

The Use of Crop Insurance for Climate Resilience on Vegetable and Fruit Farms in the Northeast: *Insights from the New England Adaptation Survey*



The University of Vermont

Presentation to the Northeast Specialty Crop Water Symposium

Alissa White, December 19th, 2019 Burlington VT



United States Department of Agriculture
Northeast Climate Hub

Weather related crop loss in the Northeastern US, 2013-2016

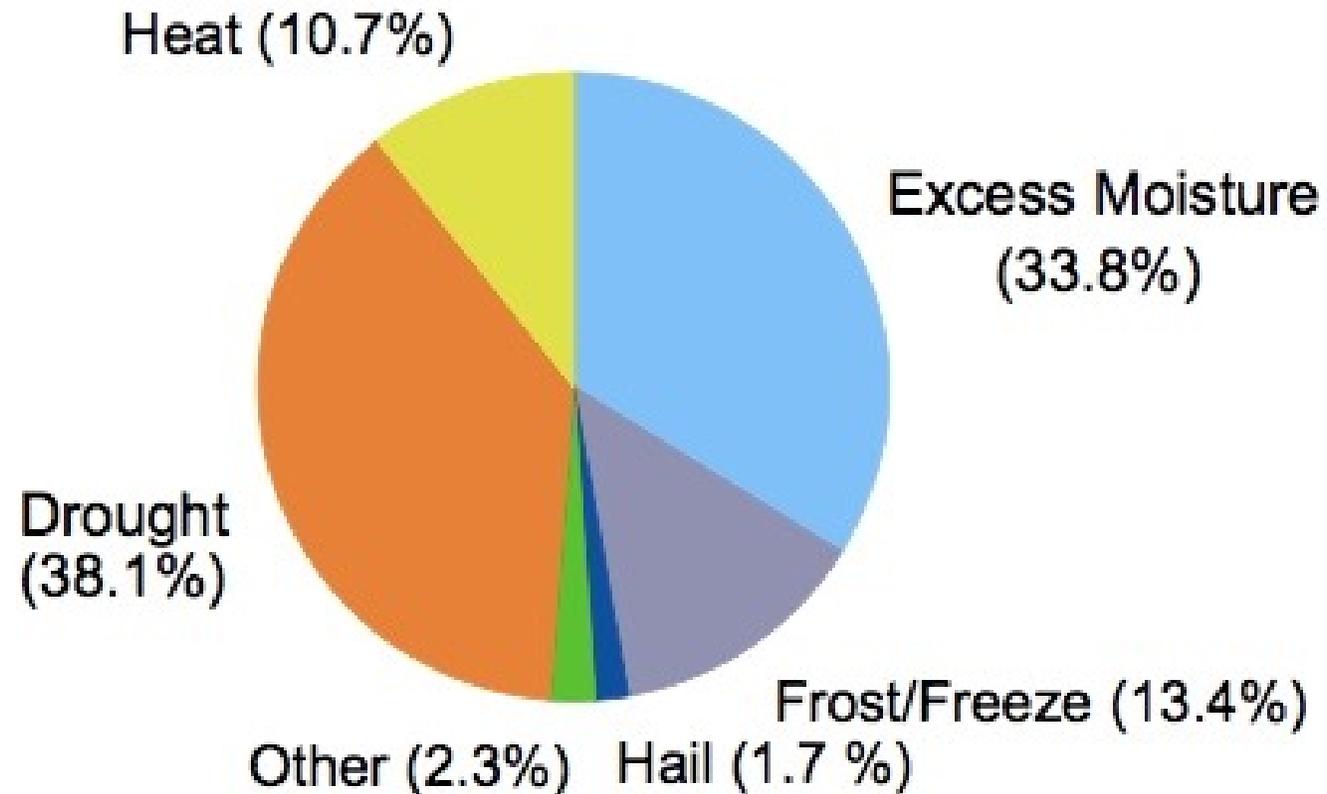


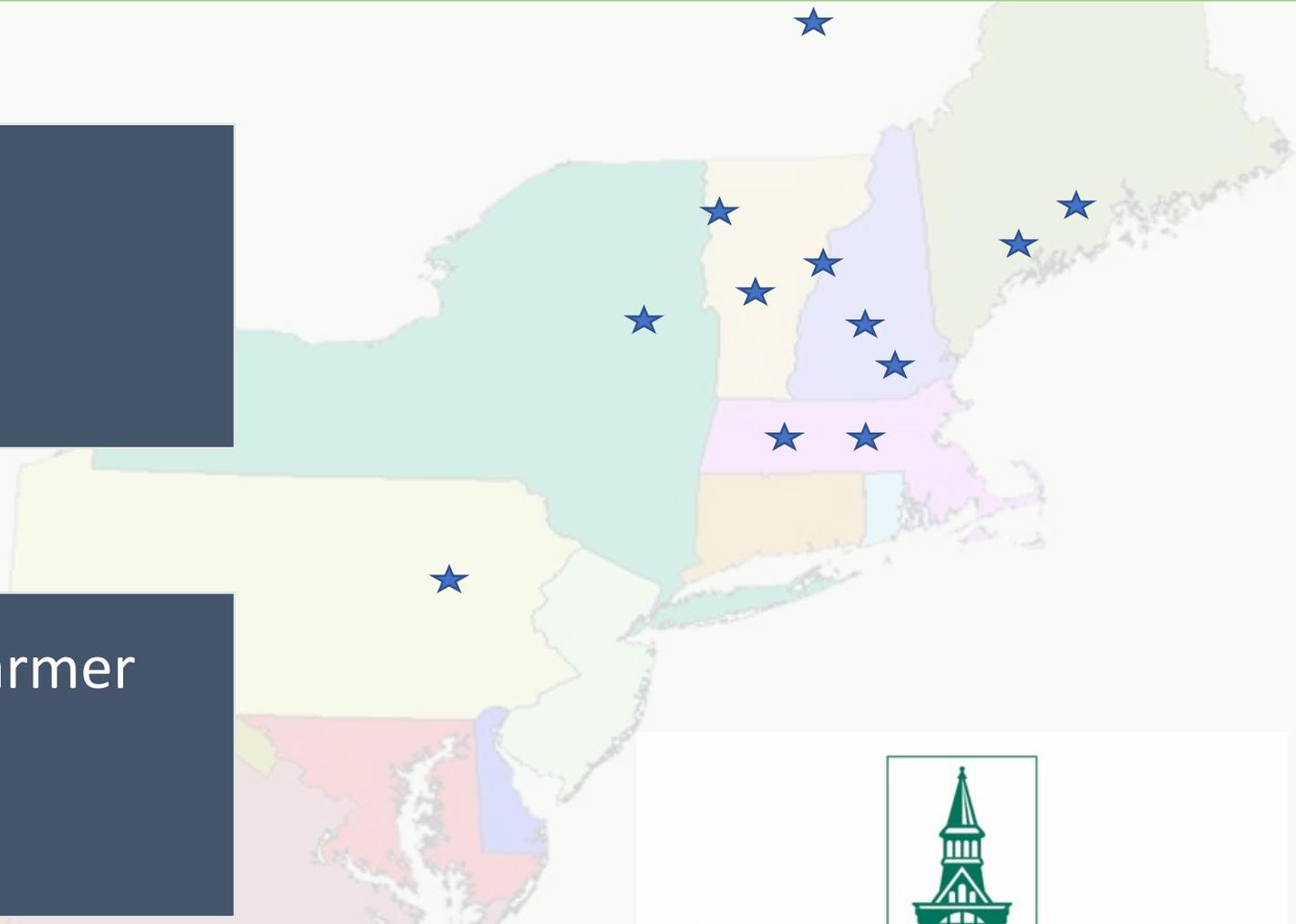
Figure from:

Wolfe, David W., Arthur T. DeGaetano, Gregory M. Peck, Mary Carey, Lewis H. Ziska, John Lea-Cox, Armen R. Kemanian, Michael P. Hoffmann, and David Y. Hollinger. "Unique challenges and opportunities for northeastern US crop production in a changing climate." *Climatic change* 146, no. 1-2 (2018): 231-245.

The New England Adaptation Survey

Farmer Survey
Winter 2017-2018

Focus Groups & Farmer-to-Farmer
Sessions
Winter 2018-2019



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The New England Adaptation Survey

Farmer Survey
Winter 2017-2018

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Part 1.

Survey of fruit & vegetable producers

193 respondents, Canada to Pennsylvania

November 2017 - April 2018

77 questions

Convenience samples via farmer
organizations

Embedded in the informational landscape
of networks

The New England Adaptation Survey

Farmer Survey
Winter 2017-2018



Focus Groups & Farmer-to-Farmer
Sessions
Winter 2018-2019

Part 2.

Focus Groups & Farmer-to-Farmer Sessions
October 2018 - March 2019

9 conversations, 173 participants

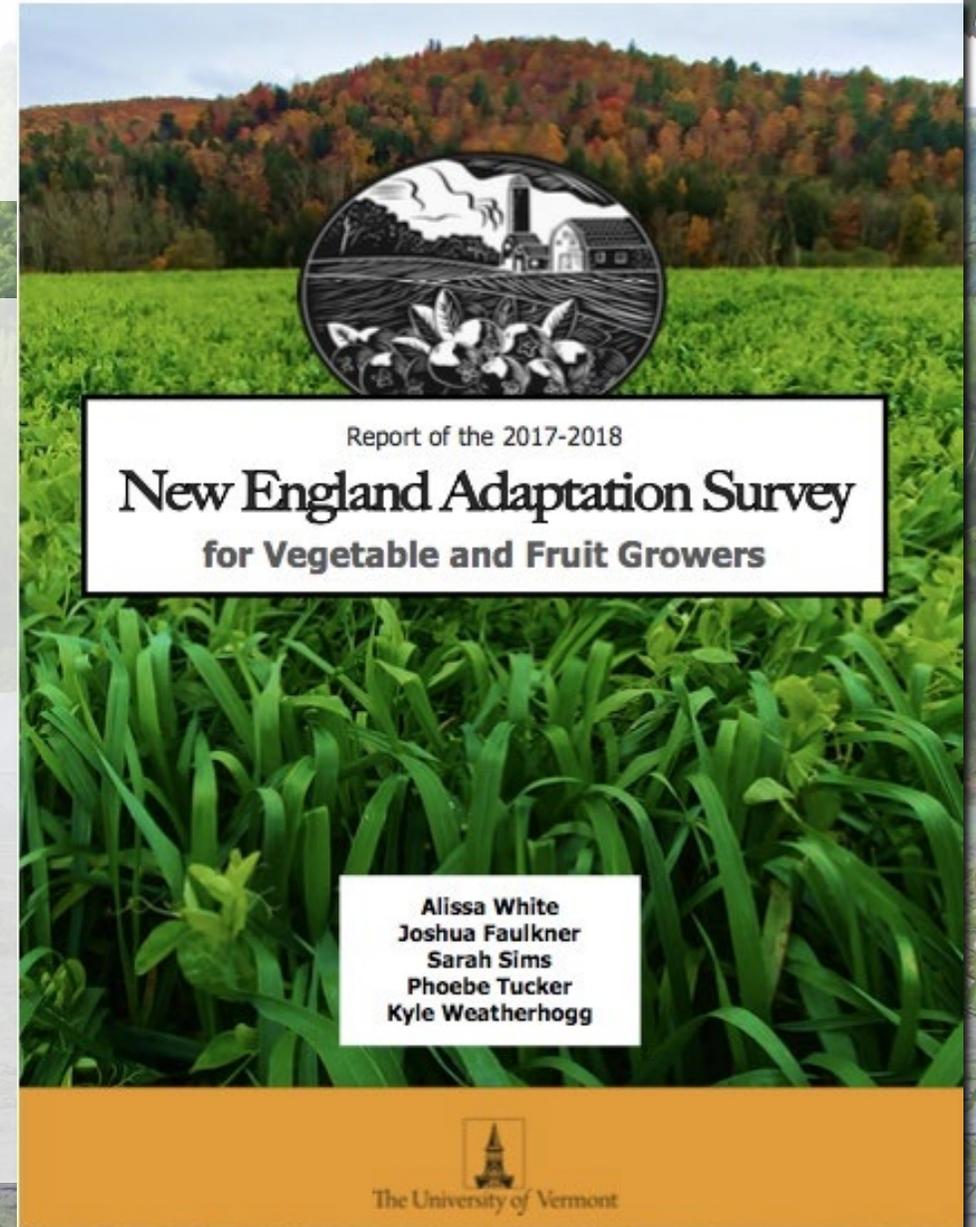
We asked:

What resources do you use for resilience?

