# Texas AgriLife Extension Forage Worksheet TSCRA Ranching 101 August 16, 2016 Megan.Clayton@ag.tamu.edu

NRCS Web Soil Survey: (<a href="http://websoilsurvey">http://websoilsurvey</a>.nrcs.usda.gov/app/HomePage.htm)

- Click on green button 'Start WSS' OR
- Scroll down on the page to 'Four Basic Steps'
  - 1. Define your 'Area of Interest'
  - 2. Click on 'Soil Map' Tab to view or print a soil map
  - 3. Click on 'Soil Data Explorer' Tab to access soil data (like vegetative productivity)
  - 4. Click on 'Shopping Cart' Tab to download your report (print only pages you want later)

# **Calculating Dry Forage:**

# **Supplies Checklist**

Plot frame\*

Paper bags

Microwave

Clippers

Scale in ounces

Ruler/yard stick

Paper to label pictures/dry erase board

o Camera

Calculator

Permanent marker

Map of land

o Conversion factor chart

<sup>\*</sup>Select a plot frame size from the chart below. Construct with either 3/8" reinforced rod welded on the corners or  $\frac{1}{2}$ " to  $\frac{3}{2}$ " PVC pipe with 4- 90° PVC corners and PVC glue.

| Plot Area            | Length per Side | Conversion Factor           |  |
|----------------------|-----------------|-----------------------------|--|
| 4 ft <sup>2</sup>    | 24 in           | 680 * wt in ounces = lbs/ac |  |
| 9 ft <sup>2</sup>    | 36 in           | 302 * wt in ounces = lbs/ac |  |
| 4.5 ft <sup>2</sup>  | 25.6 in         | 600 * wt in ounces = lbs/ac |  |
| 9.07 ft <sup>2</sup> | 36.1 in         | 300 * wt in ounces = lbs/ac |  |
| 1 m <sup>2</sup>     | 39 in           | 10 * wt in grams = kg/ha    |  |

# Steps to Clip Plot

- 1. Locate representative areas with different forage quantities & species mixtures
- 2. Randomly place plot frame in area
- 3. Move grass to either inside or outside of plot perimeter
- 4. Label picture with paper or dry erase board
  - a. Pasture name, date, range site, plot number
- 5. Place yard stick/ruler vertically in plot
- 6. Take picture
- 7. Label paper bag with corresponding plot #
- 8. Clip vegetation inside plot to soil surface, place in paper bag

# Steps to Calculate Dry Forage per Acre

1. Place clipped forage in paper bag inside microwave

- 2. Microwave for 15 seconds
- 3. Weigh bag
- 4. Microwave for 10 seconds
- 5. Weigh bag
- 6. Continue to microwave and weigh until weight does not change, record weight in ounces
- 7. Remove forage from bag, weigh bag in ounces
- 8. Subtract weight of bag from weight of forage & bag to get forage weight
- 9. Average all plots from same representative area
- 10. Use conversion factor chart (above) to get pounds of dry forage per acre based on size of plot frame

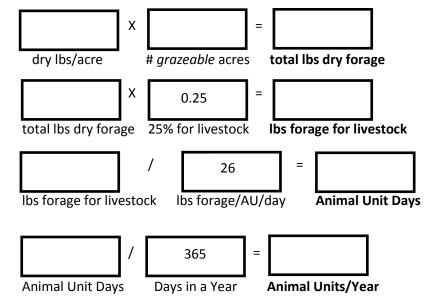
# **Calculating Stocking Rate:**

| UNIT                         | DEFINITION          |  |
|------------------------------|---------------------|--|
| Animal Unit (AU)             | 1000 lb cow w/calf  |  |
| Animal Unit Day (AUD)        | 26 lbs dry forage   |  |
| Animal Unit Month (AUM)      | 780 lbs dry forage  |  |
| Animal Unit Year (AUY)       | 9360 lbs dry forage |  |
| Animal Unit Equivalent (AUE) | % above or below AU |  |

| ANIMAL | TYPE   | AUE  | LBS/DAY* |
|--------|--------|------|----------|
| Cattle |        |      |          |
| Calves |        |      |          |
|        | 300 lb | 0.3  | 8        |
|        | 400 lb | 0.4  | 13       |
|        | 500 lb | 0.5  | 16       |
| Cows   |        | 1.0  | 26       |
| Bulls  |        | 1.5  | 39       |
| Horses |        | 1.25 | 32       |
| Sheep  |        | 0.20 | 5        |
| Goats  |        | 0.17 | 4        |

<sup>\*</sup>Does not take into consideration forage quality

# **Stocking Rate Calculations:**



# Smartphone/Tablet Apps:

Beef Cow BCS (Crystalyx) – Available for Apple and Android (FREE)

CowPoop Analyzer (Texas A&M Extension Service) – Available for Apple and Android (FREE)

GrazingCalc (Texas A&M Extension Service) – Available for Apple (FREE)

SoilWeb (UC Davis) - Available for Apple and Android (FREE)

ESRI ArcGIS – Available for Apple and Android (FREE)

BRIT – Texas Range Plants – Available for Android (FREE)

LeafSnap - Available for Apple (FREE)

WeatherUnderground - Available for Apple and Android (FREE, Optional In-App Purchases)

WindFinder - Available for Apple and Android (Basic Version FREE)

My Radar - Available for Apple and Android (FREE)

DuPont TankMix - Available for Apple and Android (FREE)

Calibrate My Sprayer - Available for Apple and Android (FREE)

Mix My Sprayer - Available for Apple and Android (FREE)

### Websites:

Texas A&M Extension Bookstore: AgriLifeBookstore.org (Look for Brush Busters, ERM-1466 Chemical Suggestion Guide)

NOAA Weather (Activity Planner): Google NOAA Weather with Closest Major City (Austin/San Antonio, Dallas/Fort Worth)

Texas Rangeplant Database: Rangeplants.tamu.edu

Soil Testing Website: http://soiltesting.tamu.edu