

In-House Composting of Broiler Litter

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What's In a Name

- Windrow Composting
- In-House Composting
- Pasteurization
- Not Really Composting Fully
- Management Technique



Composting – Waste Management?

- Built Up Litter Issue
- Composting – Bird Health
- In House Composting Itself is Not a Waste Management Issue
- Flexibility of Cleanout

Built-Up Litter

- Many Years
 - Shore, Others
- Yearly
 - Southeast
- Every Flock
 - Europe, Others



Issues

- Bird Health
- Bird Productivity
- Litter Cost/Availability
- Waste Management
- Cost of Managing Built-up Litter
- Work Load/Litter Disposal



Economics – Built Up

- Less Litter Costs Over Time
 - Only Top Dressing
 - Cake Removal
- Less Litter to Dispose of/Handle ?
 - ½ lb litter produced/1 lb broiler
- Litter – 90% Poop/10% Bedding

Economics – Built Up

- Costs of Managing Built-Up Litter
 - Ventilation
 - Composting/Litter Treatments
- Opportunity Costs of Litter Sales
 - High Cost of Fertilizer
- Work Involved

Built-Up Litter Management

- Ventilation - Moisture Removal
- Drinker Management
- Down Time - 10-12 days
- Decaking, Windrow Composting, High Speed Tilling
- Litter Treatments

Yearly Cleanout

- Production Boost
 - Reduce Microbe Buildup
- Litter for Disposal
 - Timing for Sale/Use
- Cleanout Cost/Labor
- Competitive Exclusion

Health Aspects

- Microbes Build Up Over Time
- Performance Suffers
 - Subclinical
- Boost in Performance
 - Improved Ranking
 - 3-4 Points FCR
 - 1.5 Point Condemns



Cleanout Economics

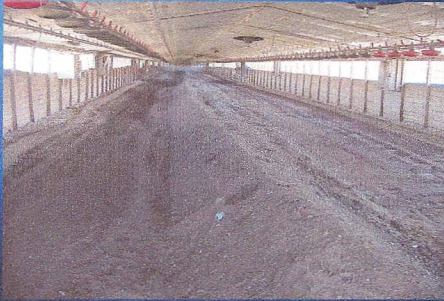
- Cost of Cleanout
- Pine Shavings - \$1,000 - \$1,200+
- Top Dressing - \$800
- Improved Performance?
- Vs. Increased Management Costs
- Worth of Litter for Fertilizer

Living with Built-Up Litter

- Windrow Composting
- Litter Treatments
- Top Dressing?
- Partial Cleanout?



Windrow Compost

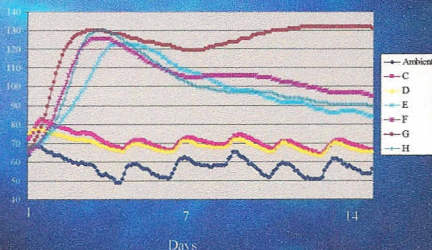


Windrow Composting

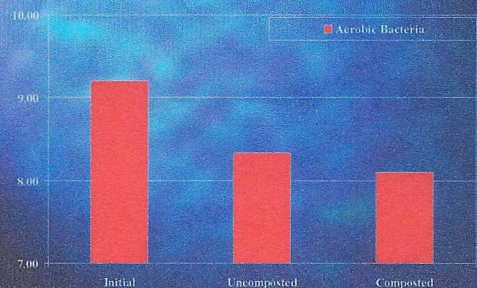
- Relatively Quick and Easy?
- May Be Accomplished Within Normal Downtime Periods
- Can Be Used Strategically During the Year to Reduce the Disease Load in the House



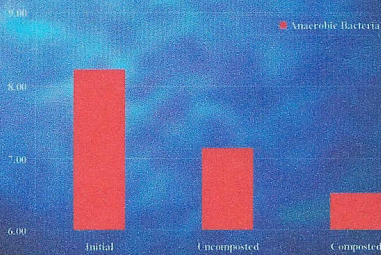
Windrow Compost Temperatures



Total Aerobic Bacteria (cfu/g)



Total Anaerobic Bacteria (cfu/g)



Litter Treatments

- Combine with In-House Composting
- Blow Off Ammonia Prior to Brooding
- Higher Levels of Amendments??
- Cost vs Cleanout

Cleanout Flexibility

- In-House Windrow Composting Allows for Litter Reuse
- Litter may be Reused Until Cleanout Conditions are Right
 - Season of the Year
 - Certified Waste Vendor
- Fosters Responsible Movement of Litter to Use as a Fertilizer

Cleanout Flexibility

- Decaking After Composting
- Remove Some Litter to Maintain a Workable Depth
- Some Litter Will be Removed Over Time
- Less at Any Given Time

Nutrient Buildup

- Built Up Litter
- Nutrients Increase Over Time
- Fertilizer Value
- Nitrogen Loss Due To Windrow Composting - ?

Conclusions

- Built-Up Litter Can be Used Successfully to Extend Litter Life if Litter Management is Taken Seriously
- Cleaning Out Once a Year Does Show Increased Performance

Conclusions

- Windrow Composting and Litter Treatments Will Help Manage Built-Up Litter
- Windrow Composting is A Bird Health Issue
- Allows Flexible Cleanout Schedule
- Responsible Use of Litter Nutrient Resource

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