What resources do you need for resilience?

Survey contents:

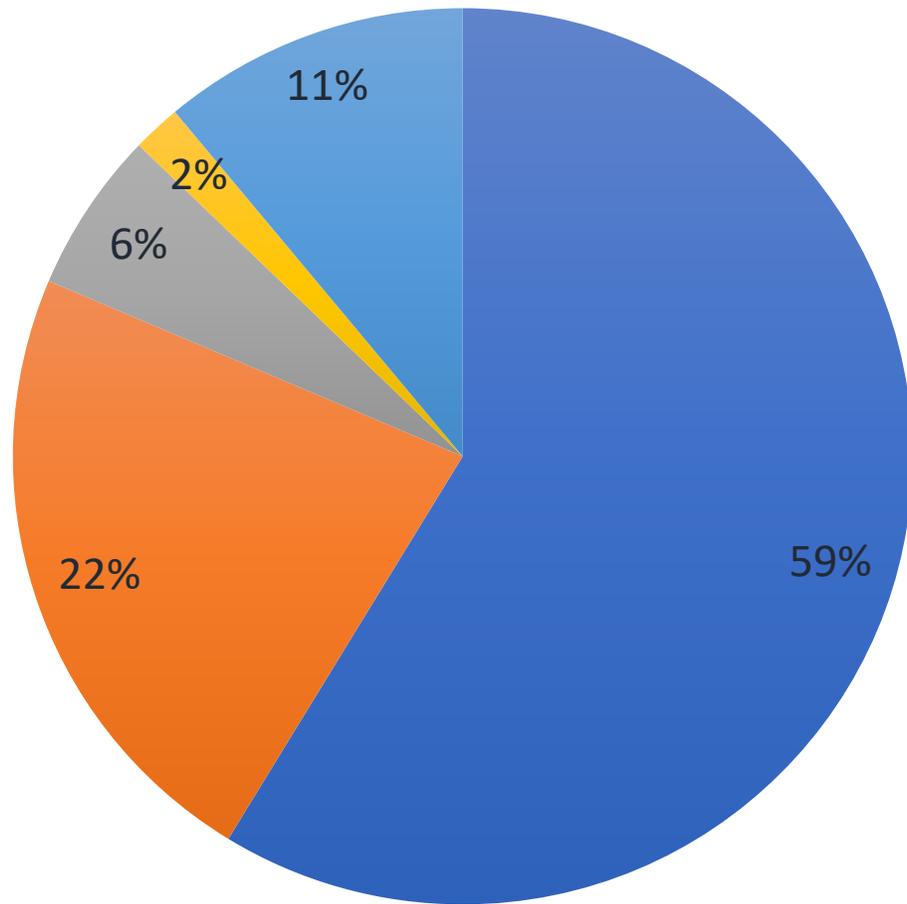
- Adapting to heavy precipitation
- Adapting to drought
- Networks & information sources
- Cover crops
- Climate risk perceptions
- Capability & resources
- Farm & site characteristics



Participant demographics

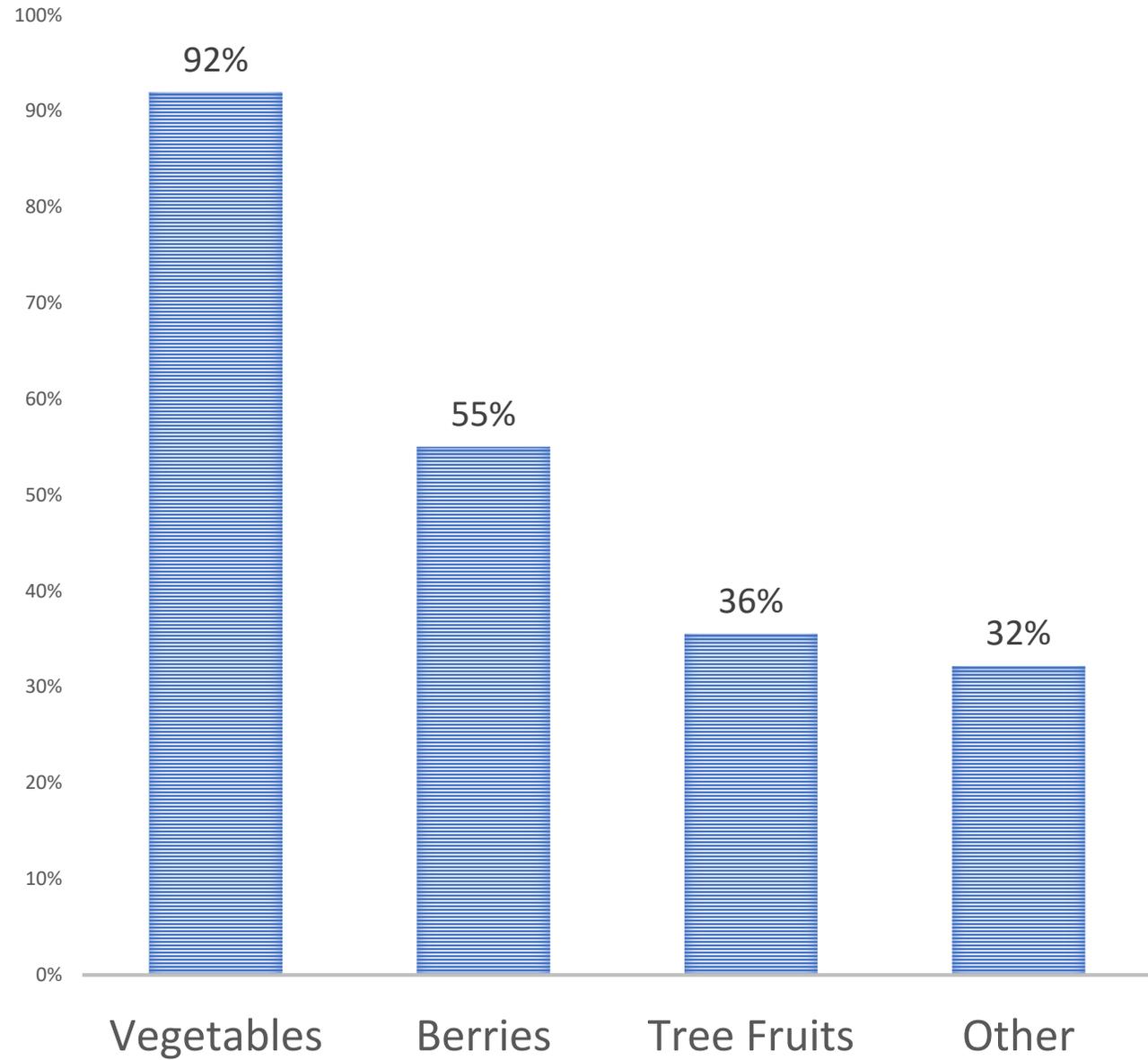
Average Age	47
Gender	54% Male, 44% Female, 2% Other
Average total farm acreage in production	27.6 acres
Average years as a decision maker on a farm	13 years
% of participants who grow organic	45%

