

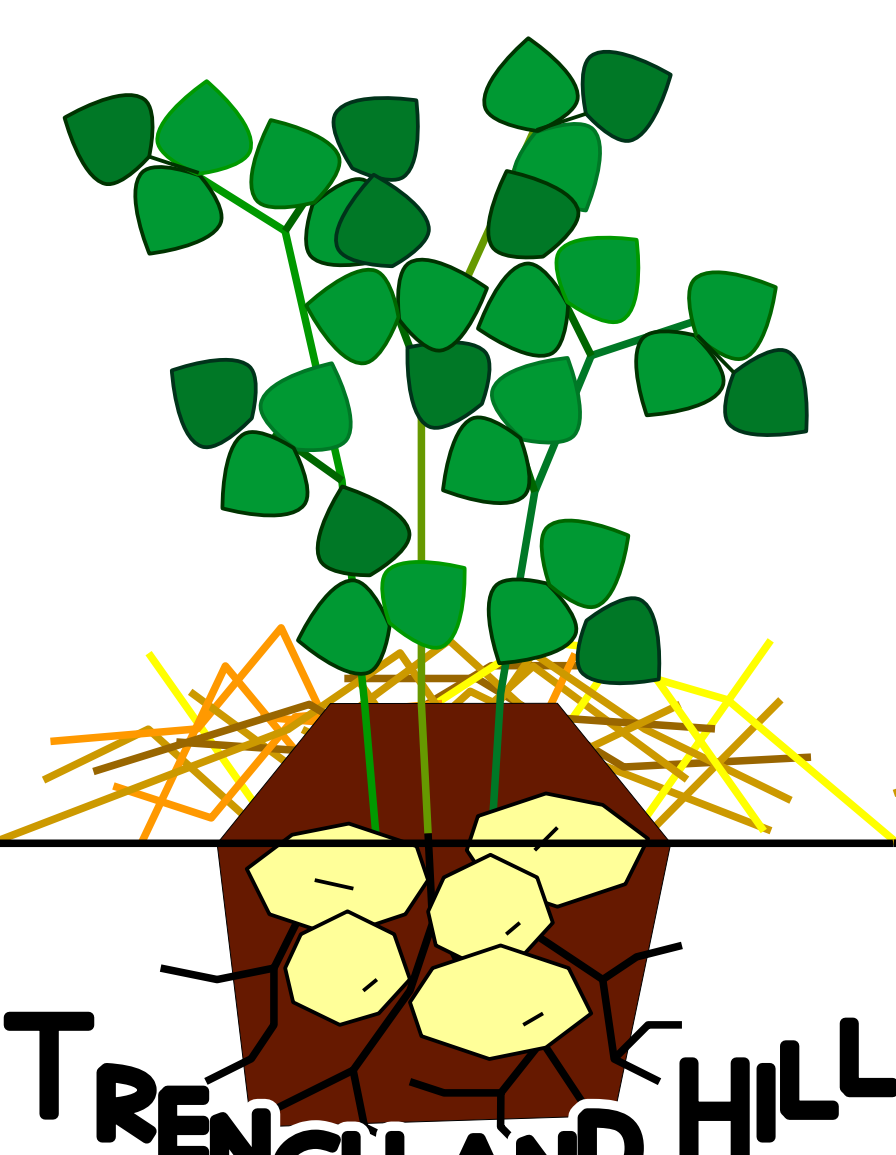
POTATOES FIVE WAYS:

A TRIAL OF DIFFERENT POTATO-GROWING METHODS FOR SMALL-SCALE OPERATIONS

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1 THE PROBLEM: SMALL-SCALE GROWERS MAY BE ATTRACTED TO THE WIDE VARIETY OF POTATO-GROWING METHODS IN AGRICULTURAL LITERATURE AND ON THE INTERNET. TO AVOID RISK, HOWEVER, MOST GROWERS STICK WITH TRADITIONAL METHODS AND MAY BE MISSING OUT ON MORE EFFICIENT STRATEGIES THAT REDUCE LABOR AND INPUTS WHILE INCREASING YIELDS.

