

# Characterization Study

---

Turkey Industry

October 19, 2016

## Purpose

Identify Characteristics of the regional Commercial Turkey Industry to Improve the Model Data Inputs for Scenario Builder and the Phase 6 CBW Model

Identify Bird Types	How Grown	Weight	Litter Produced/tons	Flocks/yr.	Flock/ between cleanout
• Hens	Light	15 lbs			
	Heavy	21 lbs			
• Toms	Single Stage	41 lbs			
	Two Stage	41 lbs			
	Three Stage	NS			
	Finishers	41 lbs			



# Status of work

- Contacted and collected historical and current data from 376 growers.

**Table 1. Number of samples for production and bird types between from 2012 to 2016**

Production Type	Bird Type	Notation	Samples (N)
1 Stage	Breeder	1 SBreeder	30
1 Stage	Brooder	1 SBrooder	5
1 Stage	Hen	1 SHen	46
1 Stage	Heavy Hen	1 SH_Hen	2
1 Stage	Heavy Tom	1 SH_Tom	65
1 Stage	Poult	1 SPoult	26
2 Stage	Hen	2 Shen	67
2 Stage	Heavy Hen	2 SH_Hen	51
2 Stage	Heavy Tom	2 SH_Tom	58
Finisher	Heavy Hen	FinH_Hen	7
Finisher	Heavy Tom	FinH_Tom	20

Figure 1. Concentration of total phosphorus for all production and bird types between from 2012 to 2016

