



CONSERVING ROUND BALE QUALITY DURING OUTDOOR STORAGE



July 16th, 2020

OSU Ranchers Thursday Lunchtime Series

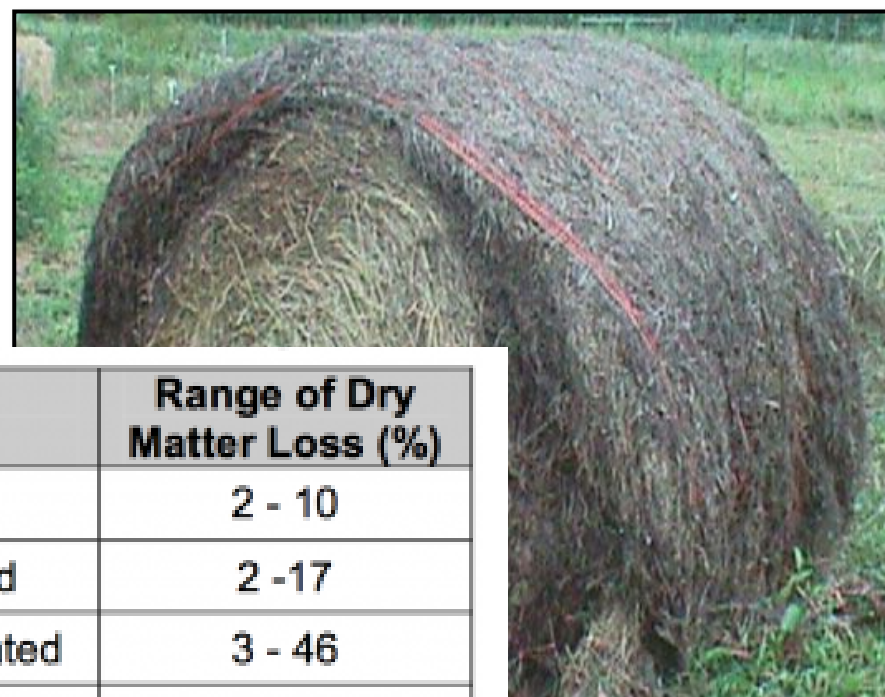
Dr. Kevin Shinnars

University of Wisconsin – Madison





HAY LOSS PERSPECTIVE



Storage Method	Range of Dry Matter Loss (%)
Under Roof	2 - 10
Covered, rock pad or elevated	2 - 17
Uncovered, rock pad or elevated	3 - 46
Uncovered, on ground, net wrap	6 - 25
Covered, on ground	4 - 46
Uncovered, on ground	5 - 61



HAY LOSS PERSPECTIVE



\$120



\$17



\$12



\$29



TAKE HOME MESSAGES

To Conserve Quality During Storage:

- ✓ Start with “Baling Smart”:
 - Dense bales, leaves saved, net wrap

- ✓ Finish with “Storing Smart”:
 - Well drained, slight slope, N-S direction, not stacked, exposed to sun





STORAGE SPACE VS CONSERVATION





BALE SHAPE AND DENSITY

- Bale Shape and Density
 - ✓ Advantages of dense bales:
 - Fewer bales to handle & transport
 - Less squat, rejected hay
 - ✓ Making dense bale:
 - Starts with core
 - Drag on sidewall





WEATHERED LAYER

6 ft. Bale

Outer 2 in.

11%

Outer 4 in.