2 THE STUDY DESIGN: FIVE MANUAL POTATO-GROWING STRATEGIES SUITABLE FOR SMALL-SCALE GROWERS SELECTED.



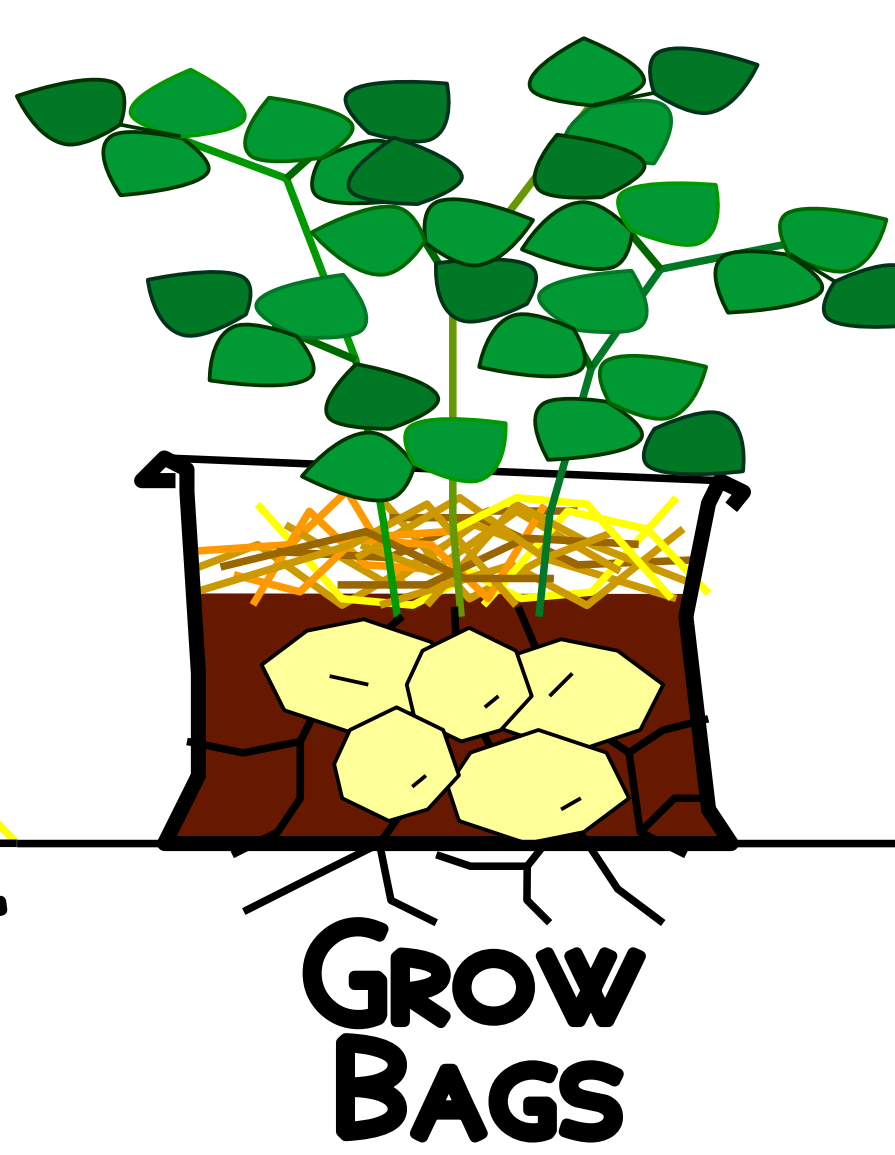
TRENCH AND HILL
6-IN-DEEP TRENCHES, COMPOSTED, AND FILLED. "HILLED" AND MULCHED WITH PLANT GROWTH. HARVEST BY DIGGING.



