

# The Impact of Hemicell<sup>®</sup>-HT on Broiler Litter Moisture

## Introduction

Hemicell<sup>®</sup> has been shown in several tests to reduce litter moisture in broiler houses. Although this is well known in the field, there was no good documented test to support this benefit. A field test that demonstrates the impact of Hemicell<sup>®</sup>-HT on litter moisture is provided below.



Hemicell<sup>®</sup>-HT was tested on a six-house broiler farm in Missouri, covering 16,000 square feet per house. All six houses were conventional design with side angle fans. The curtains were adjusted automatically based on temperature. Each house contained

23,700 broilers with alternate placement (houses 1 and 4, 2 and 5, 3 and 6). Hemicell<sup>®</sup>-HT, assayed at 55-60 MU/ton, was added (on top) for birds in houses 4, 5 and 6.

| Litter moisture (%) - Control                           |         |         |         |                   | Litter moisture (%) - Hemicell-HT |         |         |                   |               |
|---|---------|---------|---------|-------------------|-----------------------------------|---------|---------|-------------------|---------------|
| Days  | House 1 | House 2 | House 3 | Mean              | House 4                           | House 5 | House 6 | Mean              | % Improvement |
| Day 1   | 25.7    | 22.8    | 21.7    | 23.4              | 21.2                              | 20.8    | 24.6    | 22.2              |               |
| Day 28  | 36.0    | 31.0    | 37.4    | 34.8 <sup>a</sup> | 27.6                              | 28.2    | 28.5    | 28.1 <sup>b</sup> | 20            |
| Day 34  | 39.7    | 29.8    | 38.4    | 36.0 <sup>a</sup> | 26.0                              | 29.2    | 27.0    | 27.4 <sup>b</sup> | 24            |
| Increase of litter moisture over time compared to day 1 |         |         |         |                   |                                   |         |         |                   |               |
| Day 28  | 10.3    | 8.2     | 15.7    | 11.4 <sup>a</sup> | 6.4                               | 7.4     | 3.9     | 5.9 <sup>b</sup>  | 52            |
| Day 34  | 14      | 7       | 16.7    | 12.6 <sup>a</sup> | 4.8                               | 8.4     | 2.4     | 5.2 <sup>b</sup>  | 59            |

a, b means p<0.05

Litter was tested in October-November, 2010. Samples were taken at day 1 and again on day 28 and day 34 of the test period and were analyzed for dry matter at the University of Arkansas. Weather was mild for first two weeks (50-60°F) and cooler during the remainder of the test period (35-45°F).

The litter was composted in all houses. No new shavings of any type were added. The litter consistency at the beginning of the test was powder to coarse powder. At the end it ranged from caked to coarse powder.

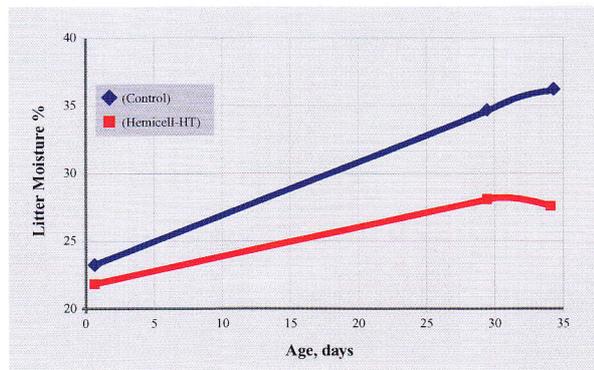


Figure 1: Effect of Hemicell<sup>®</sup>-HT on broiler litter moisture.