21%



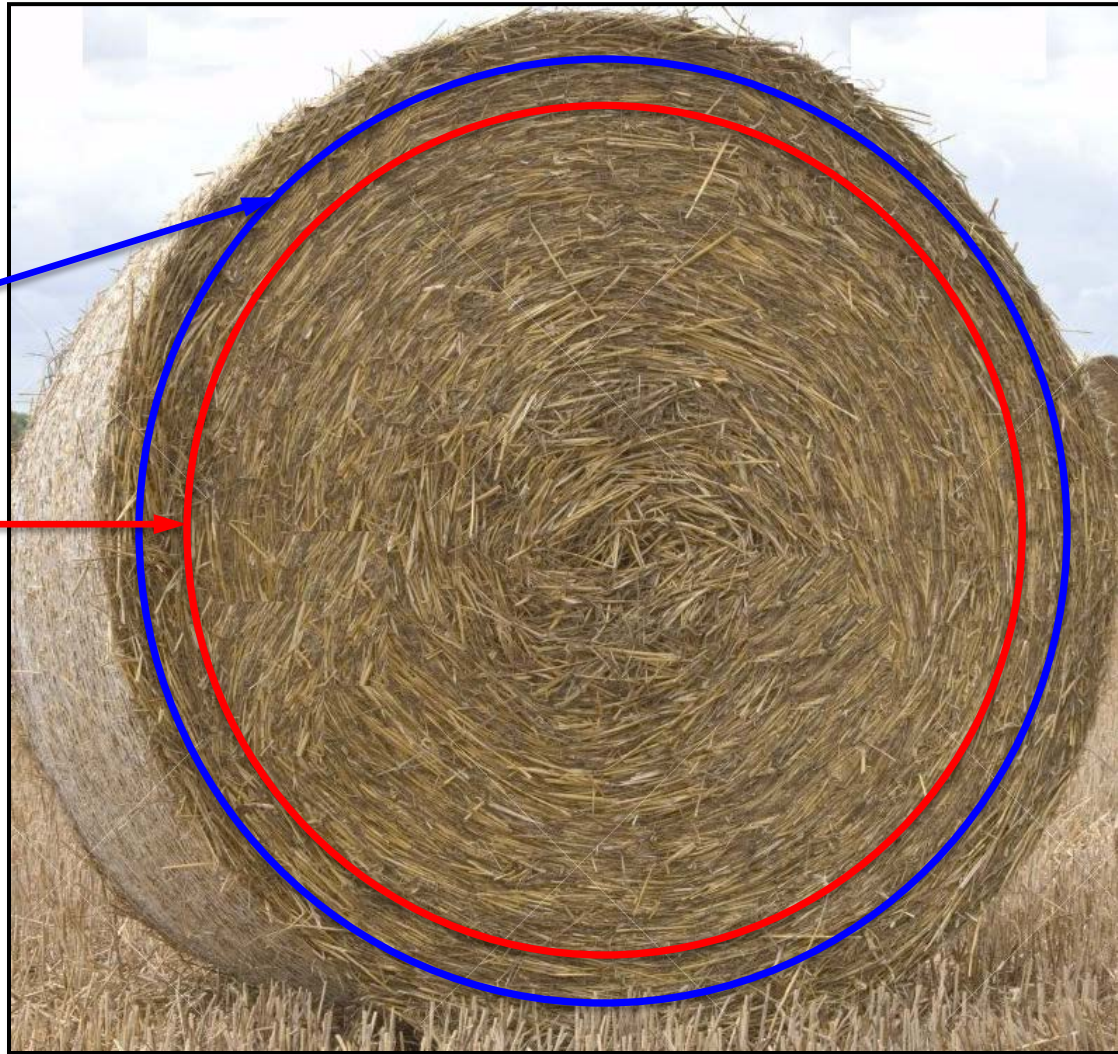


WEATHERED LAYER

5 ft. Bale

Outer 2 in.
13%

Outer 4 in.
25%





BALE “THATCH”

- Thatch

- ✓ Leaves form the bale thatch:
 - Grasses with wide leaves forms better thatch than alfalfa
 - Wrapping with net saves alfalfa leaves



	Wrapping time (sec)	Wrapping loss (% of DM)
Net	22 _a	1.0 _a
Twine	75 _b	2.9 _b



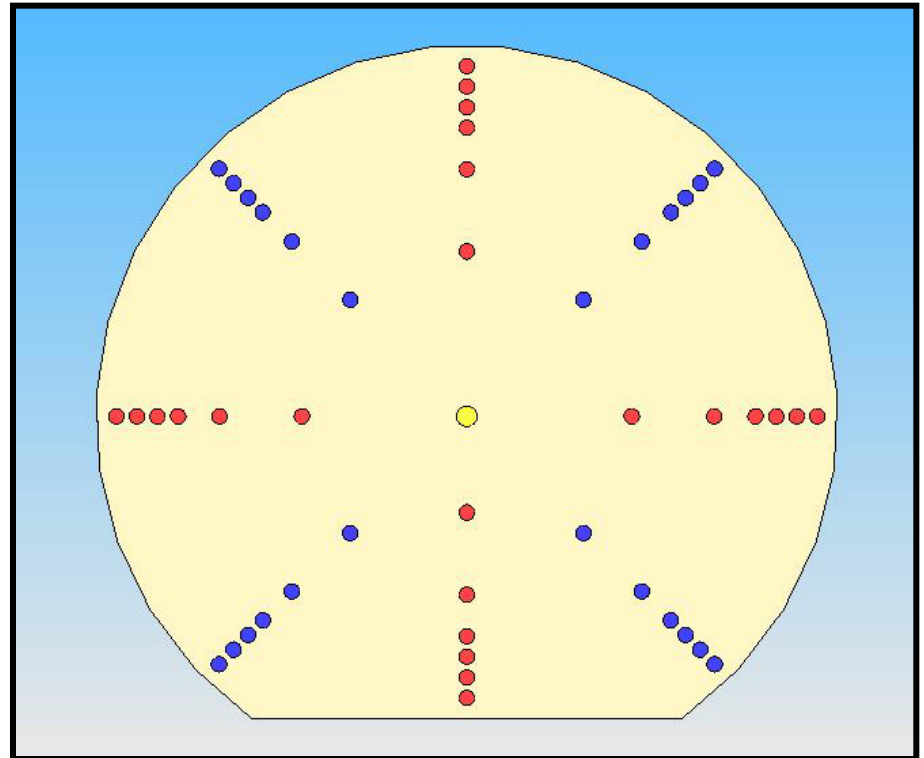


BALE “THATCH”