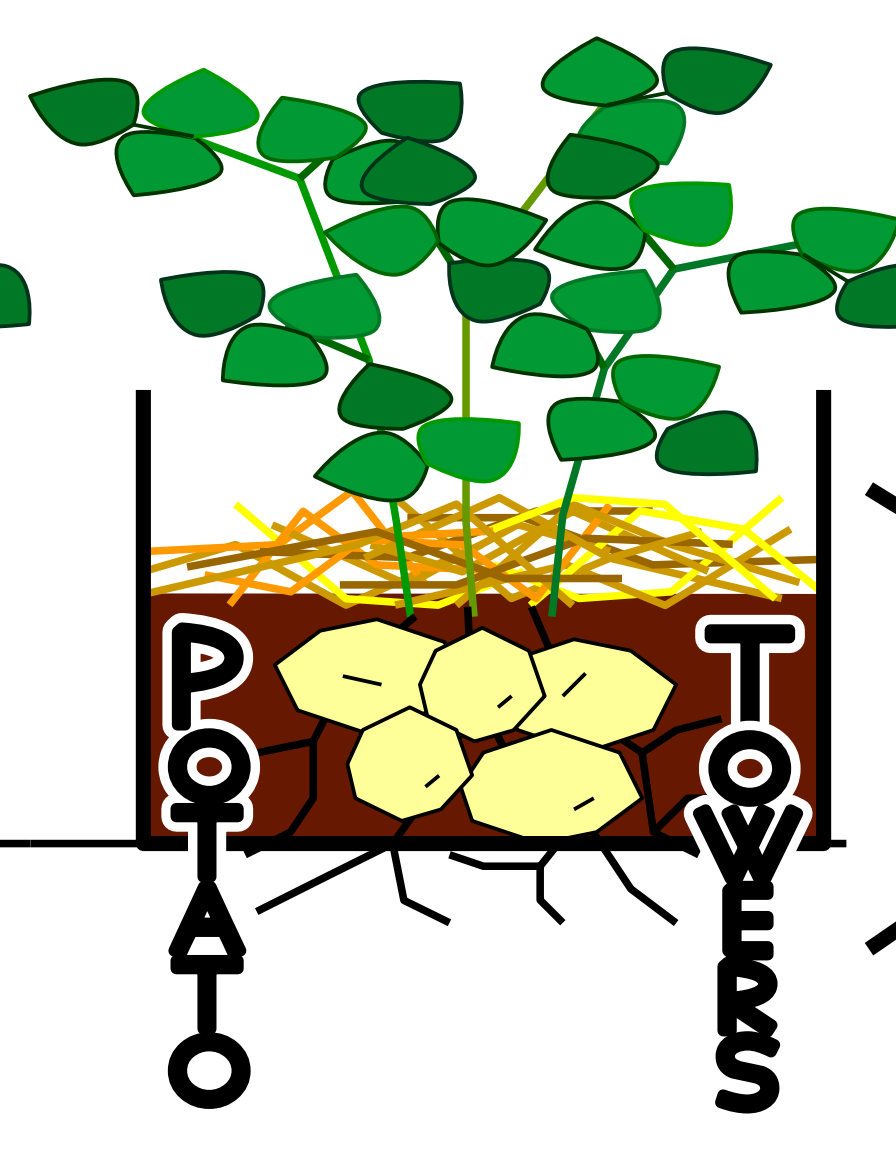
STRAW MULCH
SURFACE-PLANTED, COMPOSTED, AND MULCHED WITH STRAW. MULCHED AGAIN WITH PLANT GROWTH. HARVEST BY REMOVING MULCH.



STRAW MULCH OVER NEWSPAPER
SURFACE-PLANTED, COMPOSTED, AND SHEET-MULCHED WITH NEWSPAPER AND STRAW. MULCHED AGAIN WITH PLANT GROWTH. HARVEST BY REMOVING MULCH.



GROW BAGS
POLY GROW BAGS FILLED WITH SOIL, MULCH, AND COMPOST. MULCHED AGAIN WITH STRAW AS PLANT GREW. HARVEST BY DUMPING BAG OVER.



