HERBICIDE TRIAL UPDATES

SFNMC FY 2021 ADVISORY MEETING

NOVEMBER 5, 2020

Southern Forest Nursery Management Cooperative

Nina Dowling Payne

HERBICIDE TRIALS INSTALLED IN 2020

- BAREROOT Post-Emergent Herbicide Screening Trial – 3 herbicides
- HARDWOOD Flumioxazin Trial – 13 species

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BAREROOT POST-EMERGENT HERBICIDE TRIAL 2020

- Purpose of trial is to identify and test post-emergent herbicides for weed control in bareroot pine seedling nurseries

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17 POST-EMERGENT HERBICIDES TESTED 2016-2019

- Basagran® (bentazon)
- Beacon® (primisulfuron)
- Defendor ® (florasulam)
- Dismiss ® (sulfentrazone)
- Envoke ® (trifloxysulfuron)
- Frequency ® (topramezone)
- Grasp ® (penoxsulam)
- Mission™ (flazasulfuron)
- Plateau ® (imazapic)
- Ronstar®Flo (oxadiazon)*
- ShieldEx ® (tolpyralate)
- Strada ® (orthosulfamuron)
- TapOut ® (clethodim)**
- Tenacity® (mesotrione)
- Valor ® (flumioxazin)
- Velocity ® (bispyribac)
- Venue™ (pyraflufen)

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* Labeled for pre-emergent use in conifer nurseries
** Labeled to control grasses in conifer nurseries

BAREROOT POST-EMERGENT HERBICIDE TRIAL 2020

- ShieldEx ® (tolpyralate) – corn herbicide
  lists grasses and broadleaf weeds
- Strada ® (orthosulfamuron) – rice herbicide
  lists rice flatsedge and yellow nutsedge
- Tenacity® (mesotrione) – turf herbicide
  lists grasses, broadleaf weeds, yellow nutsedge

BAREROOT POST-EMERGENT HERBICIDE TRIAL 2020

- Installed in 5 SFNMC nurseries:

- All seedlings sprayed at 9 weeks post-sowing (June 29 – July 10)
- 5 loblolly pine, 3 slash pine trials
- Herbicides applied at lowest labeled rate

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SEEDLING COLLECTION AND MEASUREMENTS

- End of season seedling sample collections to be made at 16 weeks post-sowing at all 5 nurseries (November 9 – 20)
- Seedling characteristics to be measured and analyzed include:
  - Seedling density
  - Root collar diameter
  - Shoot height
  - Dry weight of shoots and roots
  - Notes of stem, needle or root deformity or discoloration

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RESULTS PROPOSED TO BE USED IN 2021

- Narrow 2016 – 2020 post-emergent herbicides tested to:
  - Herbicides with positive seedling tolerance results in >2 years of trials
  - Herbicides labeled for SFNMC problematic weeds, e. g. yellow nutsedge
- Test these herbicides in SFNMC nurseries at earlier times in growing season (weeds should be sprayed at <4 inches tall for effective herbicide control)

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HARDWOOD FLUMIOXAZIN TRIAL

- Purpose of trial is to identify and test herbicide for weed control in bareroot hardwood seedling nurseries

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HARDWOOD FLUMIOXAZIN TRIAL

- Herbicide: flumioxazin 51.0% WDG, pre-emergent
- Rate: 10 oz./ac
- Applied at sowing (February and May)
- Georgia Forestry Commission Nursery
- 13 Species:

Baldcypress
Catalpa
Chickasaw plum
Crabapple
Crepe myrtle
Dogwood
Northern red oak
Persimmon
Redbud
Sawtooth oak
Swamp chestnut oak
White oak
Yellow poplar

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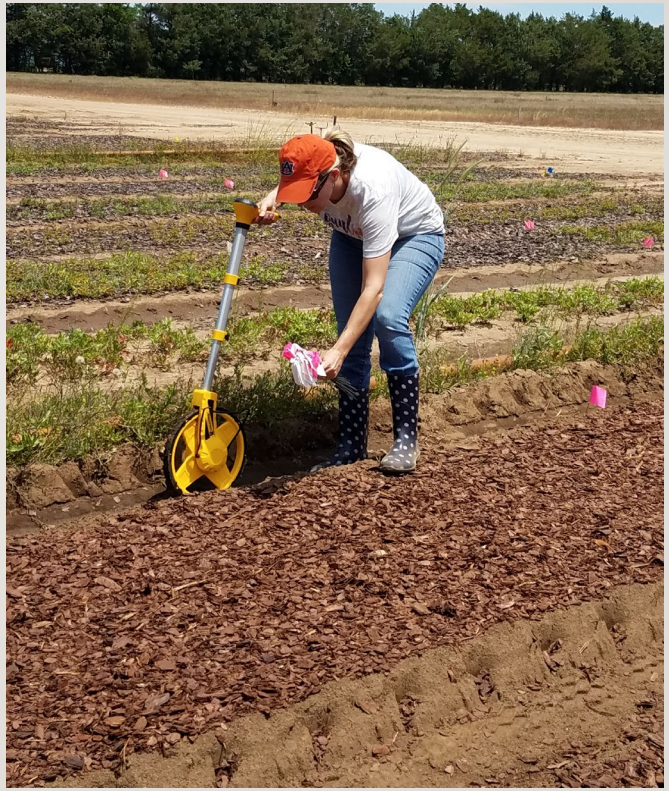
JOHN DEERE



Crabapple plots
12 weeks post-spray 5-5-20

Dogwood plots
12 weeks post-spray 5-5-20

Control plots

Treatment plots

Control plots

Swamp chestnut oak plots
12 weeks post-spray 5-5-20

Crepe myrtle plots
8 weeks post-spray 6-29-20

Control plot

Treatment plot

White oak plots
12 weeks post-spray 5-5-20

Sawtooth oak plots
12 weeks post-spray 5-5-20

HARDWOOD FLUMIOXAZIN TRIAL

- Initial visual observations of 13 species tested:

POOR RESULTS at 8-12 weeks postsow	GOOD RESULTS at 8-12 weeks postsow	Rain washout and/or poor germination
Crabapple	Catalpa	Baldcypress
Crepe myrtle	Chickasaw plum	Yellow poplar
Dogwood	Northern red oak	
Redbud	Persimmon	
Swamp chestnut oak	Sawtooth oak	
White oak		

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SEEDLING COLLECTION AND MEASUREMENTS

- End of season seedling sample collections to be made in early 2021
- Seedling characteristics to be measured and analyzed include:
  - Seedling density
  - Root collar diameter
  - Shoot height
  - Dry weight of shoots and roots

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RESULTS PROPOSED TO BE USED IN 2021

- Narrow species to be included to those with positive tolerance results in 2020
- Add additional species if requested

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