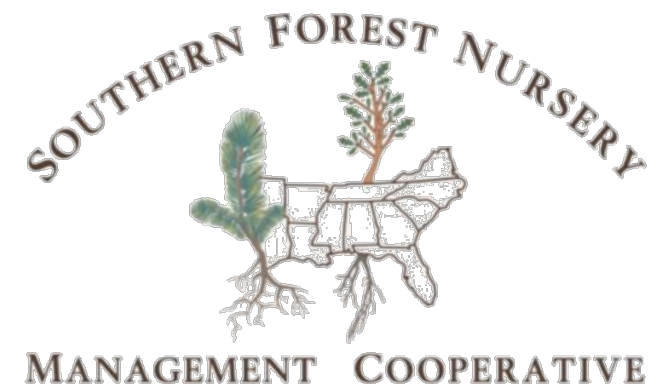




New Products (Person), Labels and Legislation

Ryan Nadel



How my past research activities benefits the Southern Forest Nursery Management Cooperative

RYAN NADEL



Personal information



Qualifications

- University of the Witwatersrand, Johannesburg, South Africa
 - BSc
 - Zoology
 - Ecology, Environment and Conservation
 - BSc (Hons)
 - Ecology, Environment and Conservation
 - MSc (by dissertation)
 - Slash burning and the effects on nutrient dynamics and soil faunal composition in a *Eucalyptus grandis* plantation in South Africa



Qualifications

- University of Pretoria, Pretoria, South Africa
 - PhD (Genetics)
 - Molecular and chemical ecology of the *Eucalyptus* pest, *Thaumastocoris peregrinus*



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PhD research

Molecular and chemical ecology of the
Eucalyptus pest, *Thaumastocoris peregrinus*





Post PhD research:

Commercial Forestry Research

Integrated Pest Management

Vegetation Management





*Further research in South Africa
and Auburn University*

Fusarium circinatum research



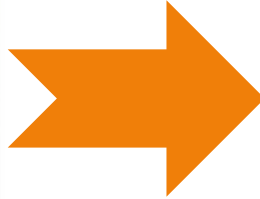
Fusarium circinatum



Images: Scott Enebak

Fusarium circinatum

Asymptomatic *P. patula* seedlings

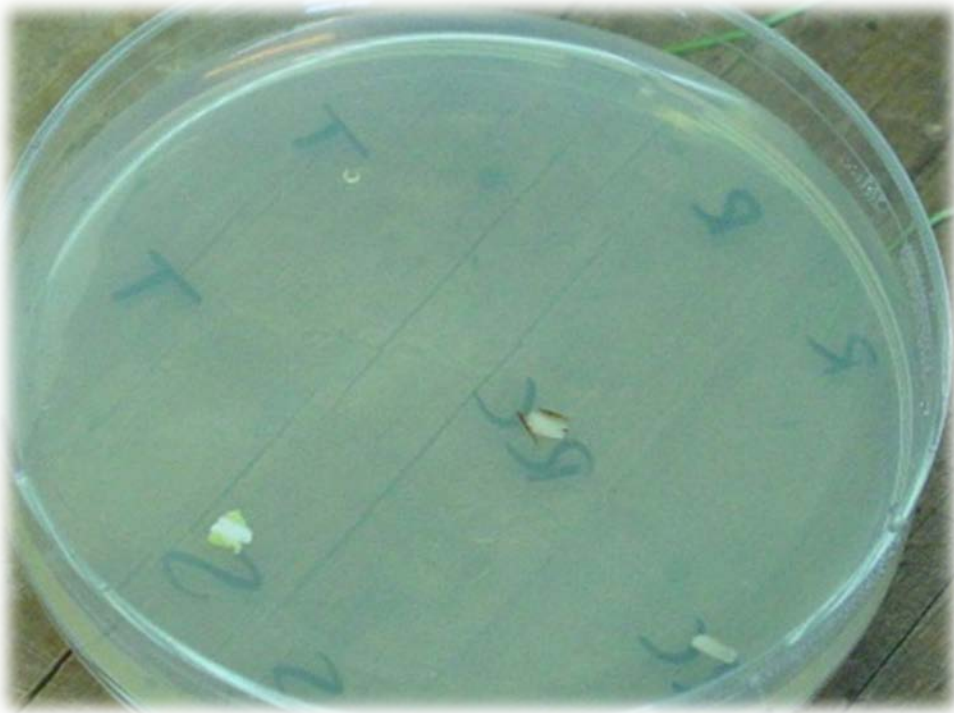


Severe post-planting mortality



South African Pitch Canker Programme

Lab testing



Field trial



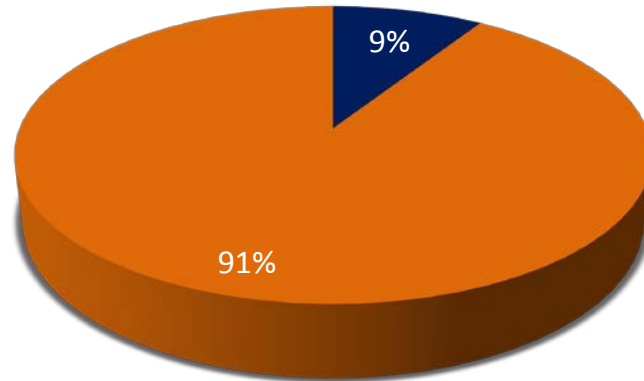
Rapid identification

- Seed certification, indicating the absence of the pathogen is required for international seed importation
- Currently the International Seed Testing Association (ISTA) seed screening blotter paper method is used by the USDA Forest Service Resistance Screening Center to screen for the pathogen