**Hemicell<sup>®</sup> Feed Enzyme**  
*More meat...less cost...the Natural Way!*

## Brood end of the houses

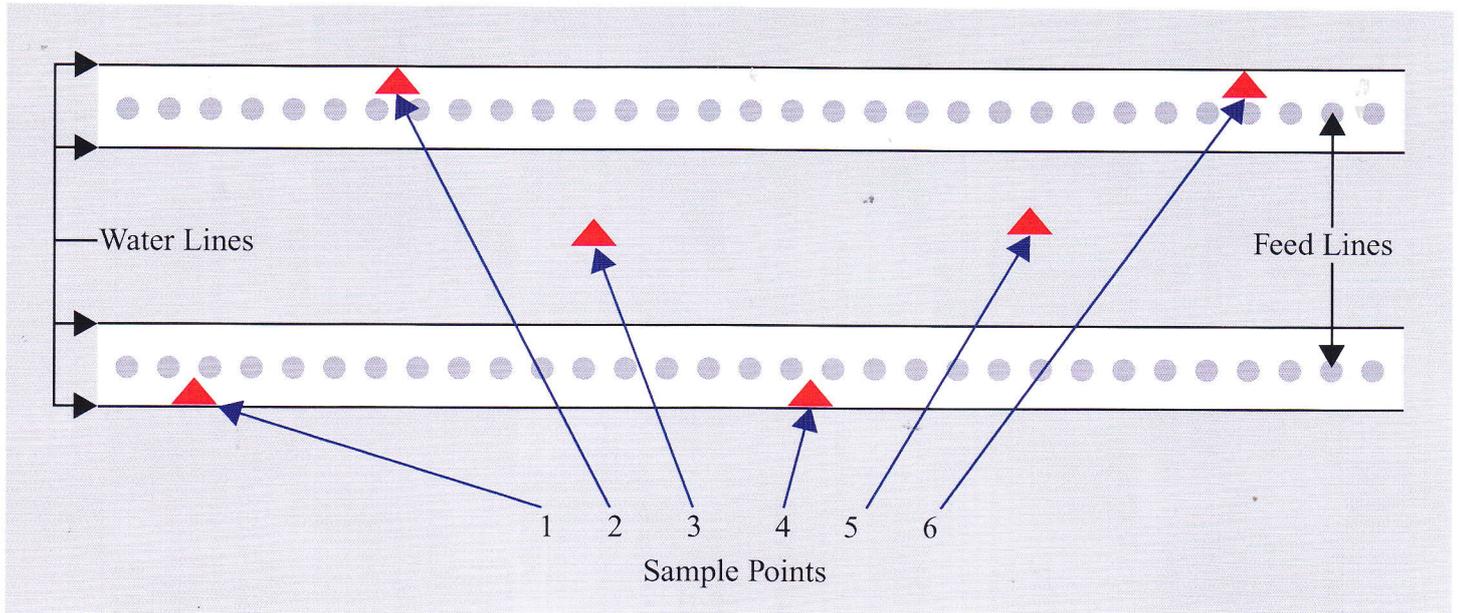
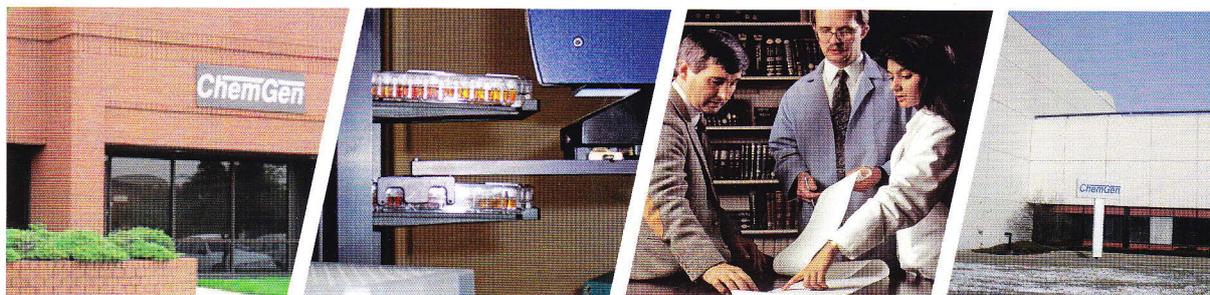


Figure 2: Sample points for collecting litter for testing.

Six litter samples were taken in each house at fixed positions (see Figure 2) and marked with red ribbon. Litter moisture was calculated from dry matter content. Houses 3 and 6 were harvested at 34 days and other houses ended at 38 days. Litter samples were collected at the same time.

### Summary

Field reports have indicated Hemicell® can effectively reduce moisture in poultry litter. This test demonstrates that new Hemicell®-HT, a heat tolerant dry powder formulation, is also effective in reducing moisture. In fact, after 34 days, the litter treated with Hemicell®-HT showed a 24% improvement over the untreated feed. The increase in moisture over time was 41% less with Hemicell®-HT compared with untreated feed. Based on field reports and this latest trial, one would expect use of Hemicell®-HT at 55-60 MU/ton provides significant reduction of moisture in broiler litter.



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