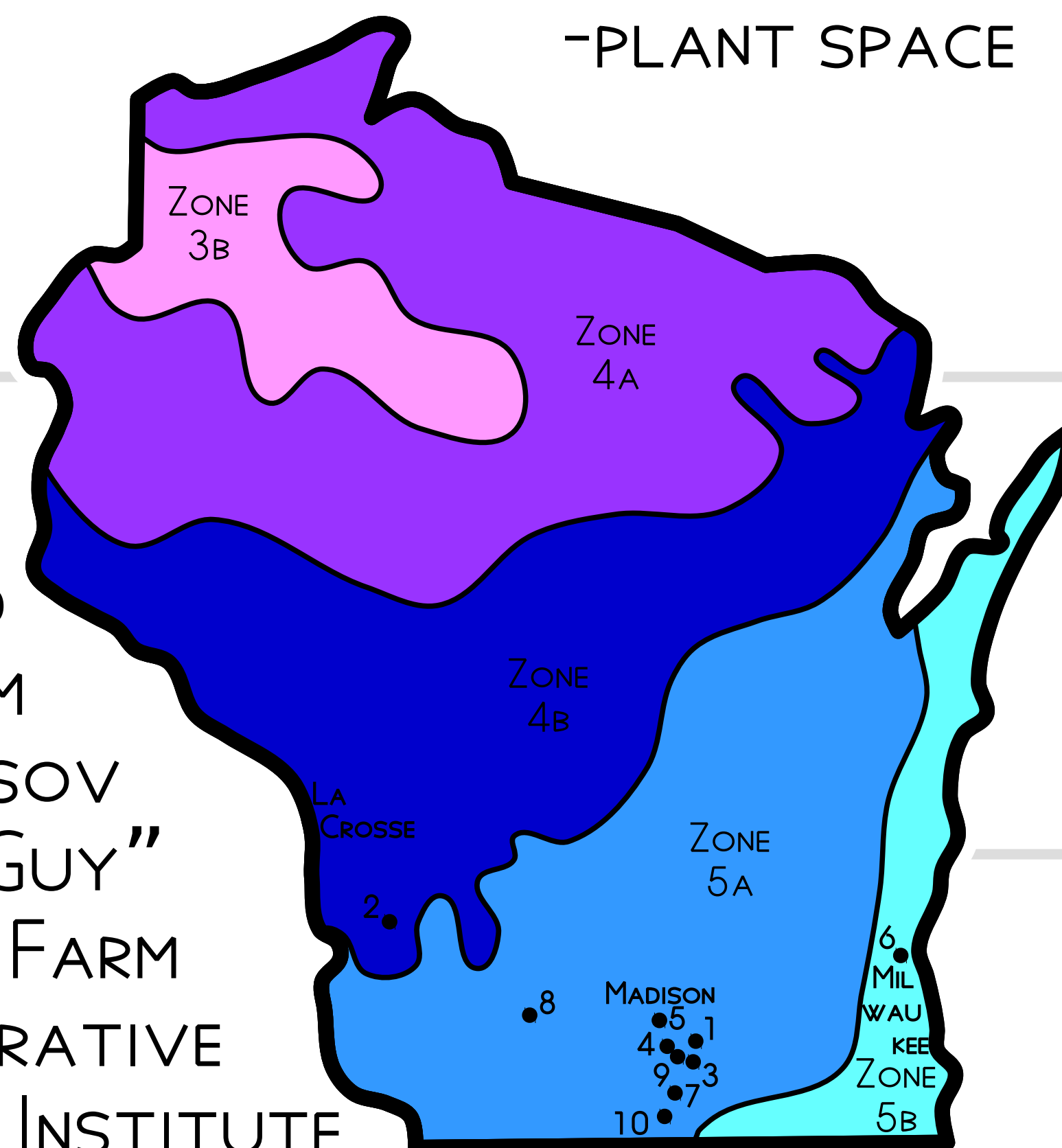
TOWERS
WOODEN FRAMES FILLED WITH SOIL, MULCH, AND COMPOST. LEVELS ADDED AND MULCHED AGAIN WITH STRAW AS PLANT GREW. HARVEST BY TIPPING TOWER.

