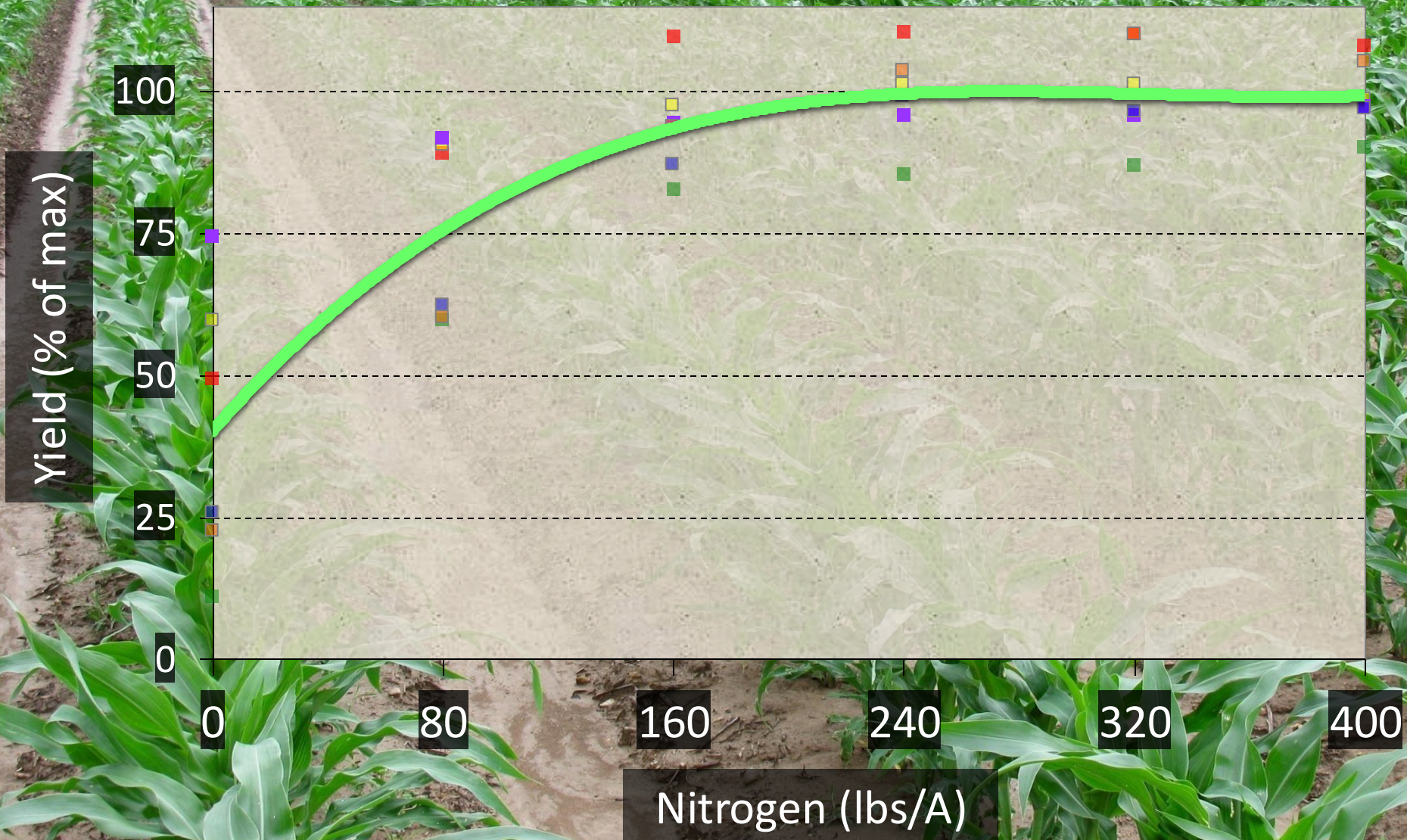


What factors affect Response?

- Row width or pattern
- Planting date
- Hybrid selection



Corn Response to Nitrogen Rate



Improving N Efficiency

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- Timing is very important
 - Reduce losses / improve availability
 - 80% of nitrogen is used after V9

Urea Fertilizer Issues

An aerial photograph of a vast agricultural landscape. The foreground and middle ground are dominated by large, rectangular fields of vibrant green crops, likely corn. A dense, dark green forest runs diagonally across the center of the image. To the right, a small, irregular pond is visible, surrounded by a mix of green and brown earth. The background shows more rolling green hills and fields under a clear sky.

- Distribution issues
- Subject to volatility
- Vulnerable to dry weather

Questions?

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MS Corn Limitations

- Abundant moisture / irrigation mgmt
- Stand variability / establishment
- Nitrogen management
- Soil compaction / crop nutrition
- Italian ryegrass / cover crop mgmt