Role on Farm

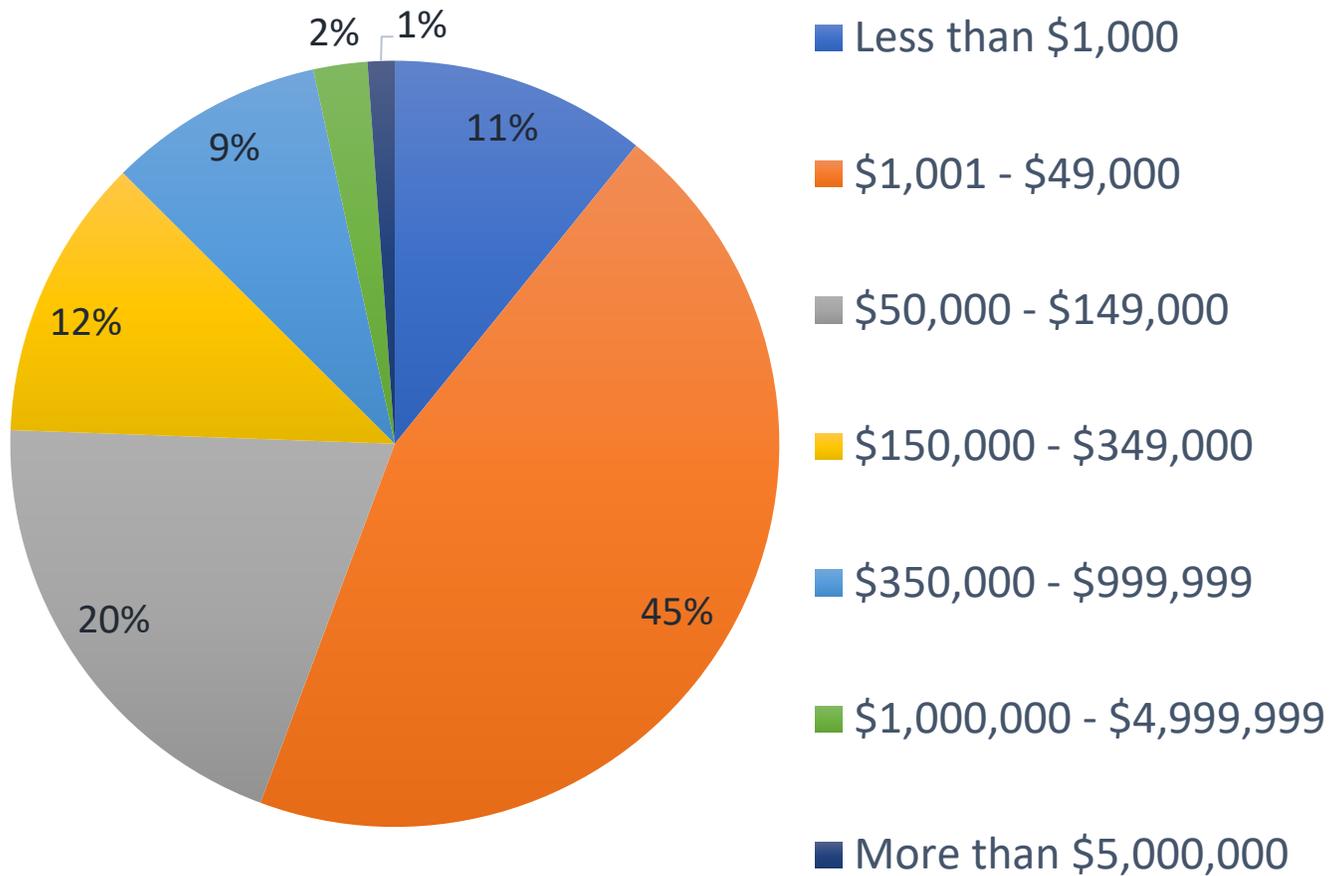


- Farm owner
- Full-time farmer
- Part-time farmer
- Farmer ally
- Other

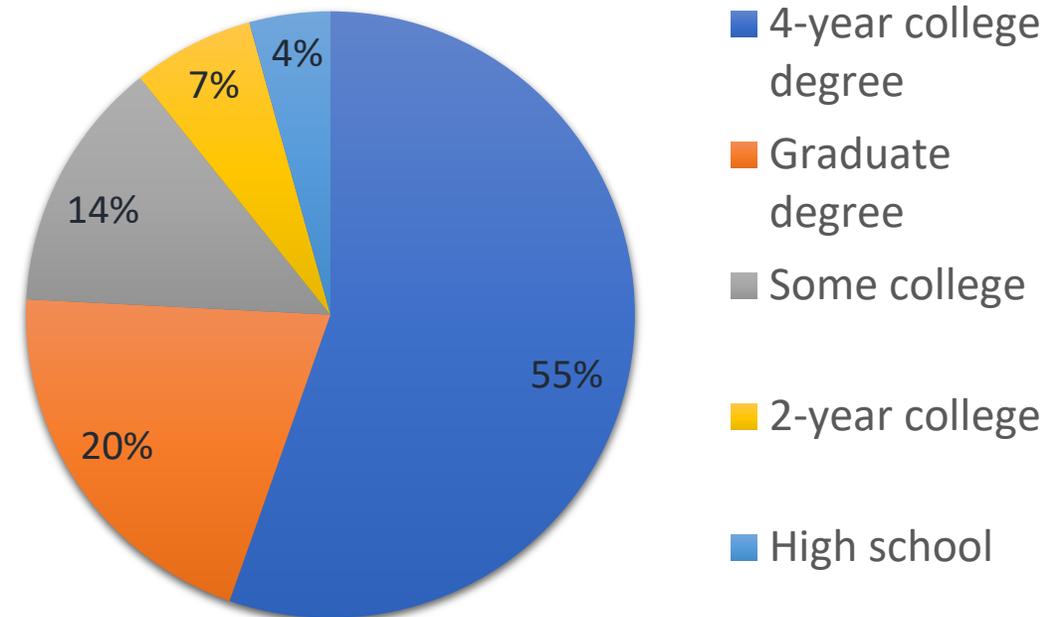
WHAT DO YOU PRODUCE ON YOUR FARM?



Gross annual farm income



Highest level of education

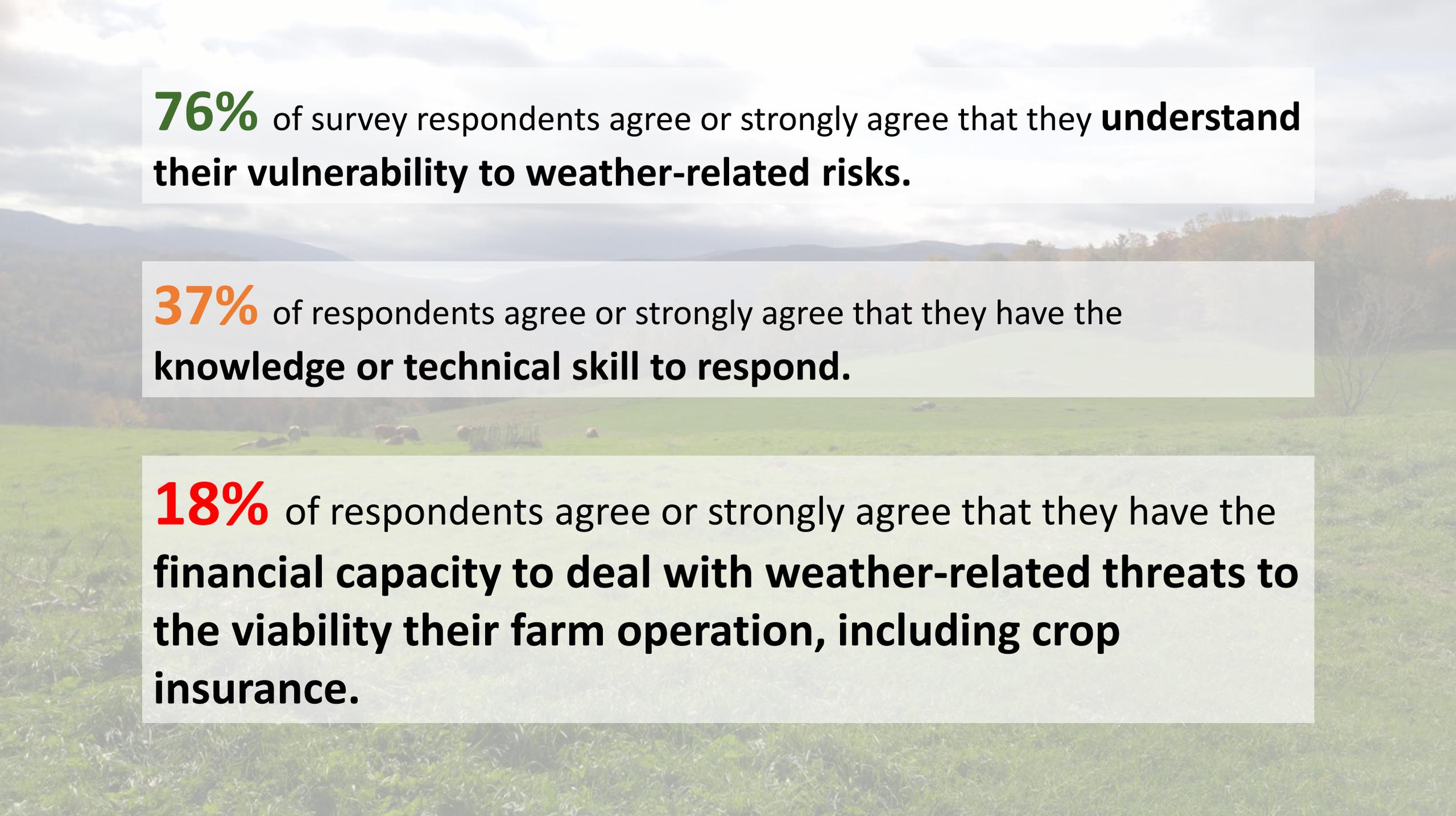


ADAPTING TO HEAVY PRECIPITATION EVENTS:

- **72%** of participants **had already made changes** on their farm because of an experience with, or concern about, heavy precipitation or flooding
- **61%** of participants were **planning to make changes** that will help manage for the risk of heavy precipitation or flooding

ADAPTING TO DROUGHT:

- **66%** of survey participants **had already made changes** on their farm because of an experience with, or concern about, drought.
- **39%** of participants were **planning to make changes** that will help manage for the risk of drought

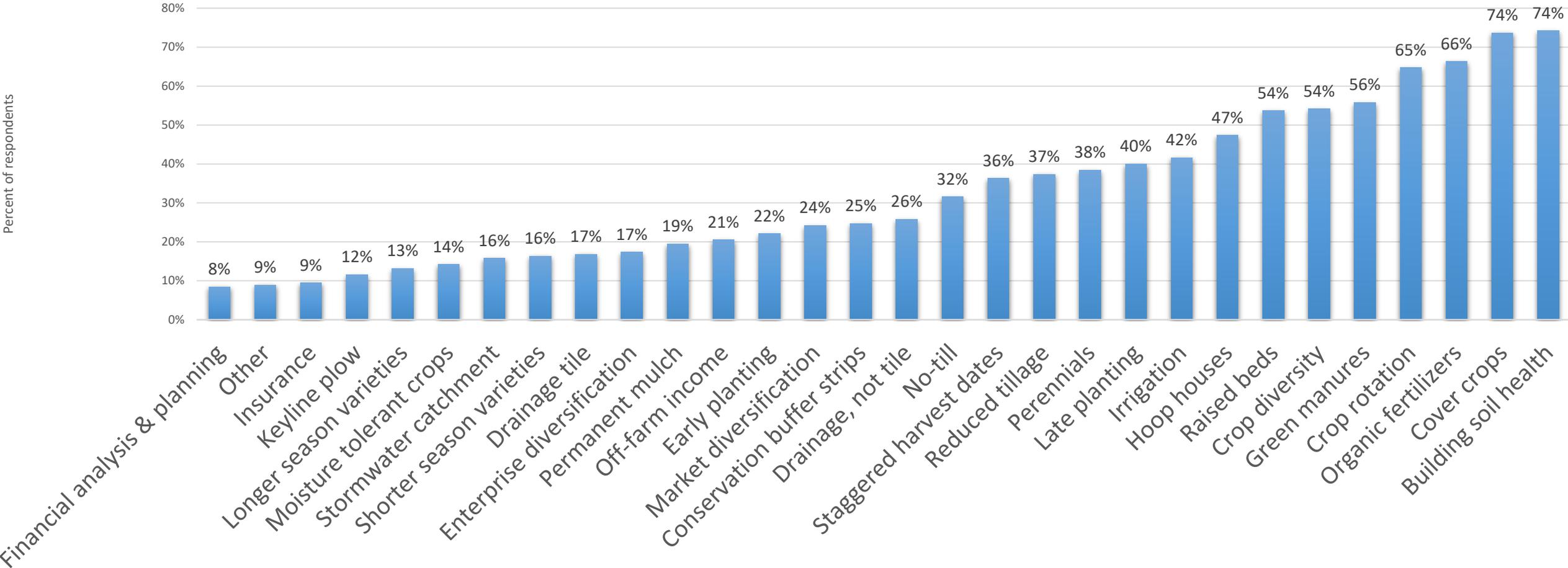


76% of survey respondents agree or strongly agree that they **understand their vulnerability to weather-related risks.**