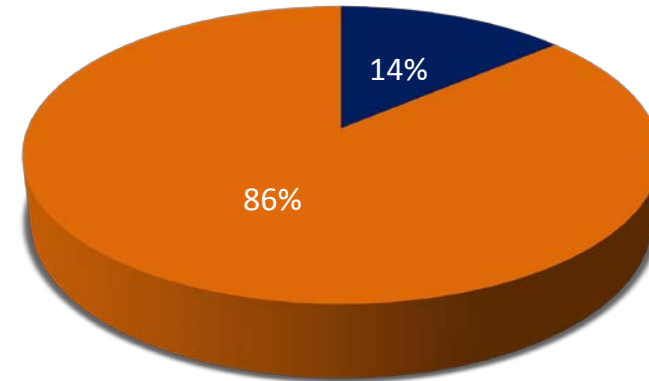


Results of seed screening

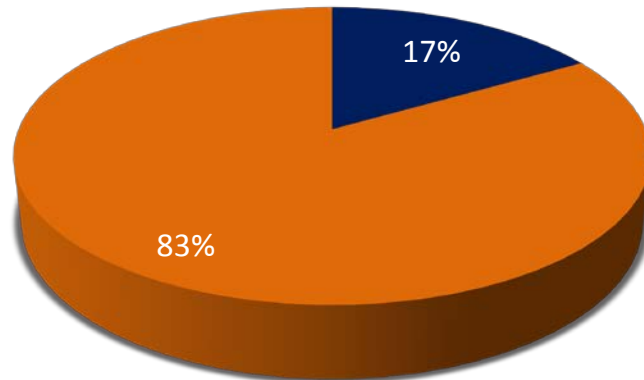
Slash pine



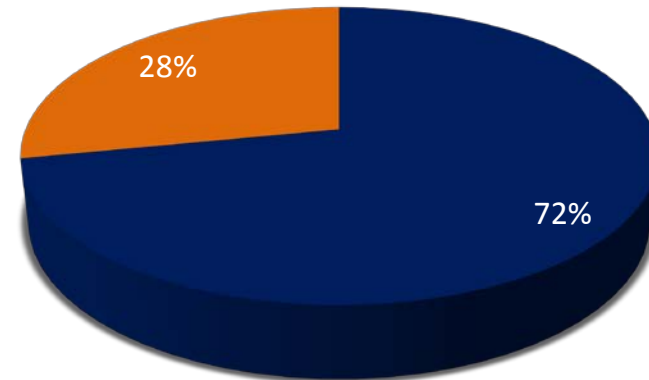
Loblolly pine



Shortleaf pine

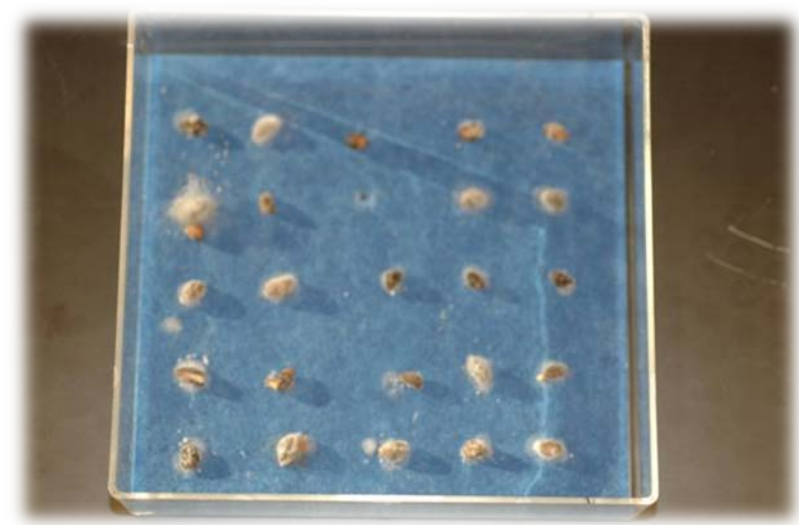
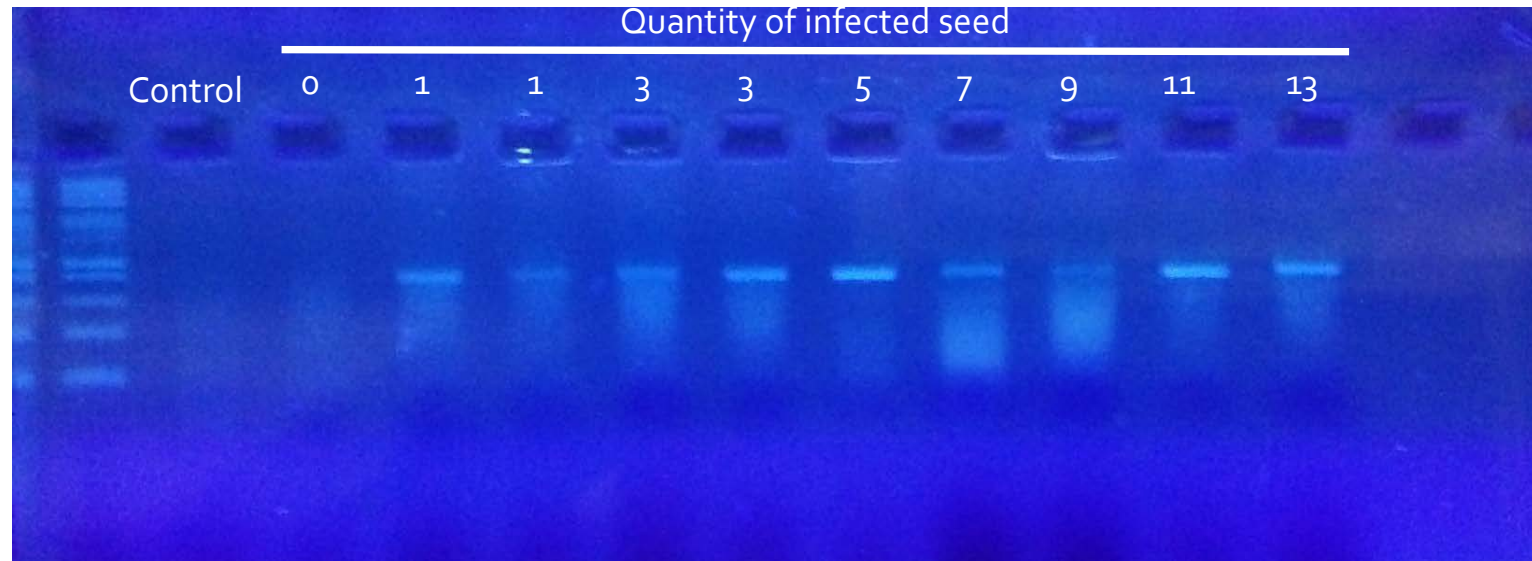


Longleaf pine



■ % Seed lots infected ■ % Seed lots un-infected

Detection limits of method



My areas of research interest



Areas of research interest

- Nitrogen (fertilization) utilization & stabilization – new thrust to look at smarter nitrogen use in both bareroot and container nurseries and for outplanting
- Role of plant hormones in seedling development and successful outplanting
- Utilize my experience with insect and diseases for improving outplanting performance
- Biologically active compounds for the use in cultivation of conifers and hardwoods