OTHER VARIABLES HELD CONSTANT AT EACH LOCATION:

- SUN -CARE -SEED POTATOES -WATER
- SOIL -MULCH
- NUMBER OF PLANTS
- COMPOST
- PLANT SPACE

GROWERS RECORDED PER METHOD:

- PLANT GROWTH
- PEST PRESSURE
- TYPE AND TIME OF LABOR
- POTATO YIELD AND COUNT



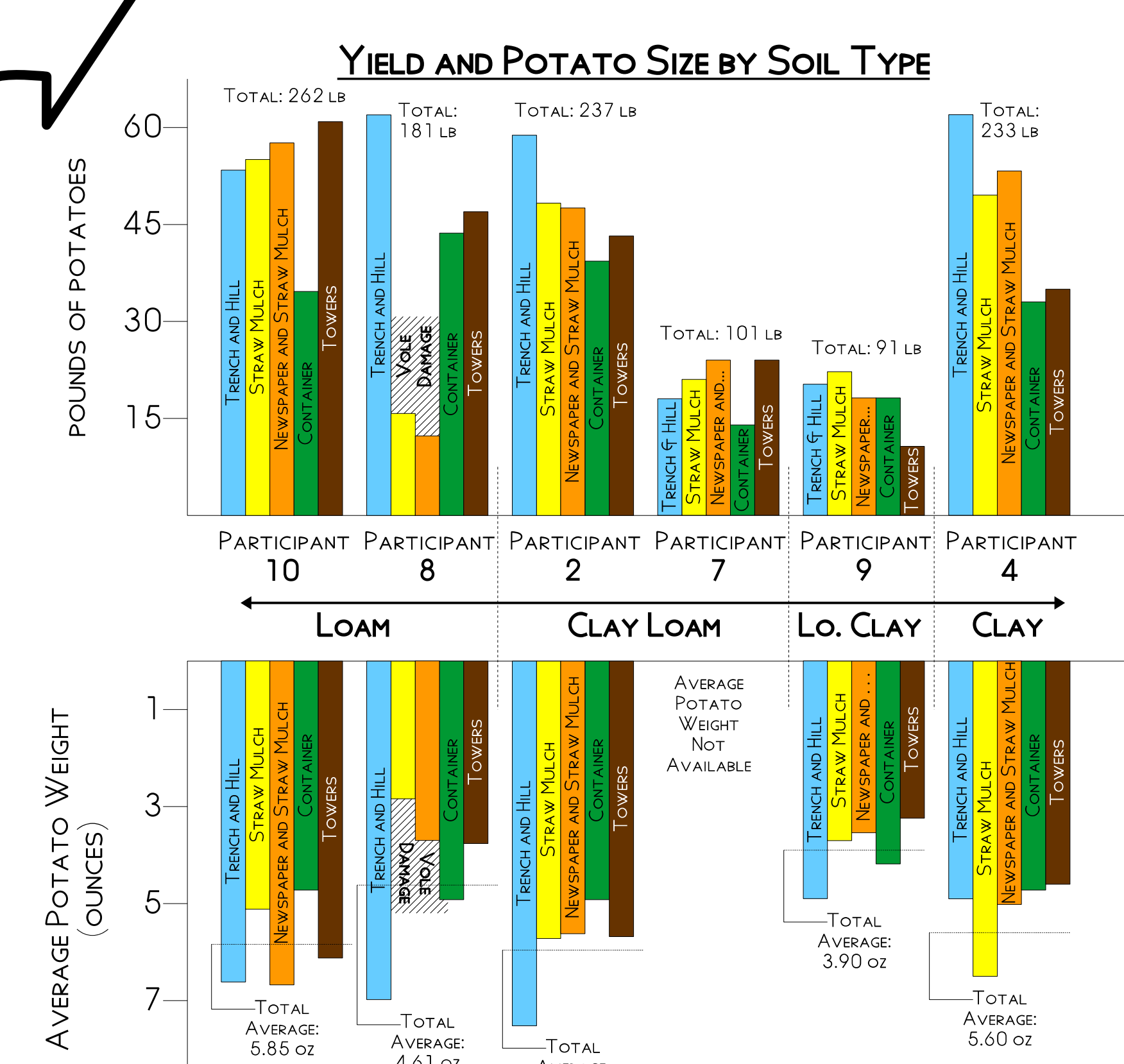