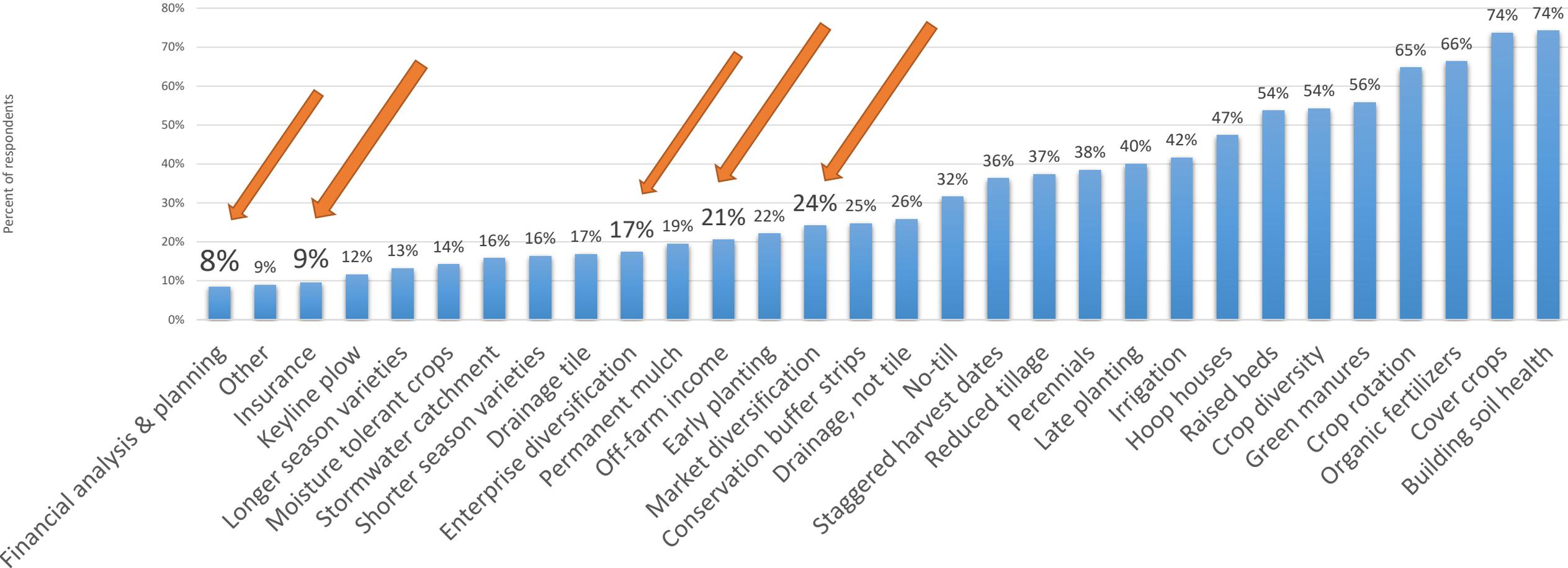
37% of respondents agree or strongly agree that they have the **knowledge or technical skill to respond.**

18% of respondents agree or strongly agree that they have the **financial capacity to deal with weather-related threats to the viability their farm operation, including crop insurance.**

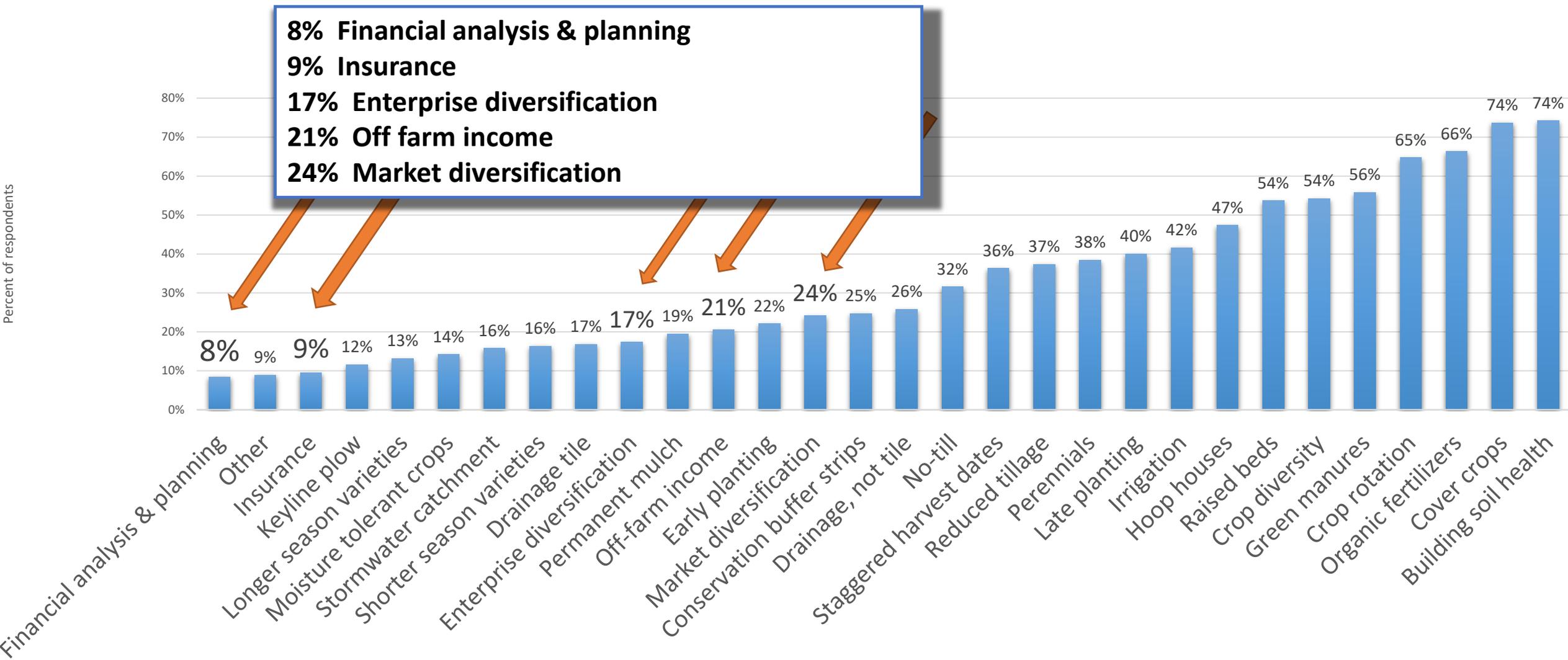
What practices do you use to manage for heavy precipitation and flooding on your farm?



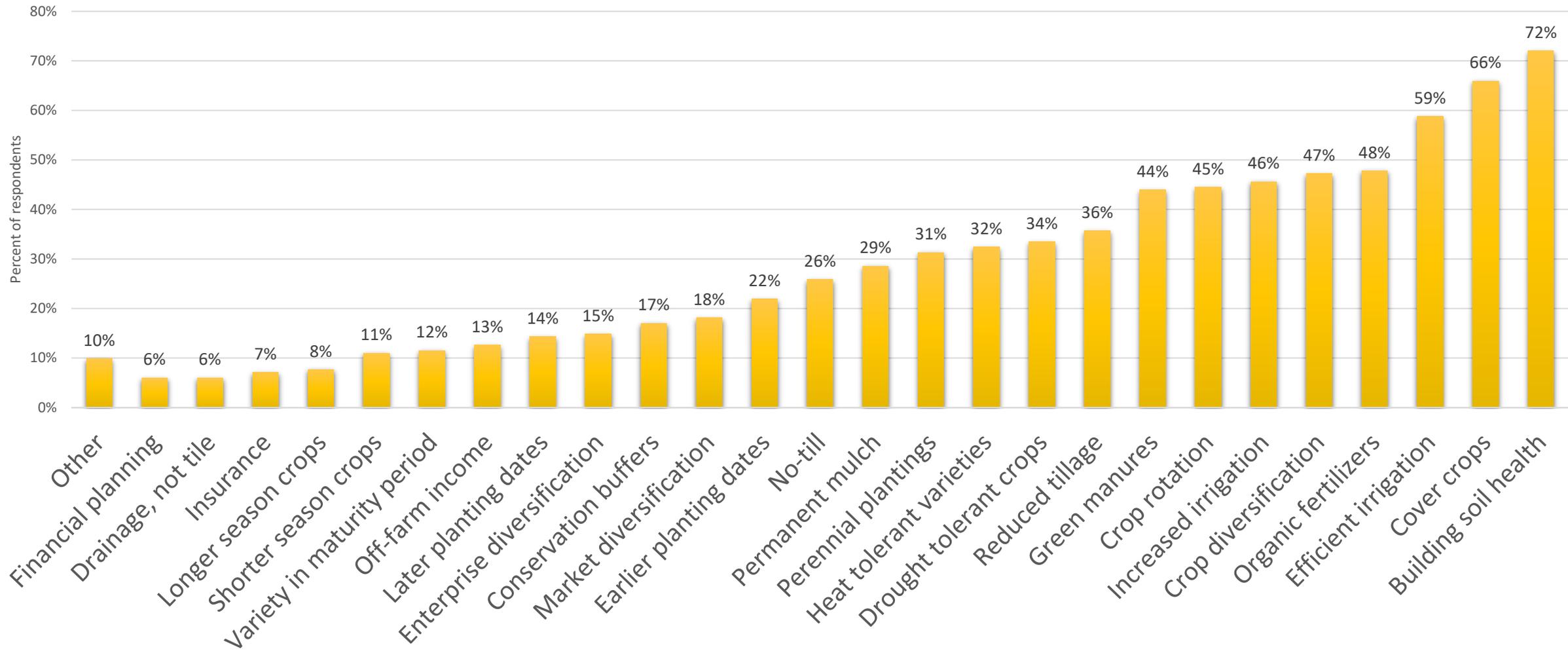
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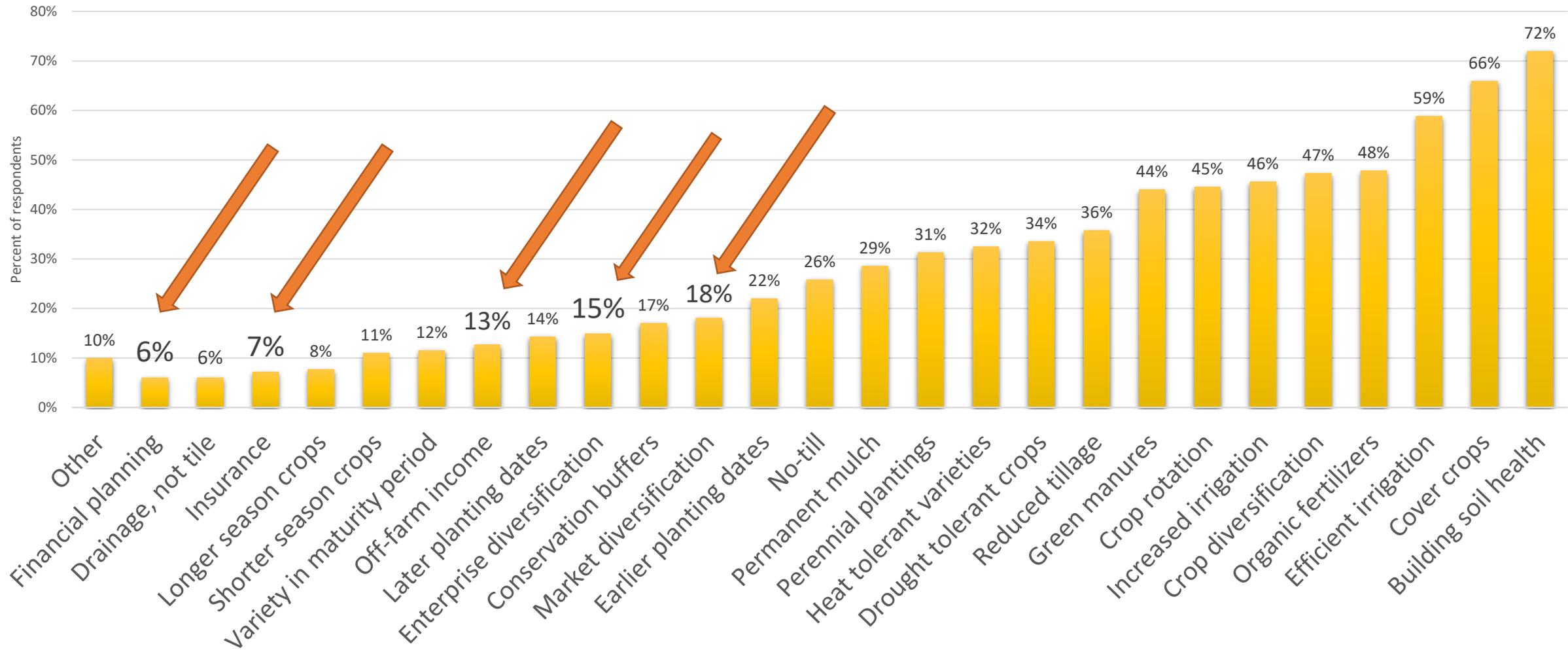
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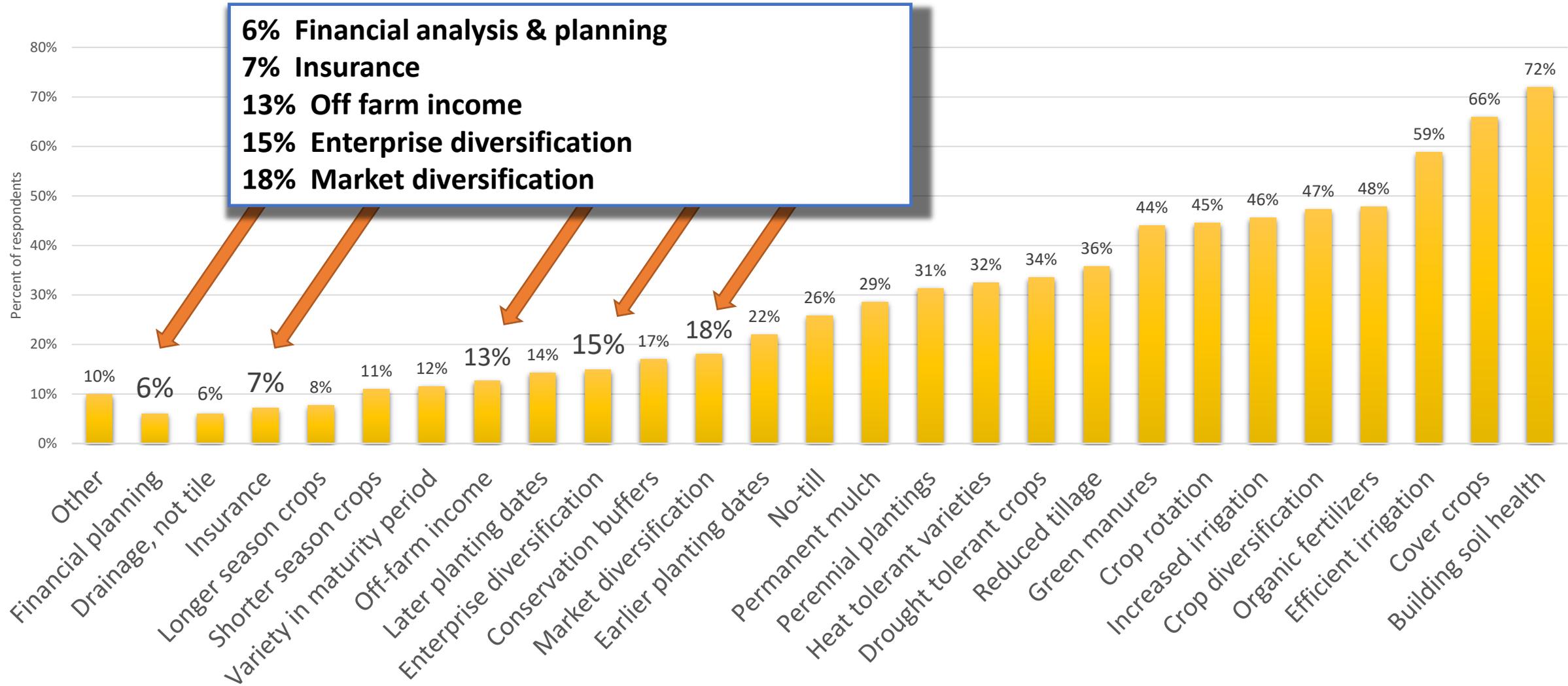
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Northeast vs Midwest:

Use of crop insurance to manage for extreme weather & climate related risks

Region	Farm type	% of respondents using insurance to manage for risk of extreme weather		n	source
Northeast	Fruit & vegetable	Heavy Precipitation and flooding	9%	193	White et al. 2018
Northeast	Fruit & vegetable	Drought	7%	193	White et al. 2018
Midwest	Corn	Weather or climate related risks	59%	4778	Mase et al. 2017

- White, A., Faulkner, J., Sims, S., Tucker, P., & Weatherhogg, K. (2018). Report of the 2017-2018 New England Adaptation Survey for Vegetable and Fruit Growers. Department of Plant and Soil Science, University of Vermont. Burlington, VT.
- Mase, A. S., Gramig, B. M., & Prokopy, L. S. (2017). Climate change beliefs, risk perceptions, and adaptation behavior among Midwestern US crop farmers. *Climate Risk Management*, 15, 8-17.

The New England Adaptation Survey

Part 2.

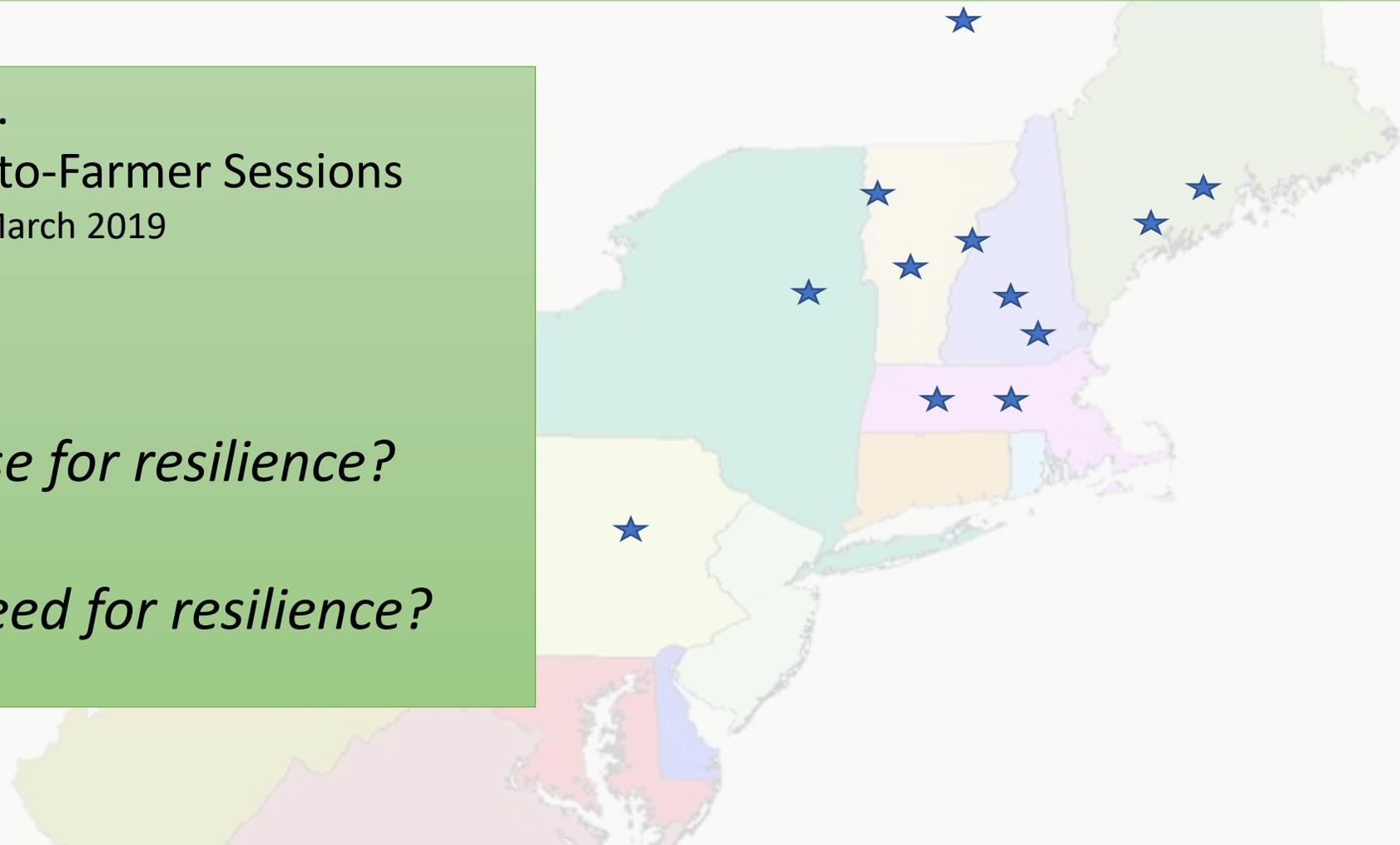
Focus Groups & Farmer-to-Farmer Sessions