New labels and legislation



New labels and legislation

- EPA changing regulations on exemption from the requirement of tolerance for certain residues when used as inert ingredients
- Future labels may be changing.....
Currently 6 agricultural companies are on the ground for merger and acquisition
 - Dow Chemical Co and DuPont merger
 - Syngenta – ChemChina acquisition
 - Monsanto – Bayer acquisition

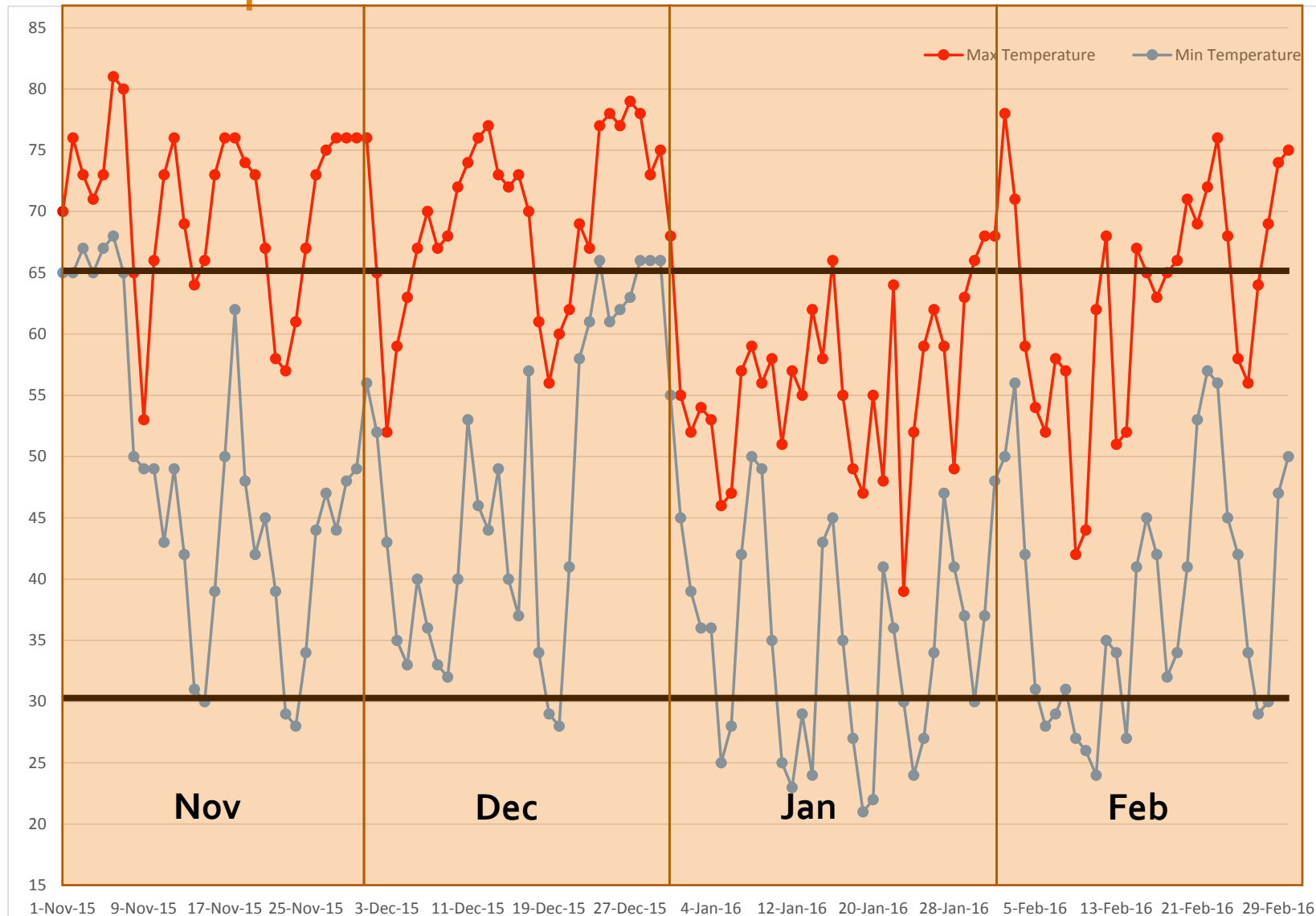
Seedling quality



Nursery Coop

- SFNMC has been receiving calls about some problems with seedling quality for last season
- Problems may be linked to the weather in late 2015 and early 2016
 - Temperature
 - Rainfall