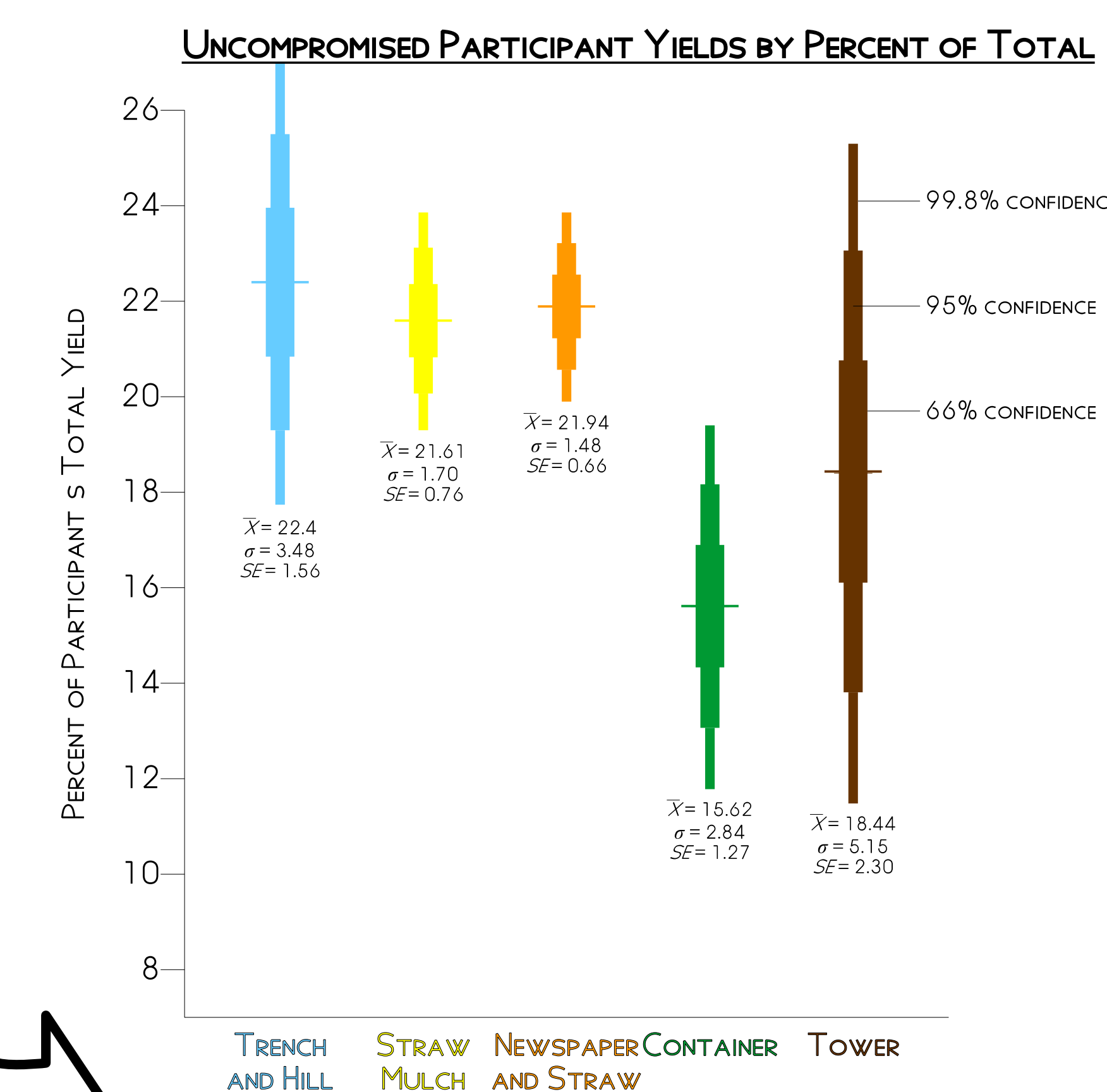
- MELISSA JO BLEILER
- CEDAR MOON FARM
- JOHNMARK HATFIELD
- PARISI FAMILY FARM
- GREGORY VORONTSOV
- MIKE "THE WORM GUY"
- RALEIGH'S HILLSIDE FARM
- ROCK RIDGE COOPERATIVE
- LOW TECHNOLOGY INSTITUTE
- BETTY ANDERSON'S OLD SMITH PLACE