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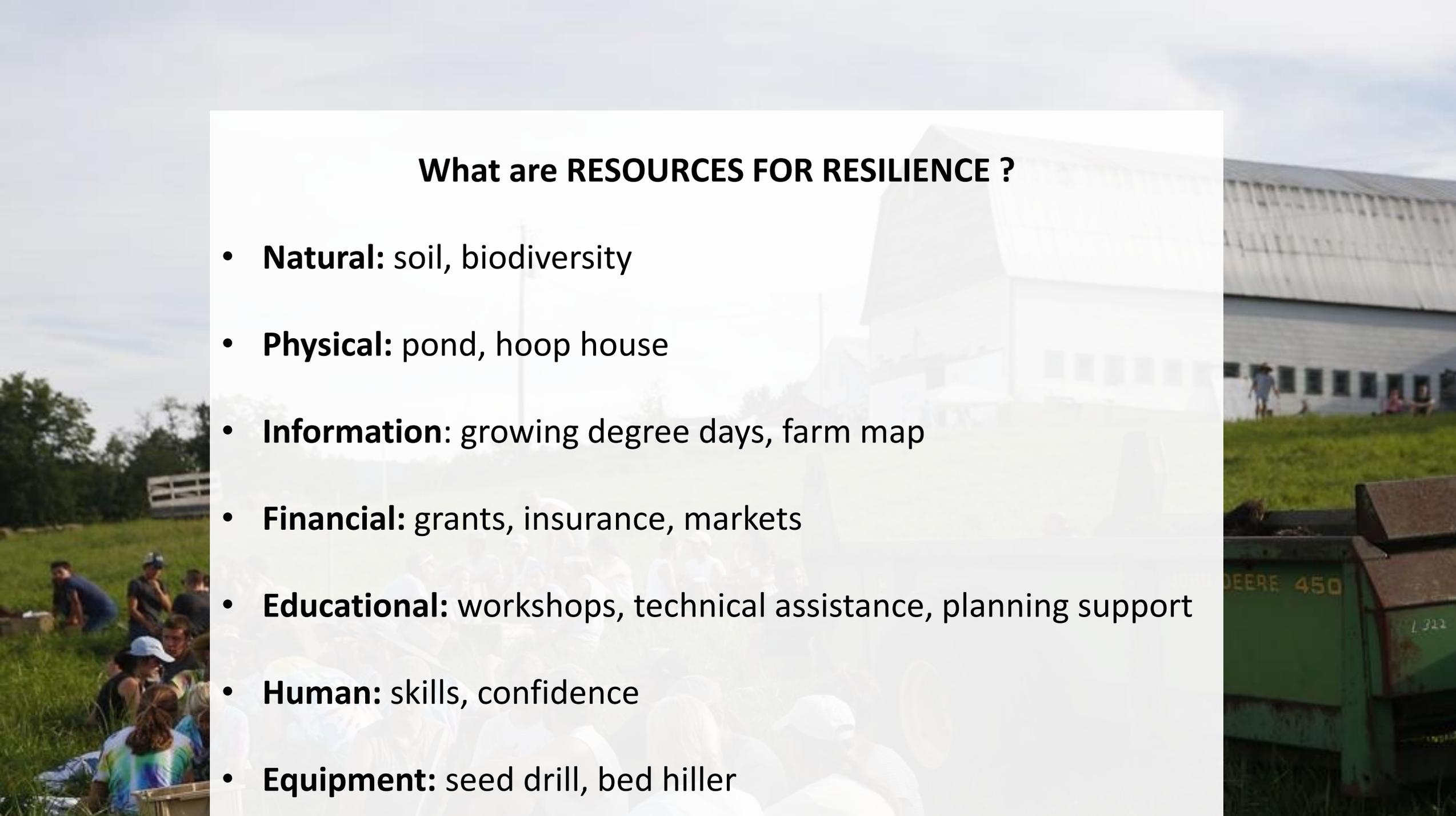
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What resources do you need for resilience?



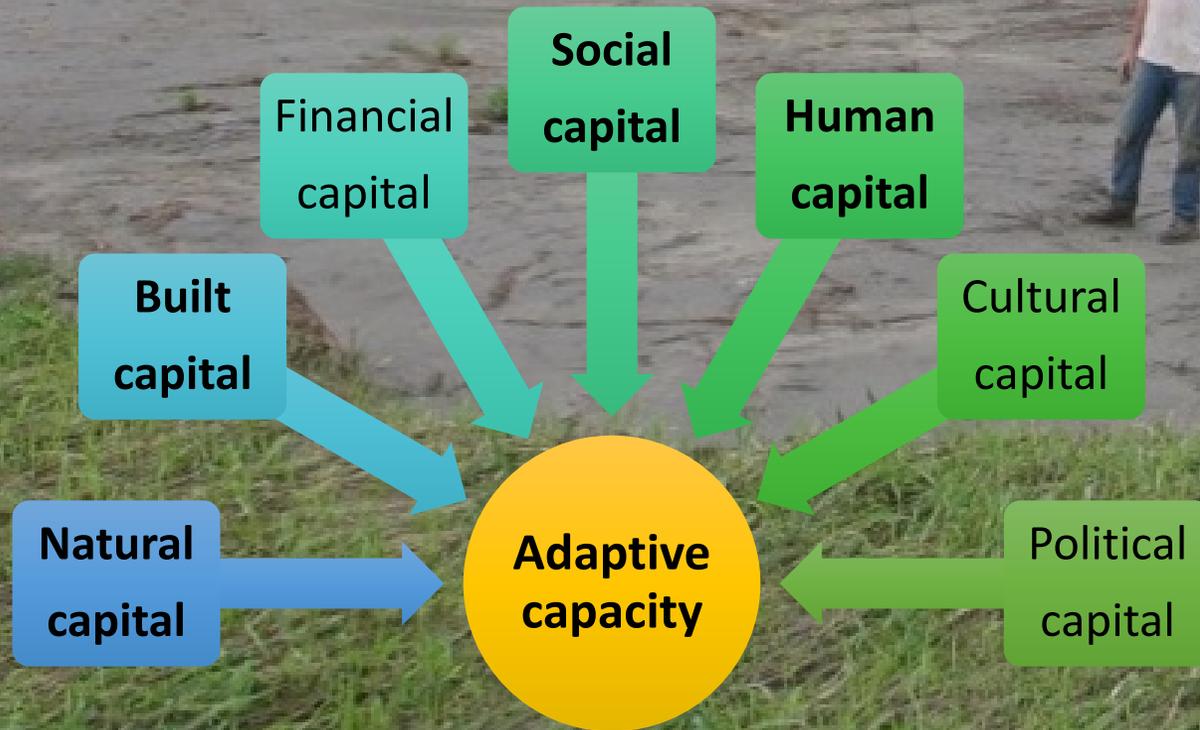
What are **RESOURCES FOR RESILIENCE** ?

- **Natural:** soil, biodiversity
- **Physical:** pond, hoop house
- **Information:** growing degree days, farm map
- **Financial:** grants, insurance, markets
- **Educational:** workshops, technical assistance, planning support
- **Human:** skills, confidence
- **Equipment:** seed drill, bed hiller



Climate Resilience and Adaptive Capacity

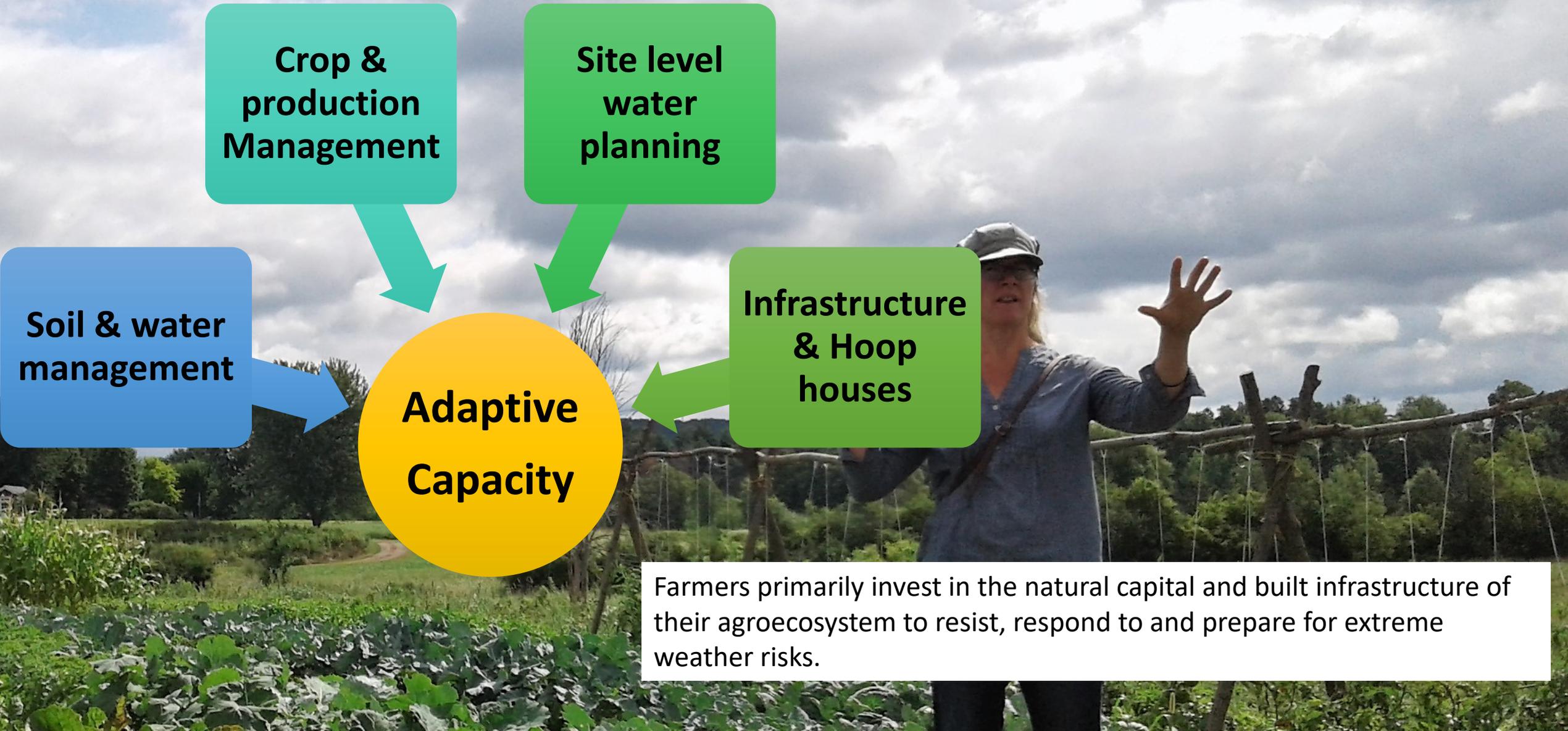
using an asset-based lens for understanding change and transformation