Temperature



- **November**

83% of days had a maximum temperature above 65 °F

- **December**

77% of days had a maximum temperature above 65 °F

- **January**

10% of days had a maximum temperature above 65 °F

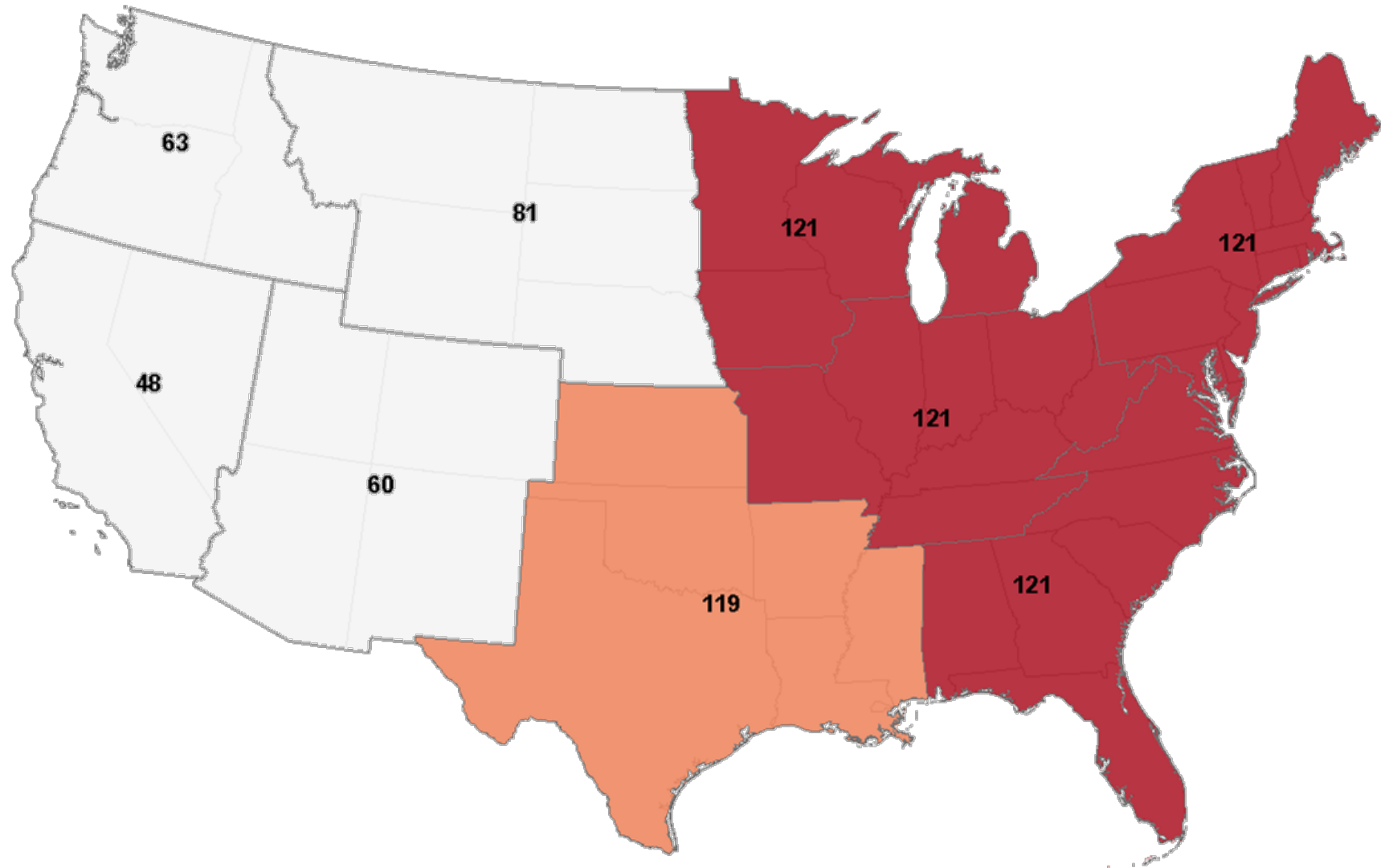
- **February**

52% of days had a maximum temperature above 65 °F