10 PARTICIPANTS FROM ACROSS SOUTHERN WISCONSIN

FUNDED BY FARMER RANCHER GRANT FROM:
LOGISTICAL AND OTHER SUPPORT PROVIDED BY:



3 THE RESULTS:



THESE RESULTS ARE NOT STATISTICALLY SIGNIFICANT

YIELD (AVE. LB/PLANT)

MOST	TRENCH & HILL	(2.5 LB)
MIDDLING	STRAW, TOWERS, STRAW & NEWS	(2.0 LB)
LEAST	BAGS	(1.7 LB)

LABOR (AVE. MIN/PLANT)

LEAST	STRAW	(7:42)
	STRAW & NEWS	(8:39)
MIDDLING	BAGS, TRENCH & HILL	(10:30, 11:21)
MOST	TOWERS	(16:59)

TYPE OF LABOR (WEEDINGS/SEASON)

LEAST	BAGS, TOWERS	(1.8, 2.0)
MIDDLING	STRAW & NEWS	(2.1)
	STRAW	(2.3)
MOST	TRENCH & HILL	(2.9)

*NO DIFFERENCE IN PEST CONTROL, WATERING, HILLING, OR MULCHING.

COST (\$/PLANT)

BEST	TRENCH & HILL, STRAW, STRAW & NEWS	(\$2.18)
MIDDLING	BAGS	(\$3.18)
WORST	TOWERS	(\$11.61)

*EACH PLANT GOT 2.7-oz SEED POTATO, 4.0 LB ORGANIC COMPOST, AND 11% OF STRAW BALE.

TAKE ONE!
SHEET HAS COMPREHENSIVE DATA.
WARNING: STATS AHEAD.

4 SIGNIFICANCE AND CONCLUSIONS: "BEST" METHOD DEPENDS ON CONTEXT.

STRAW & NEWSPAPER MULCH WAS THE MOST LABOR-EFFICIENT METHOD

- × HALF THE LABOR PER POUND (2:37 MIN/LB VS. 4:15 FOR TRENCH & HILL)
- × BUT 28% MORE PLANTS NEEDED TO EQUAL TRENCH & HILL YIELD
- × NO MECHANIZATION OR DIGGING REQUIRED
- × EASY TO HARVEST, CLEANER TUBERS

TRENCH & HILL WAS THE MOST SPACE-EFFICIENT METHOD

- × MOST YIELD PER PLANT (123% OVER AVERAGE)
- × BUT SIGNIFICANTLY MORE WORK TO PLANT AND HARVEST (>3 MIN MORE PER PLANT THAN STRAW)

PARTICIPANT SUGGESTIONS

- USE CARDBOARD AND WOODCHIPS INSTEAD OF NEWSPAPER AND STRAW FOR BETTER VOLE RESISTANCE.
- CULTIVATE BED, PLACE SEED POTATOES ON SURFACE, COVER WITH COMPOST, AND UNROLL ROUND BALE FOR LARGER-SCALE APPLICATION.

