



# PoultryPractices

Oklahoma Cooperative Extension Service

A newsletter for poultry producers and poultry litter applicators...

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[poultrywaste.okstate.edu](http://poultrywaste.okstate.edu)



### Editor's Column

Spring grad and undergrad classes are in now in full swing under the newly re-structured Poultry Waste Mgmt. Education Program. We kick started our first grad class with a Breeder Mgmt. seminar featuring Dr. Keith Bramwell (U of A). If you missed that opportunity, there are plenty more classes available including a Poultry Federation Grower Symposium in April. For class information and fact sheets visit your local County Extension Office or visit us online at [poultrywaste.okstate.edu](http://poultrywaste.okstate.edu) where you can also obtain an electronic version of our newsletter.

Josh Payne, Ph.D.  
Area Animal Waste  
Management Specialist

## Litter Management Strategies Impact Nutrient Content

Josh Payne, Ph.D.

Poultry litter consists of manure, bedding material and other components such as feathers and soil. In commercial broiler production, wood shavings and rice hulls are commonly used as bedding added to the poultry house floor and utilized for raising five to six flocks on a single placement prior to complete cleanout. The houses are usually "caked-out" (removal of denser or wetter areas) between flocks. Proper ventilation to keep litter dry and the use of litter amendments are two common practices which help control ammonia volatilization, thus reducing the amount of litter N lost. This has been the traditional approach for broiler house litter management. Broiler litter from a complete house cleanout managed in this manner usually tests approximately 60-60-50, N-P-K, lbs/ton.

Non-traditional litter management approaches such as in-house windrowing and partial house cleanout have become more common with some poultry producers. Both of these methods are aimed at re-using bedding material to save costs on replacement bedding.

*In-house windrowing* is a process of forming litter into windrows in between flocks. If properly managed, high temperatures are achieved due to microbial activity within the windrow which can effectively reduce litter pathogen populations and disease risks. These increased temperatures created by windrowing can also lead to increased ammonia volatilization during and following the windrowing process. Although not well documented, this may impact litter N content.

*Continued on next page*

*Partial house cleanout* is a process by which the middle one-third of the litter is removed from the house after three flocks and replaced with new bedding. After six flocks, a complete house cleanout is performed. Litter managed in this manner will most likely have a lower nutrient content.

Buyers of poultry litter should always obtain a current litter nutrient analysis before purchasing and spreading any poultry litter. This is not only required by Oklahoma state law, but it is important to ensure nutrients are not under or over applied. A nutrient analysis is also important to determine the potential value of litter to the end-user. To determine the potential value based on current commercial fertilizer prices and a current litter nutrient analysis, visit [www.ok-littermarket.org](http://www.ok-littermarket.org) and click on our fertilizer value calculator. You can also visit your local County Extension Office for assistance.

## Calibrating Poultry Litter Spreaders

**Josh Payne, Ph.D.**

Calibration of litter spreaders is imperative in order to determine application rate. Properly calibrated spreader trucks help to make the most efficient and economical use of litter as a fertilizer by allowing controlled applications which meet crop needs. If litter is under-applied, crop needs may not be met, while over-application of litter can pose environmental risks and lead to litter wastage and wasted dollars.

Calibration is the process of making the proper adjustments to the manure spreader in order to increase or decrease the application rate to the desired setting. Litter flow rate, travel speed, and distribution pattern all affect the amount of litter that is land applied. Increased flow rates, decreased travel speeds, and narrow distribution patterns all result in higher litter application rates while decreased flow rates, increased travel speeds and wide distribution patterns result in lower application rates.



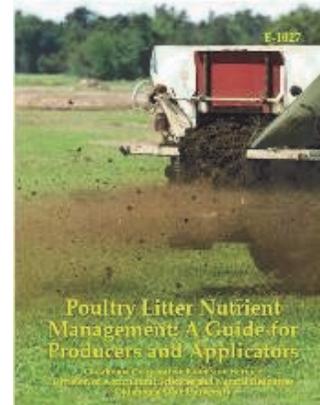
Litter spreaders can be easily calibrated using a plastic tarp, bucket and scale. For step-by-step instructions on how to properly calibrate a litter spreader and determine application rate, refer to “Calibration of Litter Spreading Trucks” by visiting [www.poultrywaste.okstate.edu](http://www.poultrywaste.okstate.edu) and clicking on “Fact Sheets” or by visiting your local County Extension Office.

## New Poultry Litter Nutrient Management Publication

Josh Payne, Ph.D.

A new resource is available for producers seeking information about poultry litter use for crops and forages. The OSU publication titled, “Poultry Litter Nutrient Management: A Guide for Producers and Applicators” provides an overview of:

- ◆ Benefits of litter application
- ◆ Environmental considerations
- ◆ Oklahoma regulations
- ◆ Valuing litter
- ◆ Nutrient management
- ◆ Application timing
- ◆ Best management practices and
- ◆ Litter commerce



This is a great source of information for those that want a summary of poultry litter use as a fertilizer published in a concise, reader-friendly document with photos and illustrations. The publication can be found by visiting [www.poultrywaste.okstate.edu](http://www.poultrywaste.okstate.edu) and clicking on “Fact Sheets” or you can receive a copy at your local County Extension Office.

## Springtime Soil Sampling

Hailin Zhang, Ph.D.

Soil testing is the best guide to the wise and efficient use of fertilizers and animal manure. The first step in soil testing is the collection of a representative sample. Soil properties vary a lot in a field. The soil sample must accurately represent the whole field where manure or other fertilizers are going to be applied. A minimum of 15-20 sub-samples collected randomly is needed to make a composite sample for a field. The sampling depth in Oklahoma is six inches. For details on soil sampling,, refer to “How to Get a Good Soil Sample” at [www.poultrywaste.okstate.edu](http://www.poultrywaste.okstate.edu).

Sample bags, soil probes and other assistance are available at the local OSU County Extension Office. Soil samples should be submitted through your County Extension office and then the office will send your samples to OSU Soil, Water and Forage Analytical Laboratory in Stillwater, OK. More information on agricultural testing and interpretation is available at [www.soiltesting.okstate.edu](http://www.soiltesting.okstate.edu).

## South Korean Poultry Group Visits Oklahoma and Arkansas

Josh Payne, Ph.D.

The US and South Korean Free Trade Agreement was signed on June 30, 2007. Recently, both countries have concluded new agreements, effective March 15, 2012, which provide new market access while leveling the playing field for US auto manufacturers and workers. For agricultural products, the agreement will either eliminate or phase out tariffs and quotas creating new opportunities for US farmers and ranchers seeking export to the world's 12<sup>th</sup> largest economy. It is anticipated that US beef, pork and poultry exports to South Korea will increase providing US agriculture increased market access.

Recently, a study group consisting of South Korean government, academic and industry officials visited the US to learn more about US commercial poultry production. The trip objectives were to foster new relationships with US government, academic and industry officials and discuss future trade issues between the US and South Korea. The group, hosted by OSU, was given an overview of US poultry production with an emphasis on the economics and issues surrounding regional production. In Arkansas, poultry production ranks as the top agricultural revenue generator while in Oklahoma poultry ranks 2<sup>nd</sup> in agricultural revenue. The visit also included meetings with University of Arkansas faculty, Tyson representatives and commercial poultry producers. Following their visit to Oklahoma and Arkansas, the South Korean group traveled to Washington, DC, to meet with USDA representatives.



Pictured are the South Korean delegates; Drs. Josh Payne and Chanjin Chung (OSU); and Drs. Susan Watkins and Dustan Clark (U of A) during a visit to the Center of Excellence for Poultry Science in Fayetteville, AR.

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