

MICHIGAN STATE UNIVERSITY

MEMORANDUM

DATE: February 5, 2021

TO: Cooperators in the Michigan Forage Variety Trials

FROM: Dr. Kim Cassida, Michigan State University Forage Specialist
Joe Paling, Research Assistant at East Lansing, Michigan
James Dedecker, Upper Peninsula Research and Extension Center, Chatham, Michigan

RE: Invitation for 2021 Alfalfa, Perennial Grass, Red Clover, Annual Forage, and Cover Crop Variety Trials



College of
Agriculture and
Natural Resources

Department of Plant
Soil and Microbial
Sciences

Forage Variety Trials

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MSU is an affirmative action,
equal-opportunity employer.

Included are applications for the 2021 Michigan Forage Variety Trials.

Locations available are East Lansing in southern lower Michigan at the MSU Agronomy Farm and Chatham in the Upper Peninsula at the MSU Upper Peninsula Research and Extension Center.

Perennial Grass - Trials are being offered for East Lansing and Chatham. Varieties of orchardgrass, tall and meadow fescue, festulolium, timothy, perennial ryegrass, and Kentucky bluegrass have been evaluated in the past few years. Perennial grass trials are usually harvested for three production years after the seeding year.

Alfalfa – Alfalfa variety trials are being offered at East Lansing and Chatham. These trials are usually harvested for three full production years after the seeding year.

Red Clover – Red clover variety trials are being offered at East Lansing. These trials are usually harvested for two full production years after the seeding year.

Annual Forages - Annual forage trials with 4 different planting dates are being offered at East Lansing and Chatham. Entries are invited in the categories of oats, peas, oat/pea mixtures, clovers to be seeded in the spring and harvested for yield in the summer. Seedings in early summer of sorghum, sudangrass, sorghum hybrids, millets, teff, crabgrass to be harvested later in the summer or fall. Annual grasses (Italian and annual ryegrass, teffgrass, crabgrass) seeded in the early summer and harvested for yield. Small grains (wheat, oats, barley, rye, triticale) seeded in the spring and harvested in the summer or winter small grains planted in late summer/early fall and harvested for forage yield the following spring.

Cover Crop – Cover crop variety tests are being offered at East Lansing and Chatham. These are to be planted in the late summer to simulate conditions for planting a cover crop after wheat is harvested.

Results of these trials are used by MSU personnel for variety selection recommendations. Results are available on the Michigan State University Forage Connections web page at <http://forage.msu.edu>. Variety trial results will be distributed through the Michigan State University Extension Service and the Michigan Farm Bureau through the Michigan Farm News.

MICHIGAN ALFALFA VARIETY TRIALS, 2021

Dr. Kim Cassida & Joe Paling
Dept. of Plant, Soil and Microbial Sciences, Michigan State University
1066 Bogue St Rm A286, East Lansing, MI 48824

The Michigan Agricultural Experiment Station will accept proprietary varieties and experimental strains of alfalfa for evaluation at two locations in 2021. The trials are intensively managed for high yield under high fertility, utilizing all factors to maximize yield under natural rainfall.

1. Locations for 2021:

- (1) MSU Research Farm at **East Lansing**. Trials are managed using a four-cut system from late May through November.
- (2) MSU Upper Peninsula Research and Extension Center at **Chatham**, approximately 300 miles north of East Lansing. Chatham has cold winters with deep snow cover. Winter-hardiness and persistence are important at Chatham. Chatham trials are managed for three cuttings from June to October.

2. Description of Trials. Alfalfa trials are seeded with a five-row nursery seeder with six-inch spaces between rows in plots 3 feet wide and at least 20 feet long (generally 22-25 feet). A minimum of four replications is used. Plots are harvested with a Carter self-propelled forage flail harvester. Fertilizer is applied to meet MSU recommendations for high yield. Insecticides are applied when necessary to prevent yield reduction from alfalfa weevil (late May to early June) or potato leafhopper (June 15-September 15). Herbicides are applied as needed to control weeds. Roundup-ready entries will be managed in the same trial as conventional entries.

