Soil Test Values to Nutrient Applied Values Name: _____

1. Find how much N, P, K, and potentially S are needed given Soil Test 1 and Soil Test 2 values:
    a. Using the NDSU soil guide, how much nitrogen would you have to apply for malting grade barley in warmer drier climates if you have done no-till for greater than 10 years?

    b. Using the NDSU soil guide, how much P_2O_5 would you have to apply for malting grade barley in warmer drier climates if you have done no-till for greater than 10 years?

    c. Using the NDSU soil guide, how much K_2O would you have to apply for malting grade barley in warmer drier climates if you have done no-till for greater than 10 years?

2. Find how much N, P, K, and potentially S are needed given Soil Test 1 and Soil Test 2 values:
    a. Using the NDSU soil guide, how much nitrogen would you have to apply for canola in a cooler and moister environment?

    b. Using the NDSU soil guide, how much P_2O_5 would you have to apply for canola in a cooler and moister environment?

    c. Using the NDSU soil guide, how much K_2O would you have to apply for canola in a cooler and moister environment?

    d. Using the NDSU soil guide, how much sulfur would you have to apply for canola in a cooler and moister environment?

3. Find how much N, P, K, and potentially S are needed given Soil Test 1 and Soil Test 2 values:
    a. Using the NDSU soil guide, how much nitrogen would you have to apply for no-till safflower?

    b. Using the NDSU soil guide, how much P_2O_5 would you have to apply for no-till safflower?

    b. Using the NDSU soil guide, how much K_2O would you have to apply for no-till safflower?

4. Find how much N, P, K, and potentially S are needed given Soil Test 1 and Soil Test 2 values:
    a. Using the NDSU soil guide, how much nitrogen would you have to apply for no-till sorghum?

    b. Using the NDSU soil guide, how much P_2O_5 would you have to apply for no-till sorghumr?

    c. Using the NDSU soil guide, how much K_2O would you have to apply for no-till sorghum?

5. Find how much P and K and potentially S are needed given Soil Test 1 and Soil Test 2 values:
    a. Using the NDSU soil guide, how much P_2O_5 would you have to apply for soybeans?

    b. Using the NDSU soil guide, how much K_2O would you have to apply for soybeans?

6. Find how much N, P, K, and potentially S are needed given Soil Test 1 and Soil Test 2 values:
    a. Using the NDSU soil guide, how much nitrogen would you have to apply for tilled ground planted in buckwheat?

    b. Using the NDSU soil guide, how much P_2O_5 would you have to apply for tilled ground planted in buckwheat?

    c. Using the NDSU soil guide, how much K_2O would you have to apply for tilled ground planted in buckwheat?

7. Find how much N, P, K, and potentially S are needed given Soil Test 1 and Soil Test 2 values:
    a. Using the NDSU soil guide, how much nitrogen would you have to apply for tilled ground planted in silage corn?

    b. Using the NDSU soil guide, how much P_2O_5 would you have to apply for tilled ground planted in silage corn?

    c. Using the NDSU soil guide, how much K_2O would you have to apply for tilled ground planted in silage corn?

1. **Soil #1**

N 19 lbs/acre

P 9 ppm

K 189 ppm

Soil #2

N 81 lbs/acre

P 43 ppm

K 203 ppm

Chart

N 70 lbs N - 19 lbs N (Soil Test) = 51 lbs N/acre

70 lbs N - 81 lbs N (Soil #2) = 0 lbs N

P 52 lbs P_2O_5/acre

P 0

K 0

K 0

2. Soil #1

N 150 - 19 = 131 lbs

P 9 ppm 28 lbs

K 189 ppm 0 lbs

S 20 lbs S

Soil #2

150 - 81 = 69 lbs N

43 ppm 0 lbs

203 ppm 0 lbs

20 lbs S

3. Soil #1

N 80 - 30 - 19 = 31 lbs

P 9 ppm 30 lbs

K 189 ppm 0

Soil #2

80 - 30 - 81 = 0 lbs

43 ppm 0

203 ppm 0

4.

Soil #1

N 19 lbs/acre

P 9 ppm

K 189 ppm

Chart

N 120-30 No till - 19 Soil test

P 39 lbs/acre

K 0

Soil #2

N 81 lbs/acre

P 43 ppm

K 203 ppm

N 120 - 30 No till - 81 Soil test

P 0

K 0

5.

	Soil #1	Soil #2
P	52 lbs	0
K	0	0

6. See previous problem for soil test values

Soil Test 1

N 80 lbs - 19 lbs soil test = 61 lbs N/acre

P 20 lbs P_2O_5/acre

K 0

Soil Test 2

80 lbs - 89 lbs soil test = 0 lbs N

P 0

K 0

7.

	#1	#2
N	180 lbs N - 19 lbs N = 161 lbs N/acre	180 lbs N - 81 lbs N = 99 lbs N/acre
P	40 lbs P_2O_5/acre	0
K	0	0