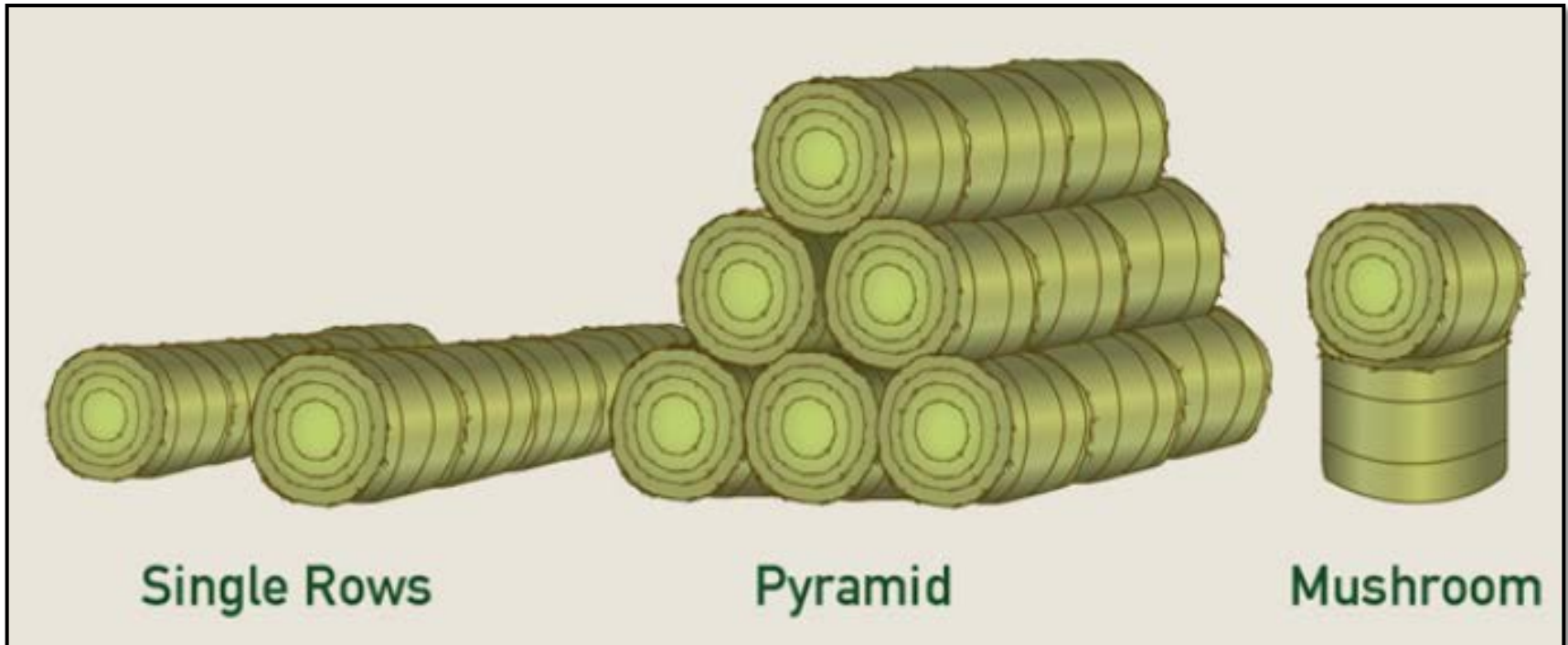


MOISTURE DISTRIBUTION





OUTDOOR STORAGE OPTIONS



[Home](#)

Round Bale Storage Conservation

 Updated June 23, 2020



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SDSU Extension Agronomy Field Specialist

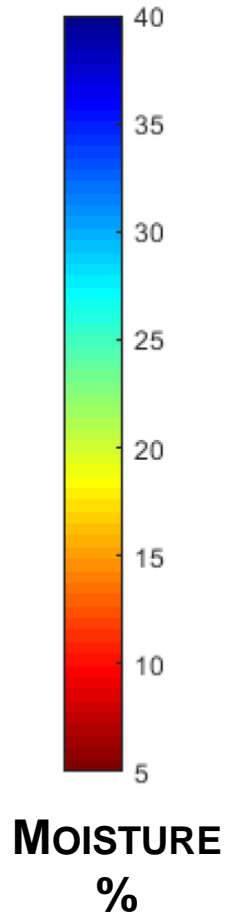
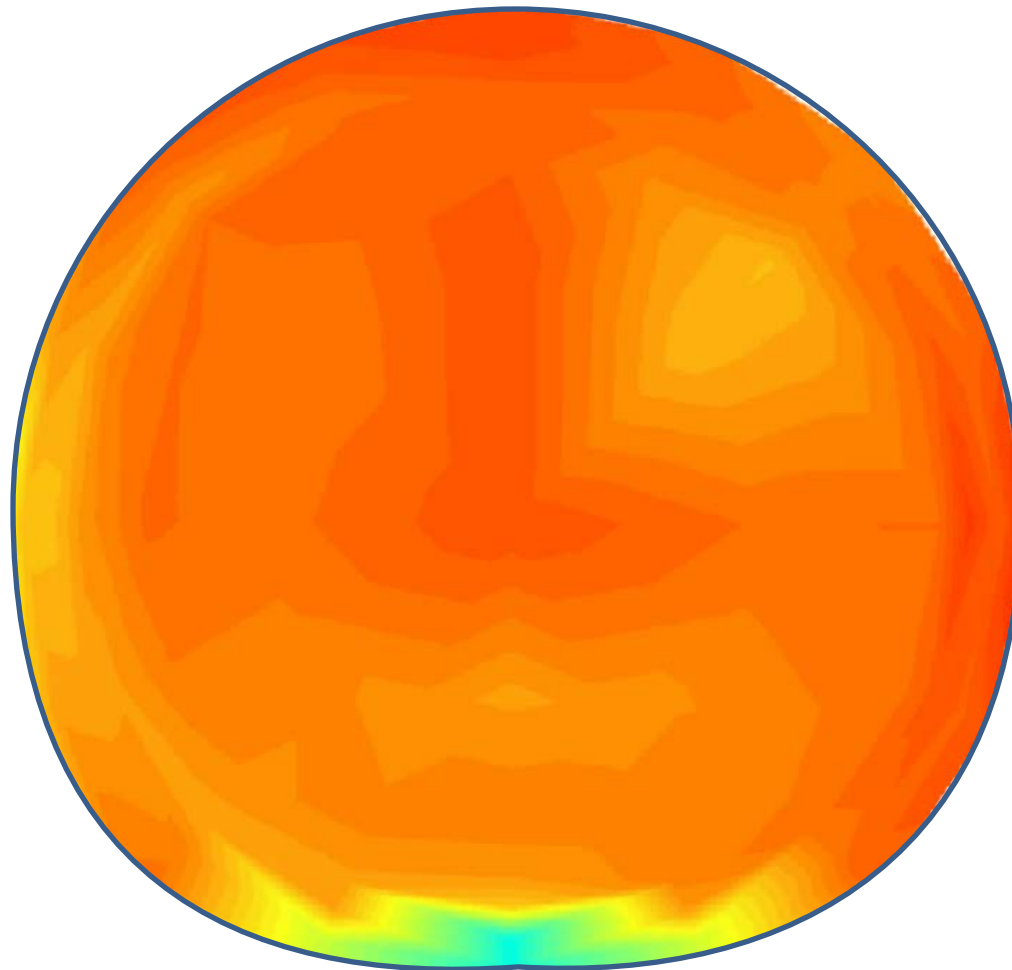
Additional Authors: Tracey Erickson