Standard procedures for determining dry matter yield are used. Plots will be harvested for at least three years after the seeding year unless stands are injured by uncontrollable causes. Preferably, alfalfa will be seeded in the spring and harvested one to three times in the seeding year. Seeding may be delayed until late July or early August to achieve best results in stand establishment, in which case no seeding year harvests will be taken.

Data on stand longevity and disease incidence will be obtained when appropriate. Michigan State University will conduct the trials in a professional manner, but assumes no financial liability for failure to obtain stands or loss of stands due to uncontrollable conditions.

3. Eligibility of Entrants. Any entity may enter varieties or experimental strains in the test provided they have legal permission to do so for protected varieties. This includes private or public developers, dealers, distributors or merchandisers of alfalfa varieties, other Agricultural Experiment Stations, non-profit groups, farmer cooperatives, or individuals.
4. Rejection. Any entry may be rejected if:
- (1) The trial is cancelled. A minimum of 10 paid entries (excluding check varieties) will be required at a location. If 10 entries are not received, payment will be returned.
 - (2) There is misrepresentation.
 - (3) Seed arrives too late for planting.
 - (4) Adequate seed is not available.
 - (5) Variety is not resistant to bacterial wilt.
 - (6) Entry is a blend.

5. Entry Fee. **\$600.00** per variety per test location entered.
Make checks payable to Michigan State University and send with applications to:
Joe Paling, 4450 Beaumont Rd, PSM Agronomy Farm, Michigan State University, Lansing, Michigan 48910

Deadline for Entry. Applications must be received by Joe Paling by **April 1, 2021**. Seed must be in the possession of Joe Paling by **April 21, 2020**.

6. Seed Required. Seed for released varieties is to be from a commercial source. Arrangements may be made with MSU to deliver commercial seed through local dealers, distributors, or other sources. All seed will be inoculated with Rhizobium at MSU prior to planting. Seed treated with fungicides will be accepted.

Released varieties: 200 grams of seed per entry for each location.

Experimentals: 100 grams per entry for each location is adequate.

7. Publication. Each entrant will receive a yearly summary of the data in November, including all released and experimental varieties. The yearly summaries will be published in the *Michigan Farm News* in February. Complete test results will be published by Michigan State University Extension and will be posted on the MSU Forage Connection website <http://forage.msu.edu/>.
8. For assistance, contact Joe Paling at paling@msu.edu, cell 517-242-4155, or Kim Cassida at cassida@msu.edu, 517-353-0278.

MICHIGAN 2021 ALFALFA VARIETY TRIALS

Dr. Kim Cassida & Joe Paling
 Dept. of Plant, Soil and Microbial Sciences, Michigan State University
 1066 Bogue St Rm A286, East Lansing, MI 48824

Submit one form for each variety or entry and send to the address below by April 1, 2021. Seed of released varieties (200 grams per location from a commercial source) and experimental entries (100 grams per location) should be received by April 21, 2021. Only genetically reproducible seed will be accepted. Blends will not be accepted.

1. Company _____
 Contact person _____ Marketer _____
 Email _____
2. Address _____
 City _____ State _____ Zip _____
 Phone (____) _____ Fax (____) _____
3. Name or number of entry _____
4. _____
 (Please indicate name desired when data are reported)
5. Brief description _____
 Is this a commercially released variety? Yes No

Please list any addition e-mail addresses you would like the results sent to:

Date of Seed Test _____ Purity _____ Germination, quick _____ Germination, hard _____ Germination, total _____ Scarified - yes or no (circle on) East Lansing Standard _____ Chatham Standard _____ Total Locations _____ * 600.00 = _____	<table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Disease Resistance</td> <td style="border-bottom: 1px solid black; width: 10%;"></td> <td style="border-bottom: 1px solid black; width: 10%;"></td> <td style="border-bottom: 1px solid black; width: 10%;"></td> <td style="border-bottom: 1px solid black; width: 10%;"></td> <td style="border-bottom: 1px solid black; width: 10%;"></td> <td style="border-bottom: 1px solid black; width: 10%;"></td> </tr> <tr> <td>Fall Dormancy</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> <td style="text-align: center;">6</td> </tr> <tr> <td>Winterhardiness</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> <td style="text-align: center;">6</td> </tr> <tr> <td>Resistance Ratings</td> <td colspan="6" style="text-align: center; border-bottom: 1px solid black;">DRI</td> </tr> <tr> <td>Bacterial Wilt</td> <td style="text-align: center;">HR</td> <td style="text-align: center;">R</td> <td style="text-align: center;">MR</td> <td style="text-align: center;">LR</td> <td colspan="2" style="text-align: center;">S</td> </tr> <tr> <td>Verticillium Wilt</td> <td style="text-align: center;">HR</td> <td style="text-align: center;">R</td> <td style="text-align: center;">MR</td> <td style="text-align: center;">LR</td> <td colspan="2" style="text-align: center;">S</td> </tr> <tr> <td>Fusarium Wilt</td> <td style="text-align: center;">HR</td> <td style="text-align: center;">R</td> <td style="text-align: center;">MR</td> <td style="text-align: center;">LR</td> <td colspan="2" style="text-align: center;">S</td> </tr> <tr> <td>Anthracnose</td> <td style="text-align: center;">HR</td> <td style="text-align: center;">R</td> <td style="text-align: center;">MR</td> <td style="text-align: center;">LR</td> <td colspan="2" style="text-align: center;">S</td> </tr> <tr> <td>Phytophthora root rot</td> <td style="text-align: center;">HR</td> <td style="text-align: center;">R</td> <td style="text-align: center;">MR</td> <td style="text-align: center;">LR</td> <td colspan="2" style="text-align: center;">S</td> </tr> <tr> <td>Aphanomyces (race 1)</td> <td style="text-align: center;">HR</td> <td style="text-align: center;">R</td> <td style="text-align: center;">MR</td> <td style="text-align: center;">LR</td> <td colspan="2" style="text-align: center;">S</td> </tr> <tr> <td>Aphanomyces (race 2)</td> <td style="text-align: center;">HR</td> <td style="text-align: center;">R</td> <td style="text-align: center;">MR</td> <td style="text-align: center;">LR</td> <td colspan="2" style="text-align: center;">S</td> </tr> <tr> <td>Stem Bulb Nematode</td> <td style="text-align: center;">HR</td> <td style="text-align: center;">R</td> <td style="text-align: center;">MR</td> <td style="text-align: center;">LR</td> <td colspan="2" style="text-align: center;">S</td> </tr> <tr> <td>Pea Aphid</td> <td style="text-align: center;">HR</td> <td style="text-align: center;">R</td> <td style="text-align: center;">MR</td> <td style="text-align: center;">LR</td> <td colspan="2" style="text-align: center;">S</td> </tr> <tr> <td>Potato Leafhopper</td> <td style="text-align: center;">HR</td> <td style="text-align: center;">R</td> <td style="text-align: center;">MR</td> <td style="text-align: center;">LR</td> <td colspan="2" style="text-align: center;">S</td> </tr> </table>	Disease Resistance							Fall Dormancy	1	2	3	4	5	6	Winterhardiness	1	2	3	4	5	6	Resistance Ratings	DRI						Bacterial Wilt	HR	R	MR	LR	S		Verticillium Wilt	HR	R	MR	LR	S		Fusarium Wilt	HR	R	MR	LR	S		Anthracnose	HR	R	MR	LR	S		Phytophthora root rot	HR	R	MR	LR	S		Aphanomyces (race 1)	HR	R	MR	LR	S		Aphanomyces (race 2)	HR	R	MR	LR	S		Stem Bulb Nematode	HR	R	MR	LR	S		Pea Aphid	HR	R	MR	LR	S		Potato Leafhopper	HR	R	MR	LR	S	
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