The Web-based Poultry Litter Decision Support System (PLDSS) is designed to assist Animal Feeding Operations (AFOs) and potentially Confined Animal Feeding Operations (CAFOs) with Nutrient Management Plans, Record Keeping of Nutrient Application Activities, and Transport of Excess Litter. In addition, this DSS provides a platform for Communicating Litter Availability and Needs to other users of this system.

**Key Functionalities**

- Utilized a Web-based Geographical Information System (GIS)
- The user accesses the system through a web browser (no need to have a GIS or any other software)
- Completely Secure connection with dual-level of authentication
- Just like a bank account, the user controls its account; other users cannot access your account
- Allows users to digitize their poultry house locations and field boundaries while looking at recent true-color aerial photographs
- Helps estimate poultry litter and compost produced from a poultry farm
- Allows development of Nutrient Management Plans (NMP)
- A Completely Web-based Erosion Rate Calculator
- Phosphorus (P) Index Calculator
- Land Application of Litter module
- Transportation Analysis
- Completely Spatial Message Board
- Nutrient Equivalency Calculator
- Recordkeeping and Report Generation

**Why PLDSS?**

- Easy to use - poultry producers, row crop farmers, and certified animal waste vendors (CAWVs) can easily use the system with minimal training.
- Secure system - only you have access to your account.
- User Control - gives the power in the hands of users; can result in increased utilization of NMP/P-Index, recordkeeping, and compliance.
- Protect Water Quality - increased use will allow protection of water quality.
- Improved Communication - helps communicate litter availability and needs information in real-time through the use of a Spatial Message Board.
- Economic Benefit - minimize transportation costs by facilitating transfer of litter to the nearest location.
- Web-based system - changes made in the system will be immediately available to the users.

**Technology Used**

- Database: Oracle10g R2
- Languages: C# ArcObjects, ASP.Net 2005

**Some Sample Screen Shots**

Digitization of poultry house and field boundary - using simple tools user can digitize poultry house locations and field boundaries

Erosion rate calculation - through a window that requires minimal input erosion rate can be calculated. No need to download soils or other data.
Nutrient Management Planning (NMP) and P-Index Calculations – easy to use windows for NMP and P-index calculations

OTHER MODULES FOR VARIOUS SYSTEM FUNCTIONS

Land Application of Poultry Litter – Estimation and application of poultry litter and compost

Search Tools for Viewing Current Nutrient Management Plan – Search can be performed through field ID, date, etc.

Report Generation – Print report of NMP and litter application activities

Spatial Message Board – Post litter/compost availability and needs information and view messages posted by other users

Transportation Analysis – Estimate transport distance and transportation cost

Nutrient Equivalency Calculator – Estimate litter/compost required of certain nutrient value.

MORE INFORMATION

PLDSS was jointly developed by Auburn University and ZIETA Technologies.

MORE INFORMATION CAN BE OBTAINED BY CONTACTING:

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*A patent and copyright on the PLDSS software and all the ideas containing in the software is pending at the US Patent and Trademark Office.*