

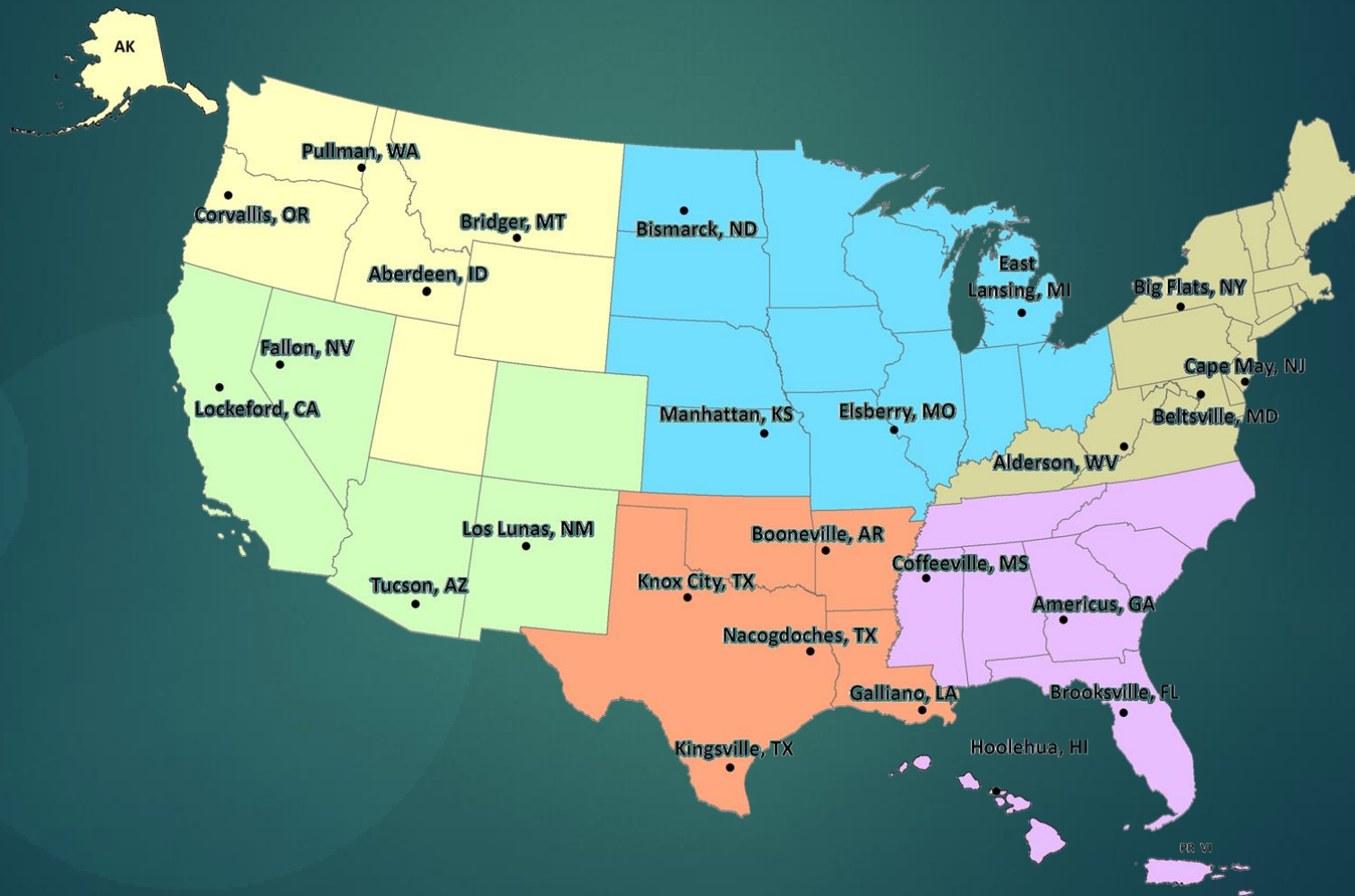


USDA Natural Resources Conservation Service  
plant materials program  
COVER CROPS

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# plant materials center locations and regions





soil health initiative

part of that is cover crops

that is part the plant materials  
program is working on

# conservation practice standards

<b>code</b>	<b>practice standard</b>	<b>definition</b>
340	cover crop	grasses, legumes, and forbs planted for seasonal vegetative cover.
328	conservation crop rotation	a planned sequence of crops grown on the same ground over a period of time
329	residue and tillage management NO TILL	limiting soil disturbance to manage the amount, orientation and distribution of crop and plant residue on the soil surface year around.



