



Denele Analytical, Inc.

Environmental and Agricultural Analysis

ELAP Certificate No.: 2714

Soil Analysis

Date Rec'd: 2/3/2012
 Report Date: 2/8/2012
 Lab ID: S754341A

Crop: SMALL GRAINS
 Proposed Yield: 3.0 Ton(s)
 Default Yield: 3.0 Ton(s)

| Joe Mullinax | | | | Sample ID: Wheat Field | | | | | |
|-----------------------------|--------|----------|--------|-----------------------------------|-------|-------------|-----------|-----------|-------------|
| | | | | Submitted By: Josh | | | | | |
| | | | | Grower: Joe Mullinax | | | | | |
| Analyte | Result | Units | Normal | Very Low | Low | Normal | High | Very High | |
| pH | 7.37 | SU | 6.45 | | | | | | |
| E.C.e | 0.95 | mmhos | 1.20 | | | | | | |
| Soluble Salts | 608 | ppm | 768 | | | | | | |
| Nitrate Nitrogen | 4.0 | ppm | 35 | | | | | | |
| Chloride | 1.8 | meq/L | 2.75 | | | | | | |
| Organic Matter | | % | 1.75 | | | | | | |
| Soluble Phosphorus | 22 | ppm | 26 | | | | | | |
| Exchangeable Cations | | | | | | | | | |
| Potassium | 130 | ppm | | | | | | | |
| Calcium | 670 | ppm | | | | | | | |
| Magnesium | 98 | ppm | | | | | | | |
| Sodium | 43 | ppm | | | | | | | |
| Ca / Mg Ratio | 6.8 | | | | | | | | |
| Base Saturation | | | | | | | | | |
| Potassium | 7.1 | % | 2-5 | | | | | | |
| Calcium | 71.6 | % | 65-80 | | | | | | |
| Magnesium | 17.3 | % | 10-20 | | | | | | |
| Sodium | 4.0 | % | 0-5 | | | | | | |
| Boron | 0.14 | ppm | 0.50 | | | | | | |
| Zinc | 6.6 | ppm | 13 | | | | | | |
| Iron | 30.9 | ppm | 60 | | | | | | |
| Copper | 5.8 | ppm | 7 | | | | | | |
| Manganese | 0.7 | ppm | 22 | | | | | | |
| Sulfate Sulfur | 74.0 | ppm | 39 | | | | | | |
| Ammonia Nitrogen | - | ppm | - | | | | | | |
| Total Nitrogen | - | % | - | | | | | | |
| | | | | Fertilizer Recommendations | | | | | |
| Cation Exch. Capacity | 4.7 | meq/100g | - | Nitrogen | 159.0 | Lbs / Acre | Sulfur* | 0.0 | Lbs / Acre |
| Percolation | High | - | - | Phosphorus | 0.0 | Lbs / Acre | Boron | 2.4 | Lbs / Acre |
| Excess Carbonates | Low | - | - | Potassium | 0.0 | Lbs / Acre | Zinc | 0.0 | Lbs / Acre |
| Free Lime | - | - | - | Copper | 0.0 | Lbs / Acre | Manganese | 12.1 | Lbs / Acre |
| SMP Buffer pH | - | - | - | Lime* | 0.0 | Tons / Acre | Gypsum | - | Tons / Acre |

Note: All Results are on a Dry Basis

To convert ppm to lbs / acre (6 in. of surface soil weighing 2,000,000 lbs.), multiply by 2

The micronutrients recommended are in lbs/acre on a broadcast elemental basis. If micronutrients are banded, divide the recommended value by 3. If chelated fertilizers are used, divide the recommendation by 4. Research has shown that optimum yields are obtained with nitrogen split into 2 to 4 applications. Recommended nitrogen is based on 90% efficiency of application. Highest losses of nitrogen occur with winter applications. Early spring to late summer is the optimum time to apply nitrogen.

* If fertilizer recommendation exceeds 600 lbs (0.3 tons), multiple applications are recommended

REVIEWED AND APPROVED BY: Joshua Huot

Liability Limits:

The warranty of Denele Analytical is limited to the accuracy of the analyses of the samples as received. Denele Analytical assumes no responsibility for which the customer uses our test results, nor liability for any other warranties, expressed or implied. These terms and conditions shall supercede any conflicting terms and conditions submitted on customer purchase orders or other forms submitted for work.