• Major stressors & pressures

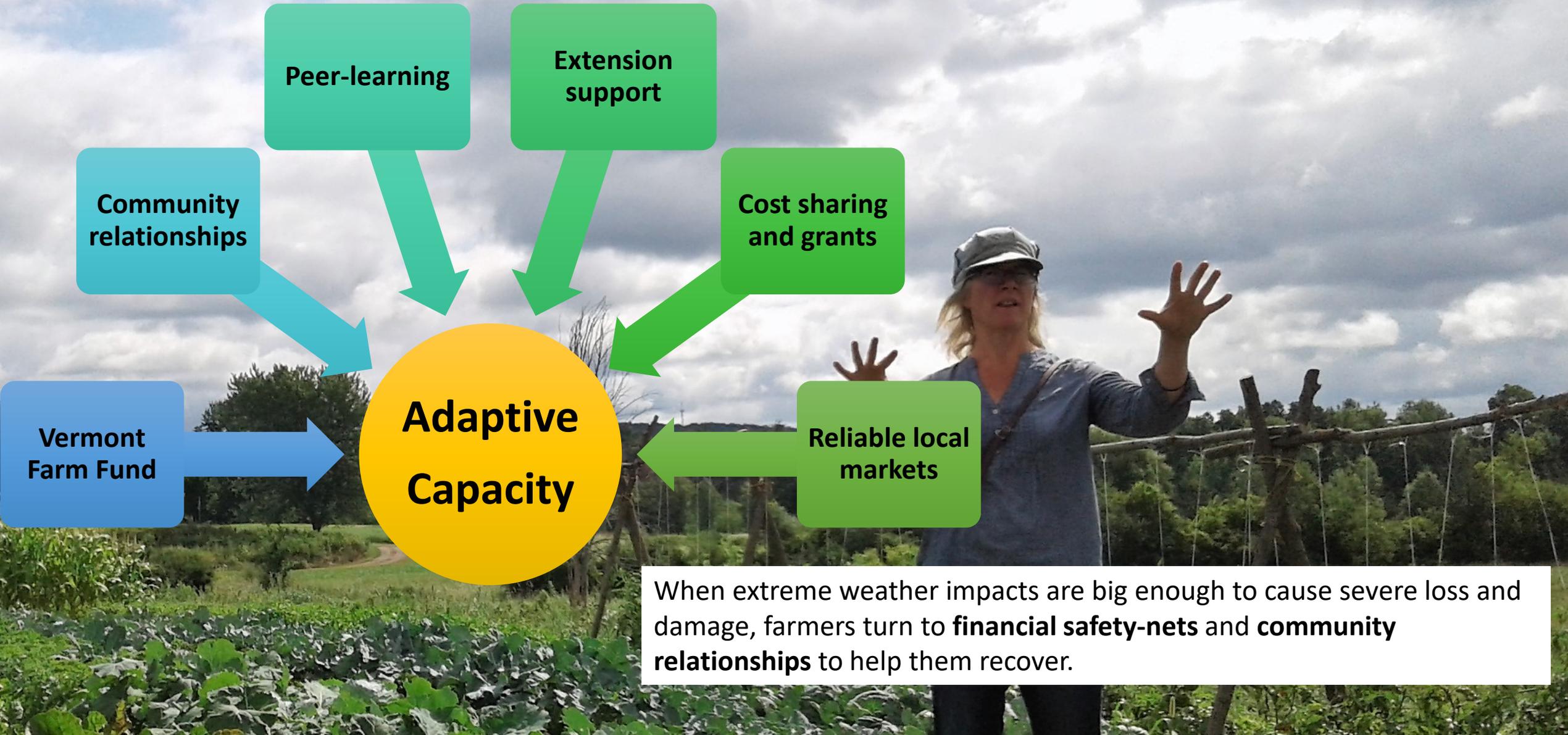
- Market stability & profitability
- Generational transfer
- Labor
- Pest & disease
- Regulatory pressures
- **Climate change**

Resources for Resilience: Visible



Farmers primarily invest in the natural capital and built infrastructure of their agroecosystem to resist, respond to and prepare for extreme weather risks.

Resources for Resilience: Invisible



When extreme weather impacts are big enough to cause severe loss and damage, farmers turn to **financial safety-nets** and **community relationships** to help them recover.

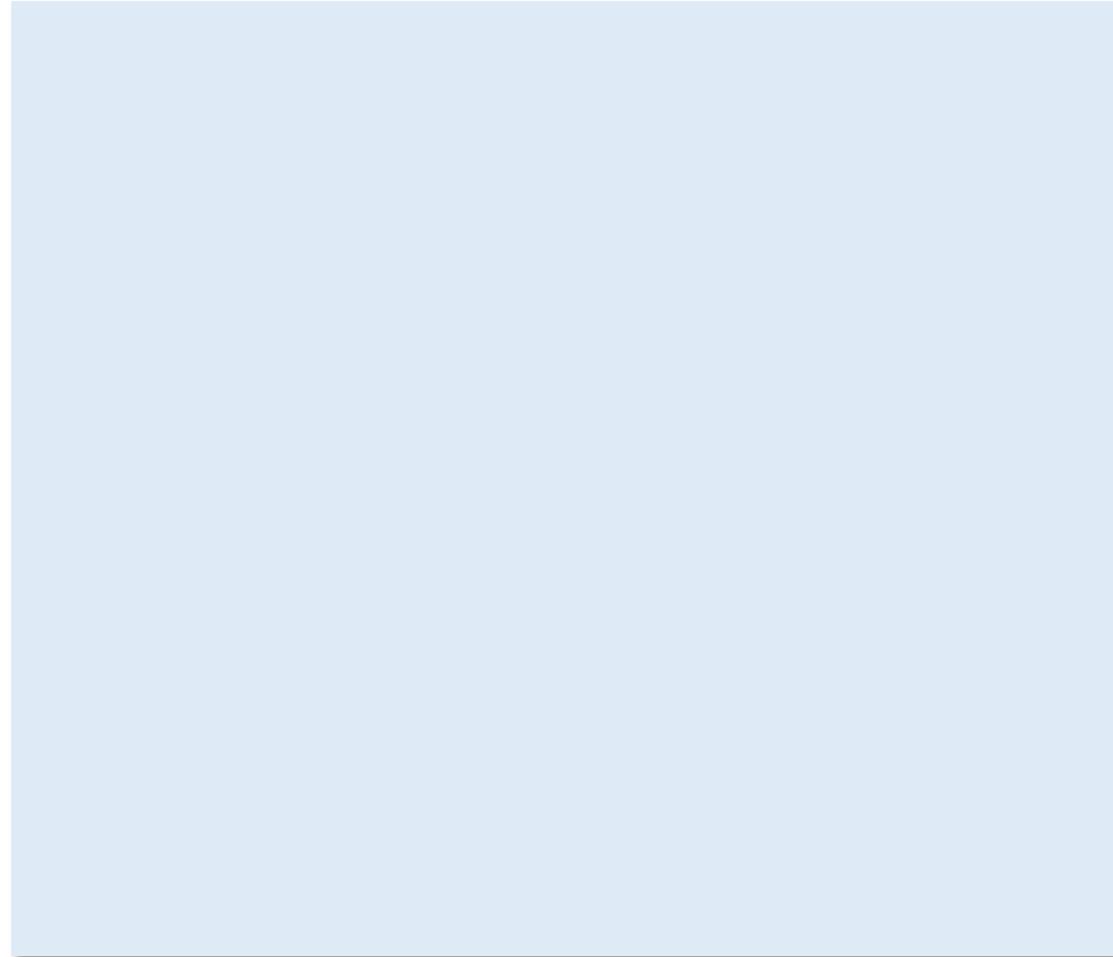
What did farmers say about crop insurance during the focus groups?

- Its part of a holistic approach to financial resilience

I think you need them all. I think you need the CSA program or something like that. So you might have some kind of community financial support and/or crop insurance programs. So different things so that you have that insurance, however you get it, on the financial side

What did farmers say about crop insurance during the focus groups?

- Its part of a holistic approach to financial resilience
- Too much paperwork



What did farmers say about crop insurance during the focus groups?

- Its part of a holistic approach to financial resilience
- Too much paperwork
- My farm is too diverse & complex

*Just the **complexity of a diversified system....***

*Crop insurance is aimed toward commodity crops. That's why if your in a vegetable group, virtually everybody. **We are just not that group.***

What did farmers say about crop insurance during the focus groups?

- Its part of a holistic approach to financial resilience
- Too much paperwork
- My farm is too diverse & complex
- It is too costly

*one of the first things to go is sprucing up the environment because **you're so damn busy trying to get a paycheck to pay for your insurance and your, your, your tractor repair and your fuel and your fertilizer.***

What did farmers say about crop insurance during the focus groups?

- Its part of a holistic approach to financial resilience
- Too much paperwork
- My farm is too diverse & complex
- It is too costly
- Misconception that eligibility requirements are a barrier
 - New farmers need 3 years of tax return for some programs
 - May need to have majority of your income from farm to be able to apply to some programs

*it's also good to note that you have to have at least half your income from farming to be able to take some of these programs and if you're working off farm to support the farm, **that makes things problematic.***

What did farmers say about crop insurance during the focus groups?

*We did it for garlic. Well **I thought it was sort of worthless.** You sell garlic, you sell seed garlic at eighteen bucks a pound. The insurance for three bucks. ... Well we focused a lot on garlic. That's why we did it, but we had other crops too, and only did the garlic. You know, I was sort of sold by the USDA.*

- Payback isn't enough

What did farmers say about crop insurance during the focus groups?

*a lot of plasticulture people that I've talked to personally say like, "how do I get off the plastic?" But I remind them, "**that's my insurance.** I know it's going to work out."*

- Payback isn't enough
- Other things are a better investment

Perceptions of crop insurance

- Its part of a holistic approach to financial resilience
- Too much paperwork
- My farm is too diverse & complex
- It is too costly
- Misconception that eligibility requirements are a barrier
 - New farmers need 3 years of tax return for some programs
 - May need to have majority of your income from farm to be able to apply to some programs
- Payback isn't enough
- Other things are a better investment

Thank You!

- Research Interns

- Sarah Sims
- Phoebe Tucker
- Kyle Weatherhogg
- Allie Pankoff

- Committee Members

- Ernesto Mendez
- Joshua Faulkner
- Sarah Heiss
- Erin Lane

- Family

- Farmers
- Farmer groups
- Funders
- PSS
- ALC



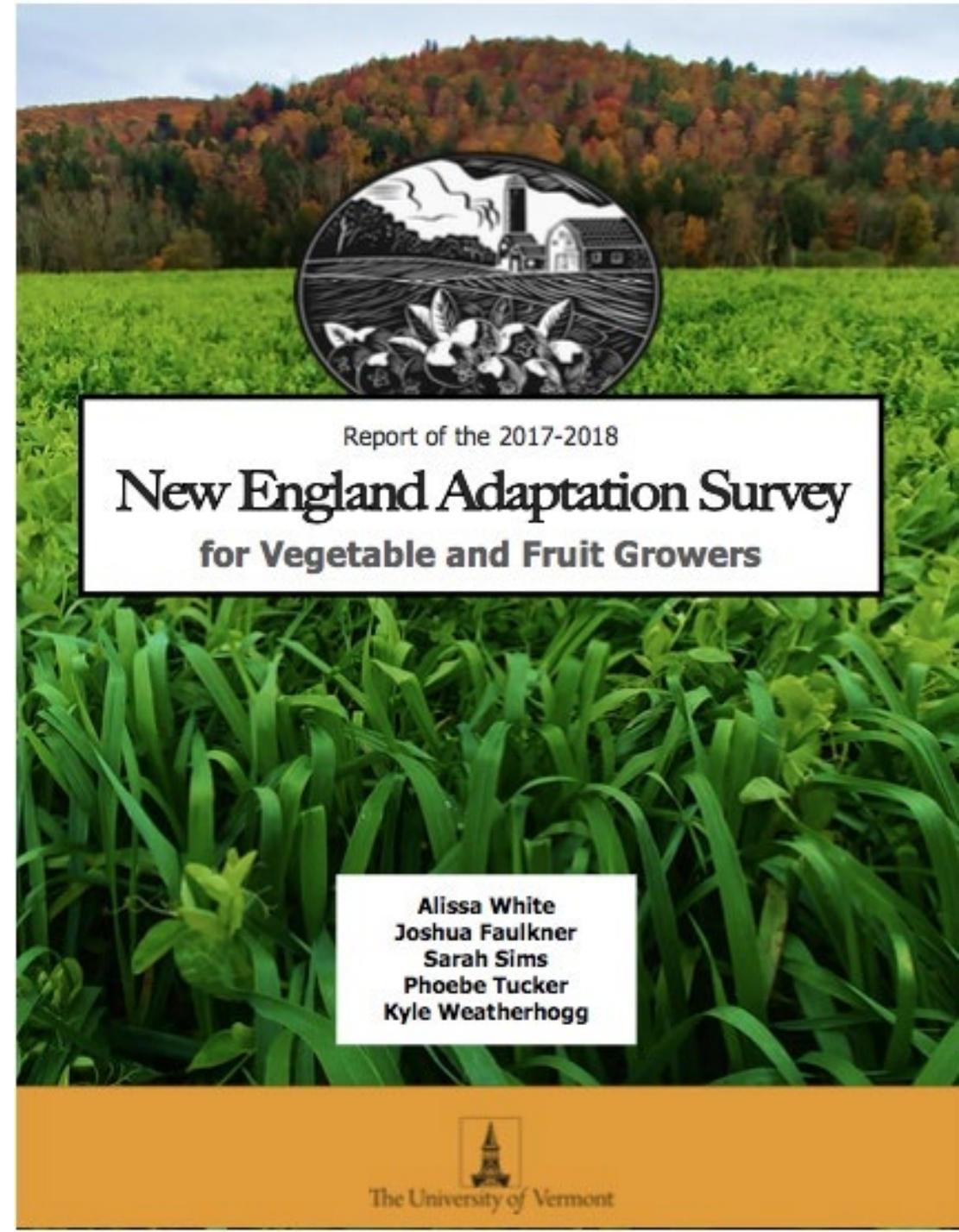
United States Department of Agriculture
Northeast Climate Hub