# NRCS cover crop implementation (CPS 340)

Year	Acres Applied	Contracts
2011	832,170	32,471
2012	1,033,553	41,101
2013	1,086,130	42,393
2014	1,213,565	45,223
2015	1,312,300	48,899
2016 (to date)	777,018	29,998

# cover crop activities

- currently about 50% of PMC activities
- technology: seeding dates, seeding rates, establishment methods, management, termination method and dates, effect on soil properties
- species and cultivar evaluations: both cool and warm season species and varieties, traditional and non-traditional species

# national cover crop activities

activities that are managed nationally

1. national cover crop study
2. cover crop adaptation trial

# national cover crop study





## seeding rates

- 20 seed ft<sup>2</sup>
- 40 seed ft<sup>2</sup>
- 60 seed ft<sup>2</sup>

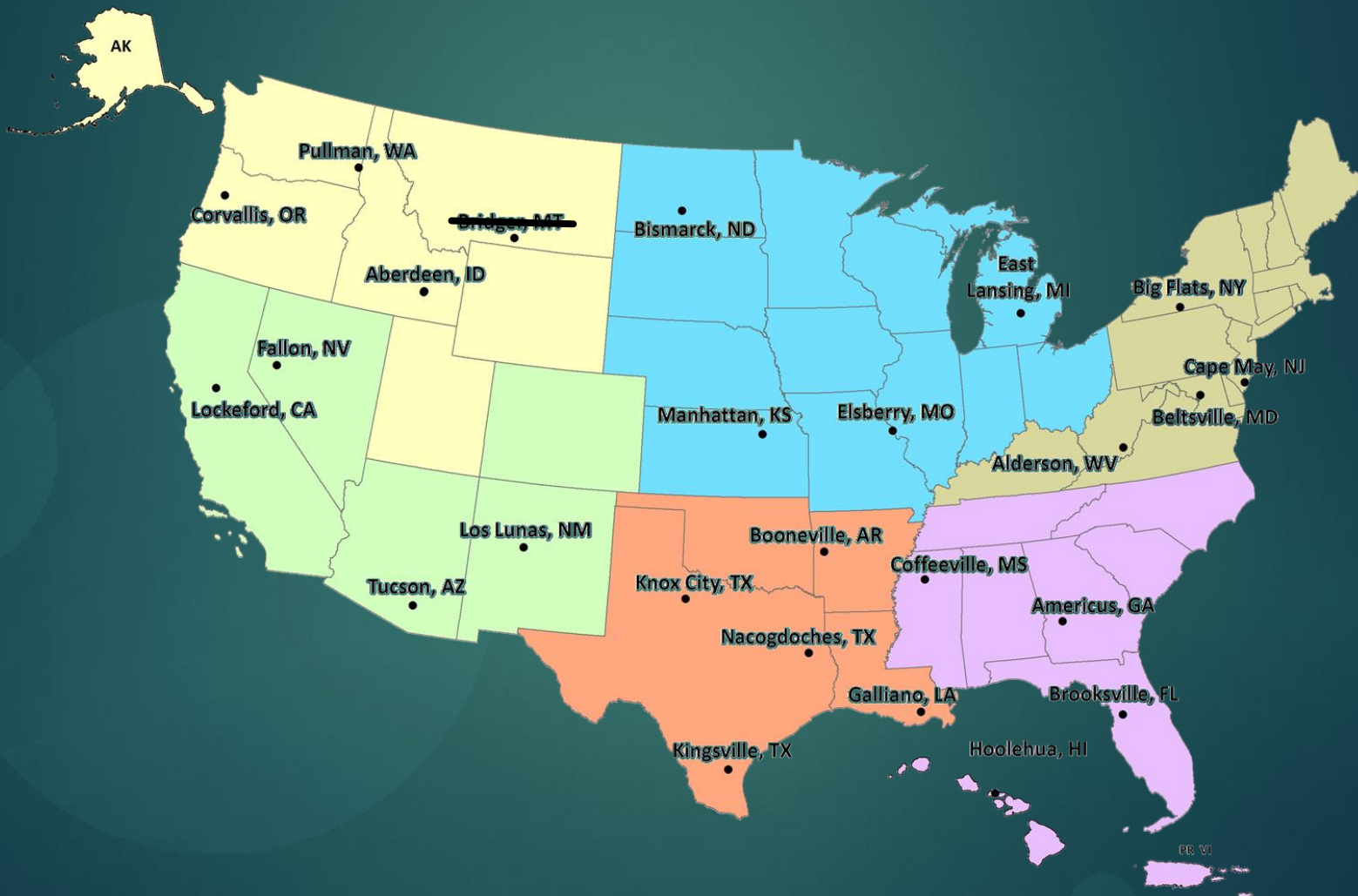
## mixes

- rye, crimson clover
- rye, crimson clover, hairy vetch, radish
- rye, crimson clover, hairy vetch, radish, brassica

# data collection

NRCS (PMC)	ARS (Dr. Haney)	NRCS (SSL)
biomass	N-P-K	N-P-K
percent live cover	biological activity (Solvita 1-day Co <sub>2</sub> -C)	aggregate stability
species composition	water extractable organic C	available water capacity
bulk density	water extractable organic N	organic matter
soil temperature	% organic N	active C
soil moisture	organic C:N	pH
surface hardness	organic N:P	extractable phosphorus
subsurface hardness	total N	extractable potassium
	inorganic N	
	organic N release	
	organic N reserve	
	% P saturation	

# cover crop adaptation trial



# cover crop adaptation trial

cover crop	cultivars
crimson clover	6
red clover	8
balansa clover	2
hairy vetch	6
Austrian winter pea	8
black oats	2
cereal rye	11
daikon radish	8

# data collection

- germination & field emergence
- canopy cover
- winter hardiness
- spring green up
- bloom & flowering time
- plant height
- biomass
- nitrogen content
- disease & insect resistance



thank you  
Ramona

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