Written collaboratively by Sara Bauder, Tracey Erickson, and Kevin Shinnors

<https://extension.sdstate.edu/round-bale-storage-conservation>



INDOOR STORAGE



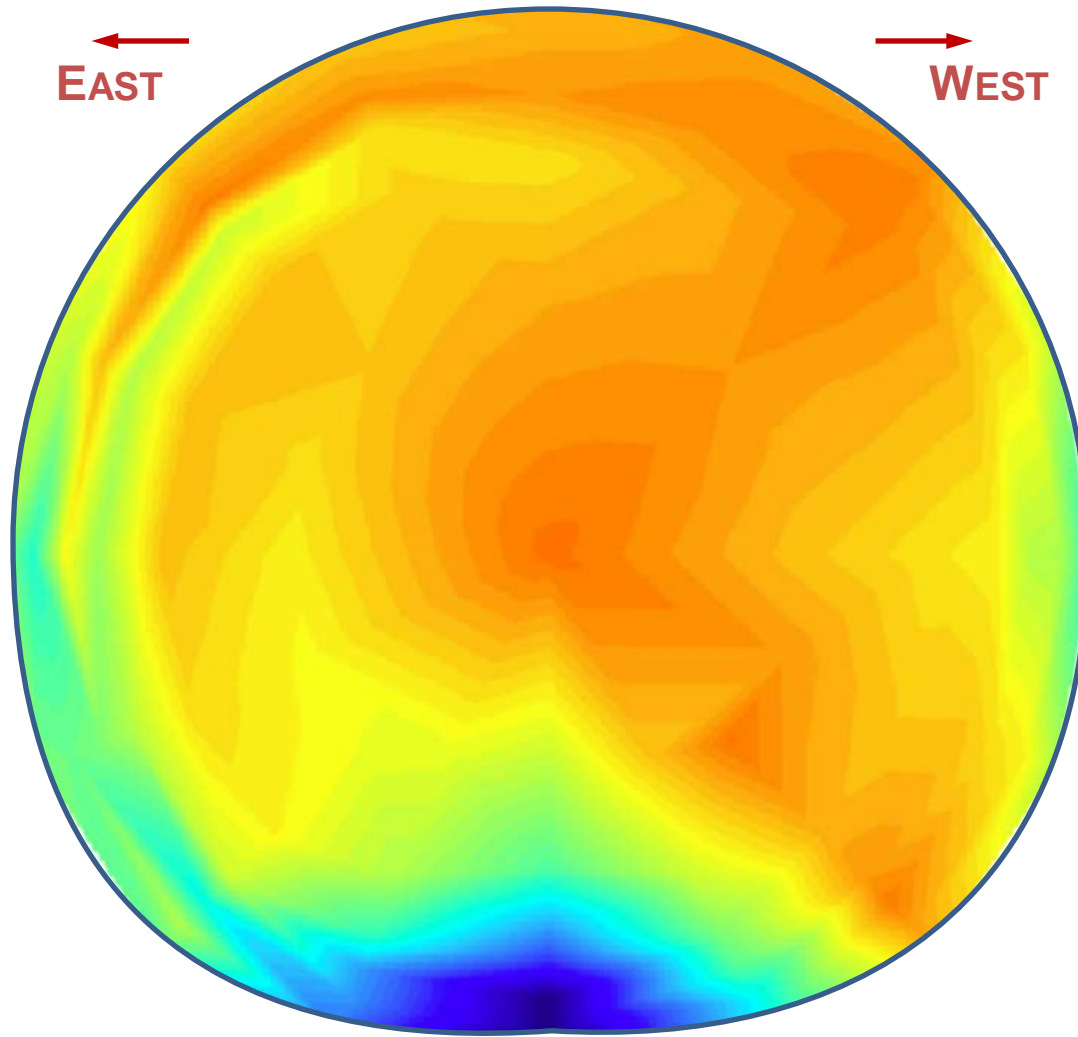


SINGLE BALE OUTDOORS





SINGLE BALE OUTDOORS