See more in the report:

- adaptationsurvey.wordpress.com

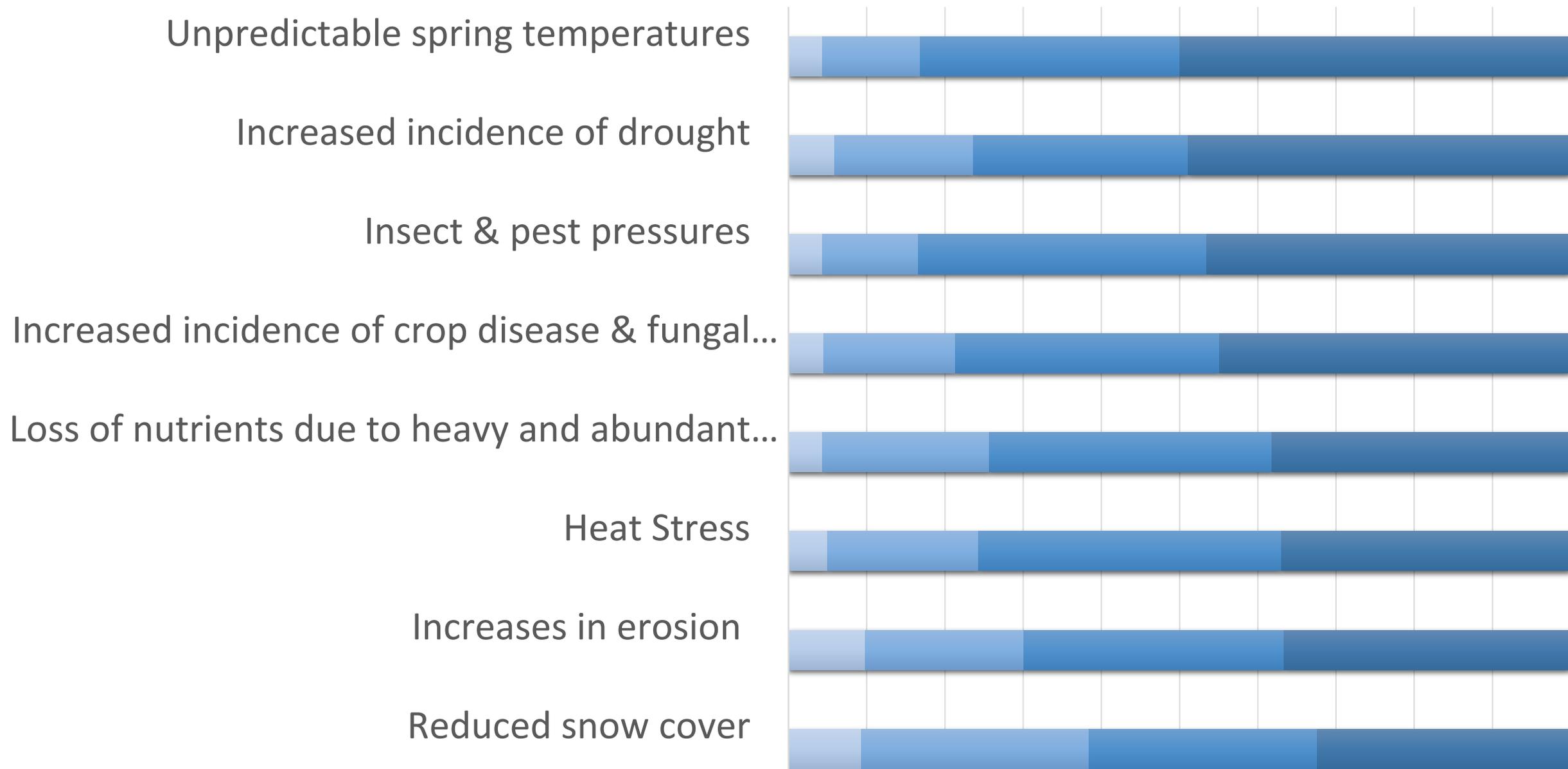
- Email me:

- Alissa.white@uvm.edu



What climate impacts are farmers most concerned about ?

no concern highly concerned



The increased intensity of droughts, storms, and floods is a result of climate change

Extreme weather events in recent years have affected my long-term farm management goals.

I am concerned that available best management practice technologies are not effective enough to...

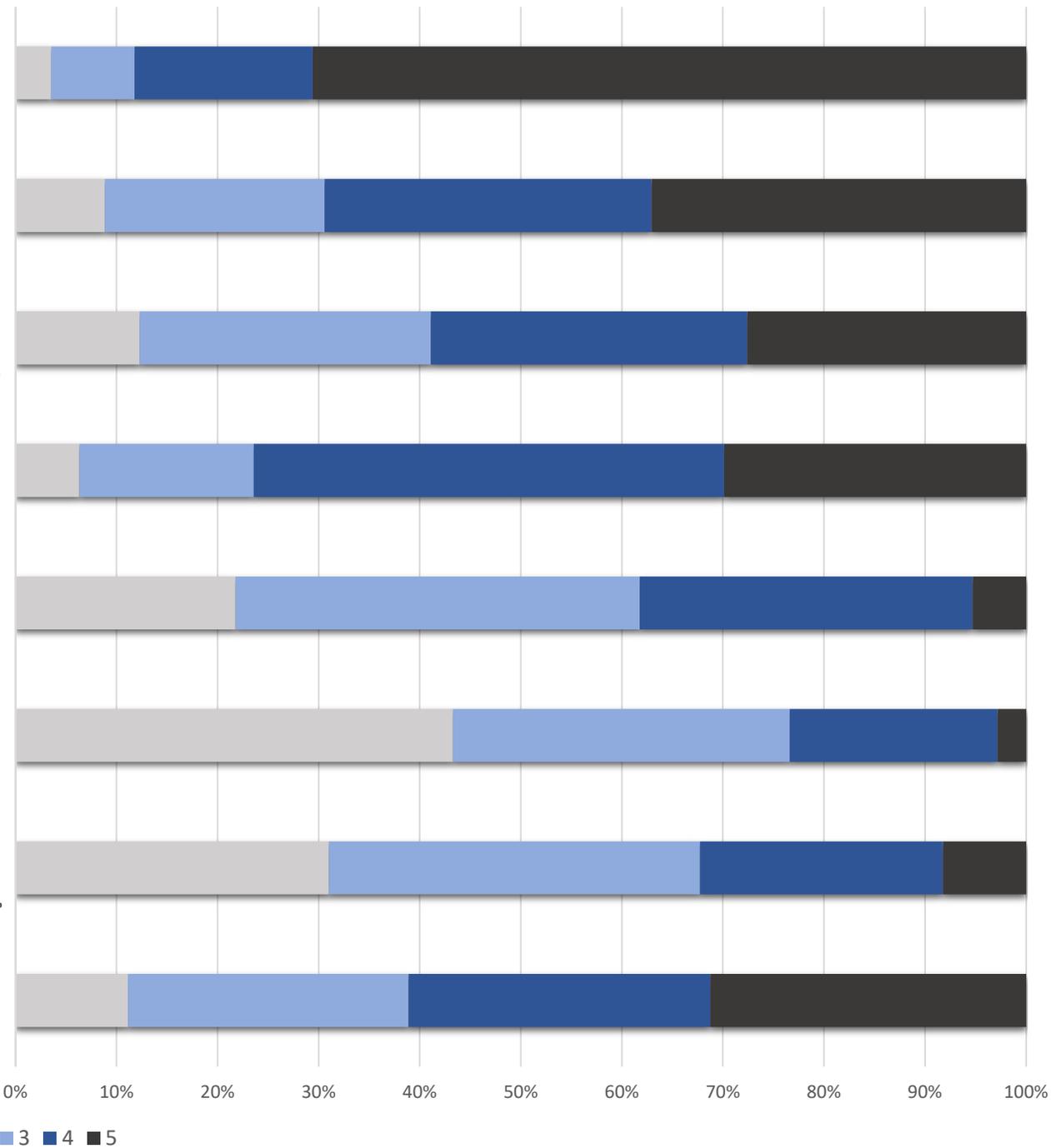
I understand the vulnerability of my farmland to extreme weather conditions.

I have the knowledge and technical skill to deal with any weather-related threats to the viability of my farm...

I have the financial capacity to deal with any weather-related threats to the viability of my farm operation,...

My community and social networks will support my farm in recovering from the severe impacts of weather...

The government should pay my farm for providing ecosystem services, such as sequestration.



Capability & Resources

Perceived barriers to insurance enrollment	
Theme	Farmer quote
Cost	<p>If you don't have labor, one of the first things to go is sprucing up the environment because you're so damn busy trying to get a paycheck to pay for your insurance and your, your, your tractor repair and your fuel and your fertilizer. The last thing is the environment.</p> <p>A lot of farmers don't just farm, they can't, they have to subsidize their insurance.</p>
Eligibility requirements	it's also good to note that you have to have at least half your income from farming to be able to take some of these programs and if you're working off farm to support the farm, that makes things problematic.
Other investments are considered better insurance	a lot of plasticulture people that I've talked to personally say like," how do I get off the plastic?" But I remind them, " that's my insurance. I know it's going to work out."
Tried it, not worth it	We have in the past, but we don't anymore. Ten years ago for blueberries.
	We did it for garlic. Well I thought it was sort of worthless. You sell garlic, you sell seed garlic at eighteen bucks a pound. The insurance for three bucks. ... Well we focused a lot on garlic. That's why we did it, but we had other crops too, and only did the garlic. You know, I was sort of sold by the USDA.
Not made for diverse vegetable farmers	Just the complexity of a diversified system.
	Crop insurance is aimed toward commodity crops. That's why if your in a vegetable group, virtually everybody. We just. are just not that group.

Perceived benefits of insurance enrollment	
Theme	Farmer quote
Redundant with other strategies	I think you need them all. I think you need the CSA program or something like that. So you might have some kind of community financial support and/or crop insurance programs. So different things so that you have that insurance, however you get it, on the financial side