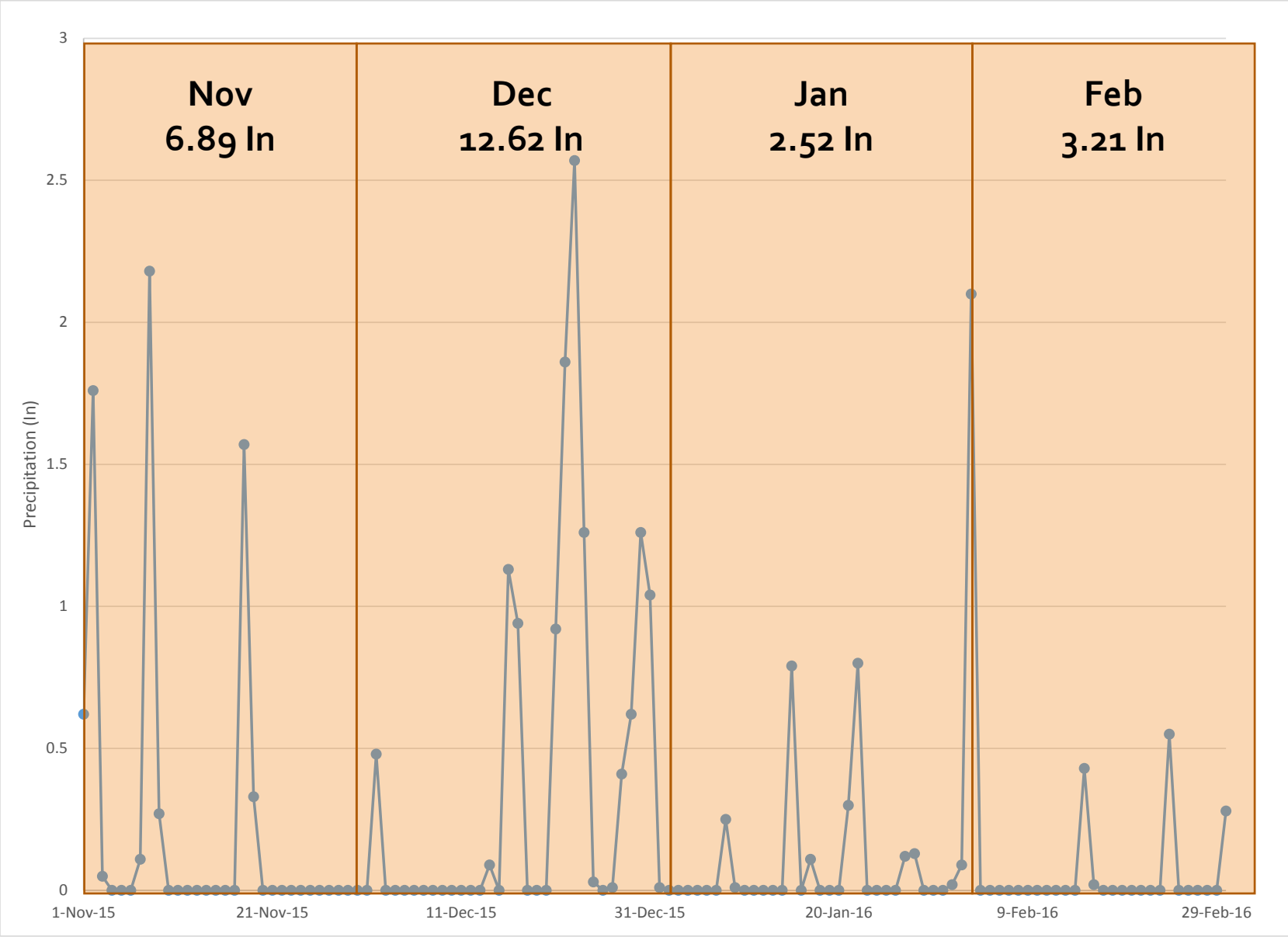
Chilling hours from a central Georgia location for growing season

	Number of chilling hours (T ≤ 45 °F)			
	2012-2013	2013-2014	2014-2015	2015 -2016
November	188	204	299	63
December	212	270	215	95
January	214	509	394	344
February	320	288	436	247

Hottest December on record



Rainfall



Wettest December