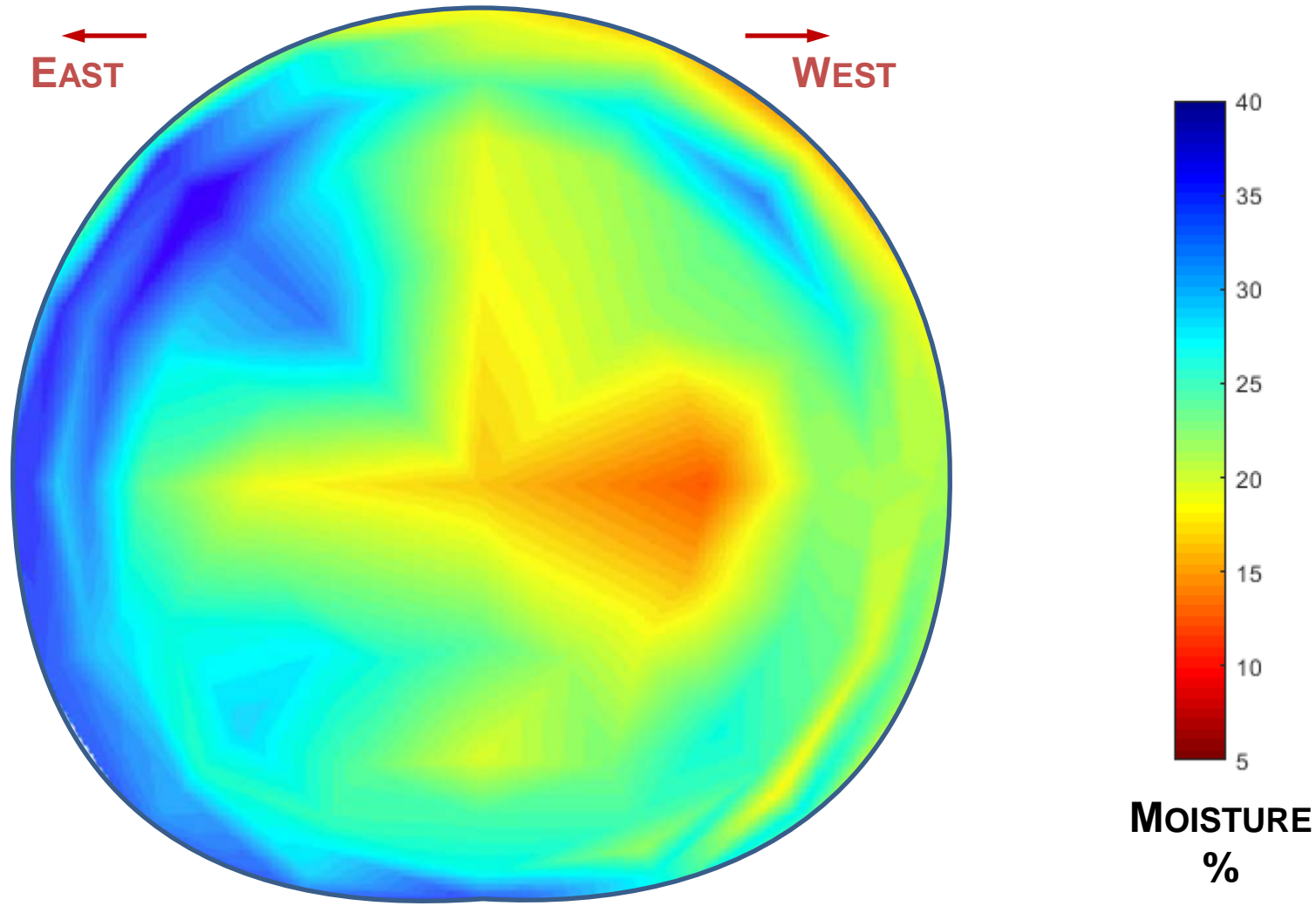


BALES STORED IN ROWS





BALES STORED IN ROWS



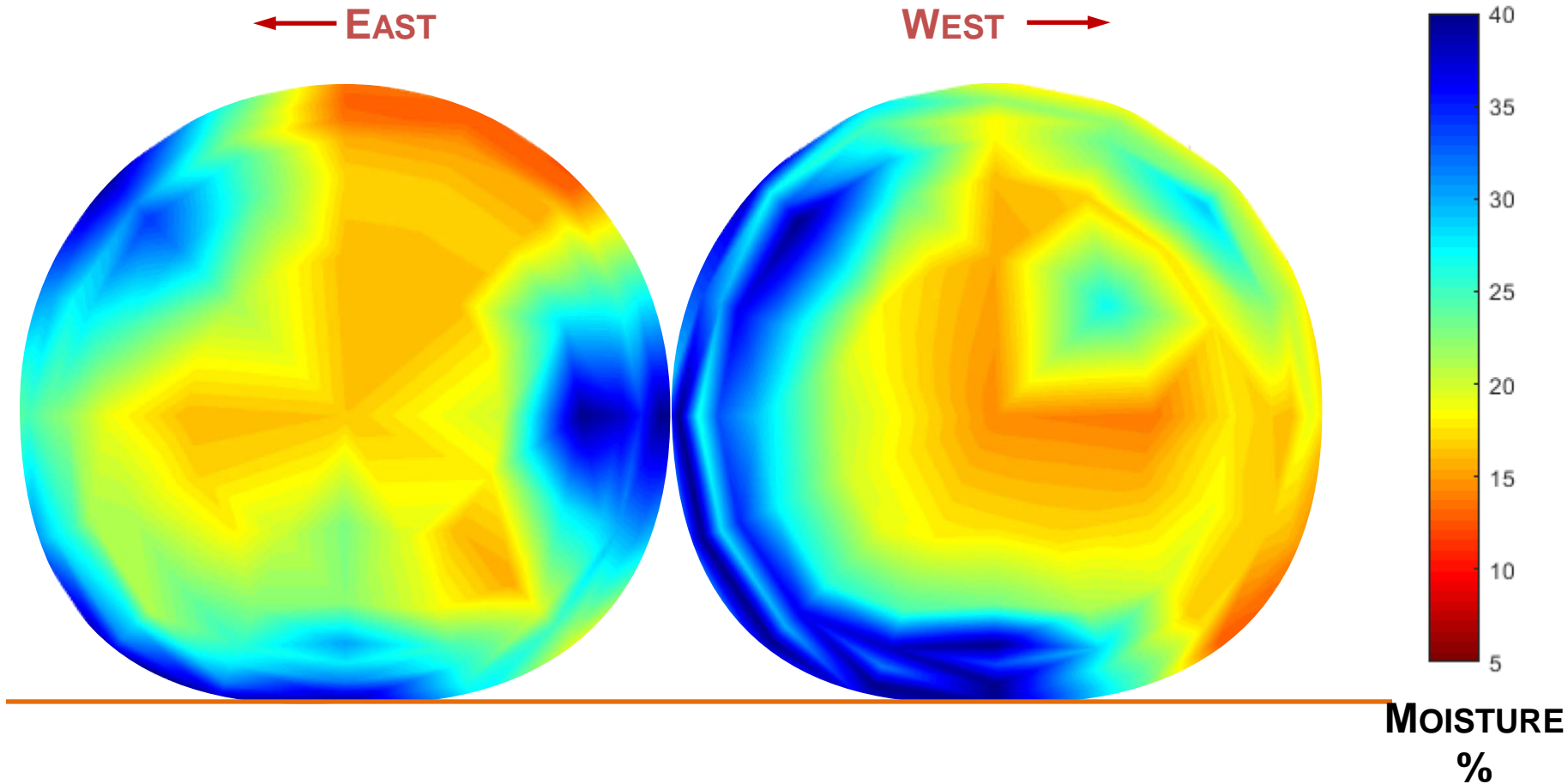


BALES STORED IN ROWS - TOUCHING





BALES STORED IN ROWS - TOUCHING



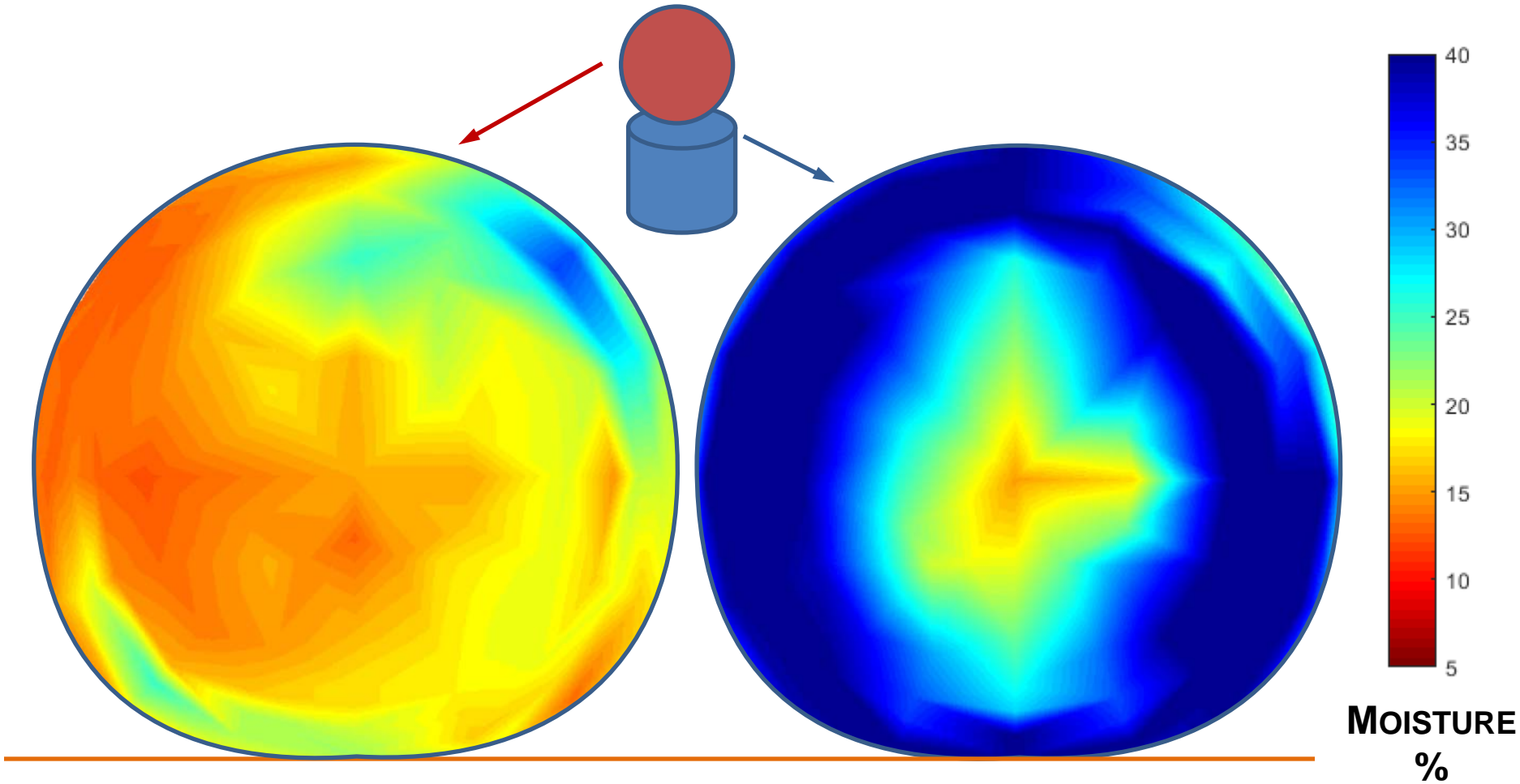


MUSHROOM STACK





MUSHROOM STACK





PYRAMID STACK



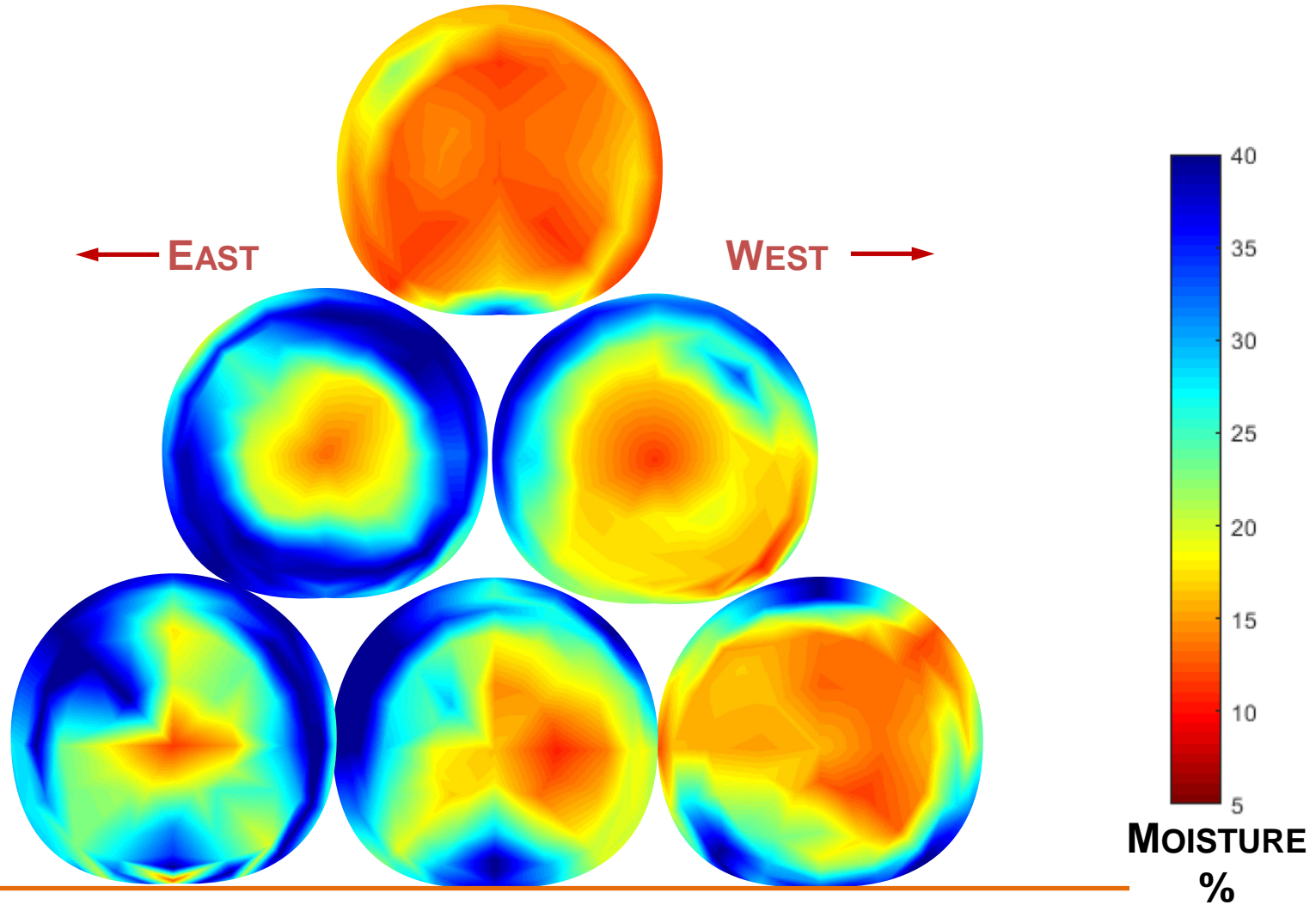


PYRAMID STACK





PYRAMID STACK



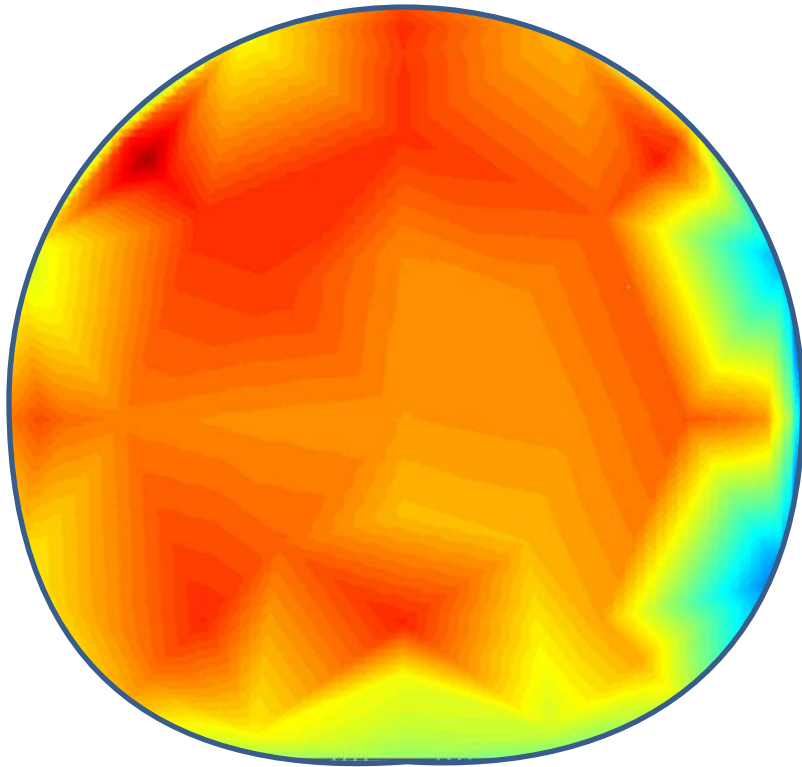


DRAINAGE

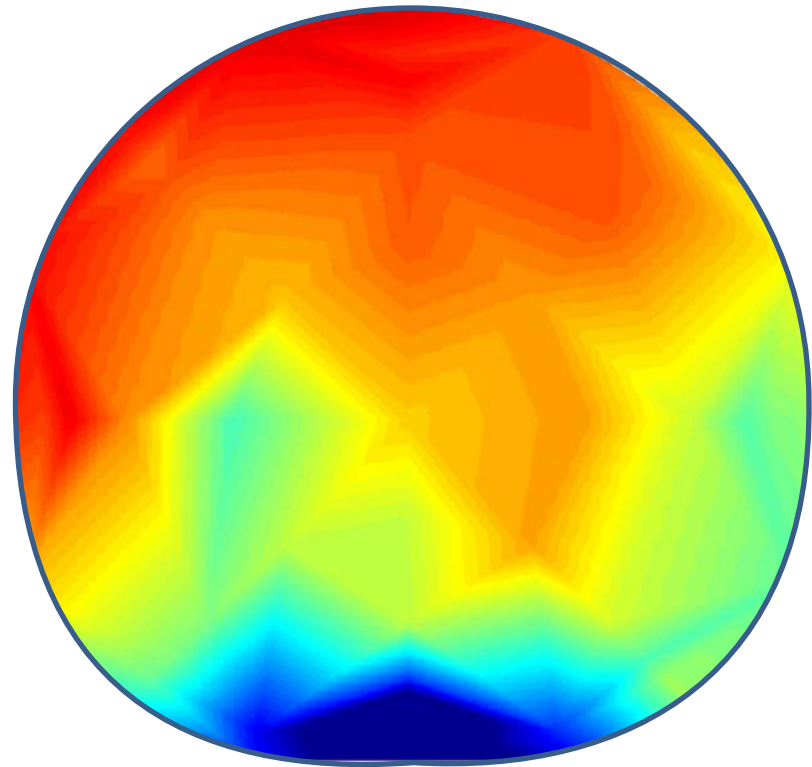




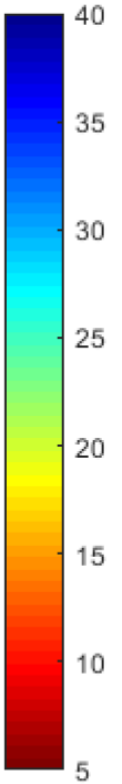
DRAINAGE



Well Drained



Poorly Drained





DRAINAGE





TWINE VERSUS NET WRAP





TWINE VERSUS NET WRAP

Dry Matter Loss (% of total)

	1 st Cutting (149 days)	2 nd Cutting (356 days)
Sisal Twine	16.3 _c	22.9 _c
Plastic Twine	9.0 _b	15.1 _b
Net Wrap	6.8 _a	8.0 _a



BEST STORAGE PRACTICES

Net wrapped,
good thatch

Gentle slope,
well drained

No shade,
Rowed N – S
Southern
Exposure

At least 3 ft.
between rows



Vegetation managed



STORAGE ALTERNATIVES





TAKE HOME MESSAGES

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