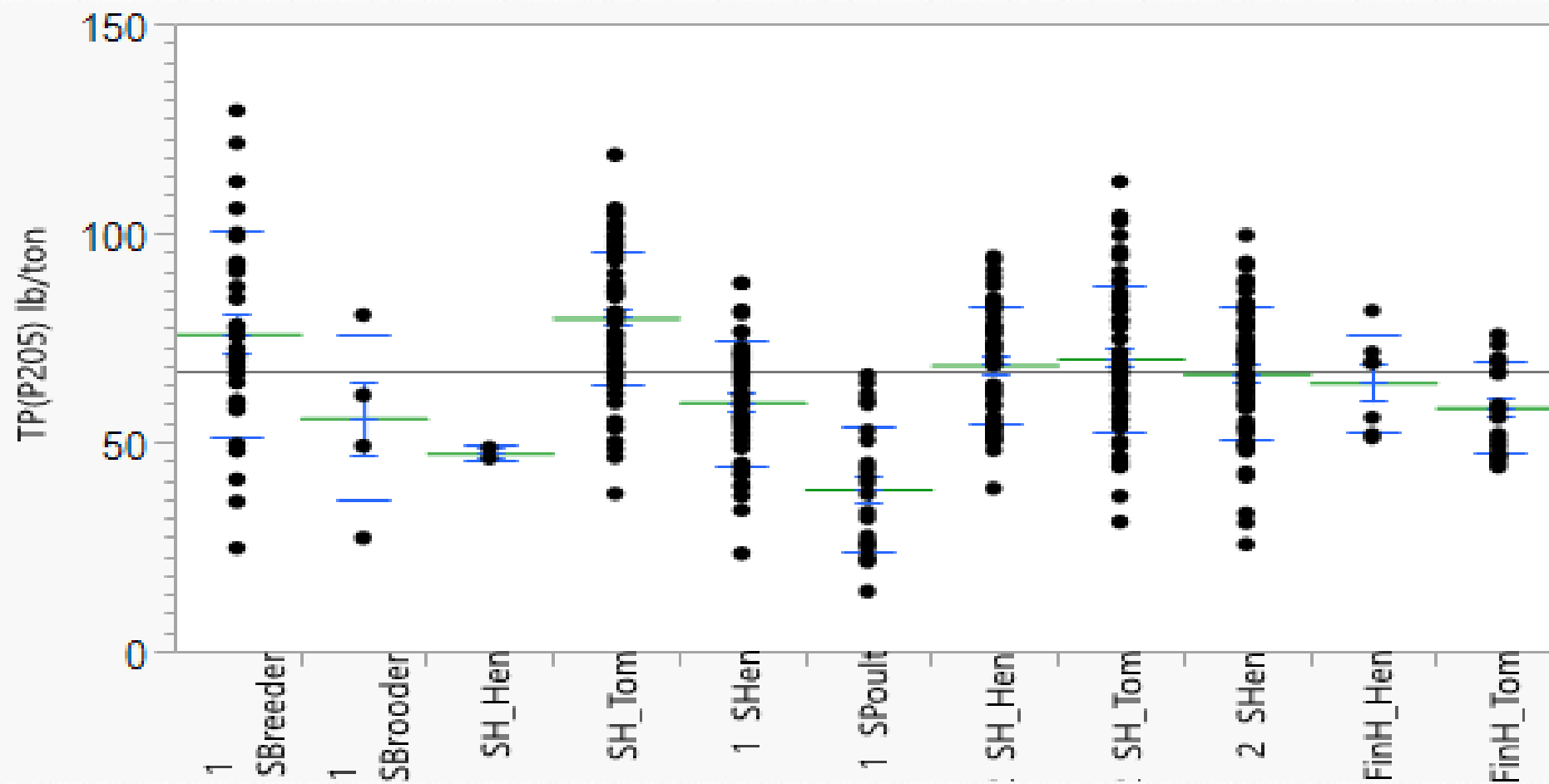


Figure 2. Concentration of total nitrogen for all production and bird types between from 2012 to 2016

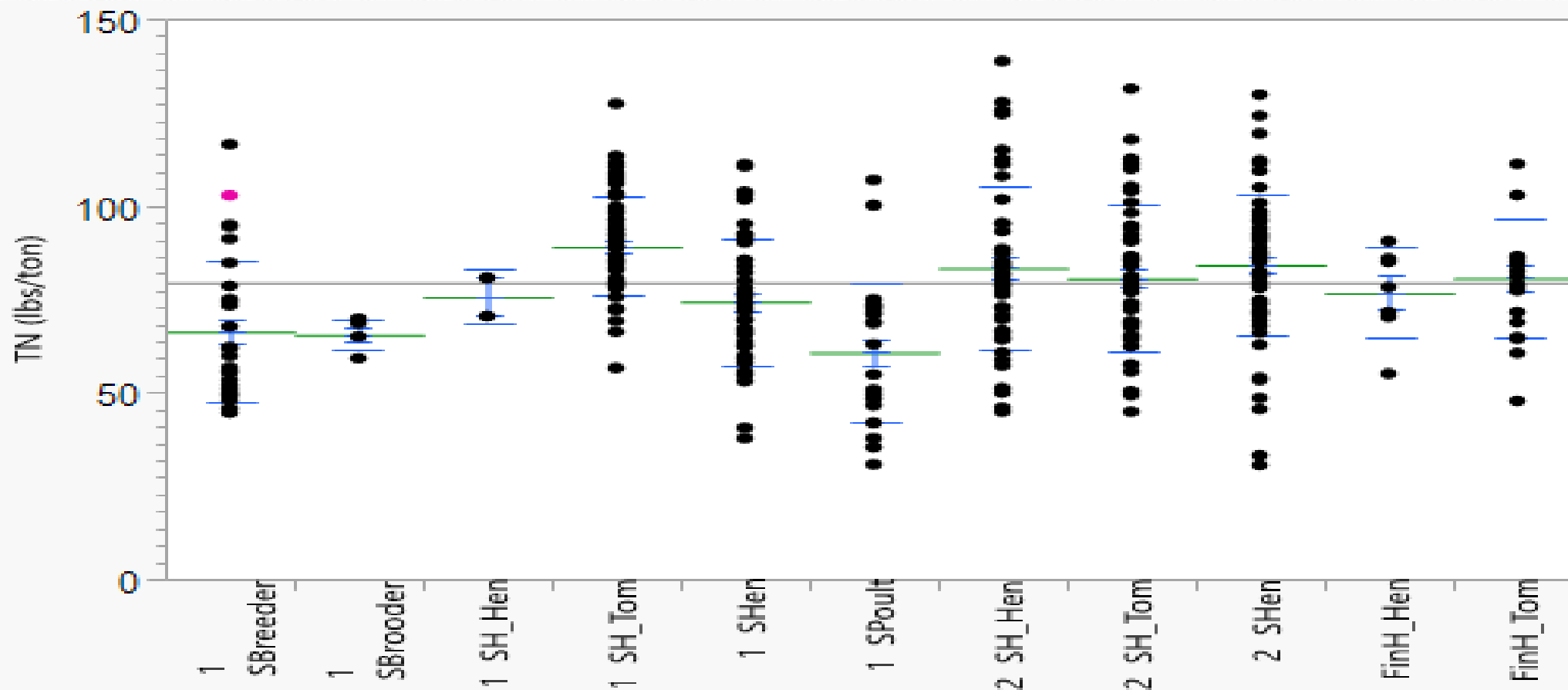


Figure 3. Concentration of ammonia nitrogen for all production and bird types between from 2012 to 2016

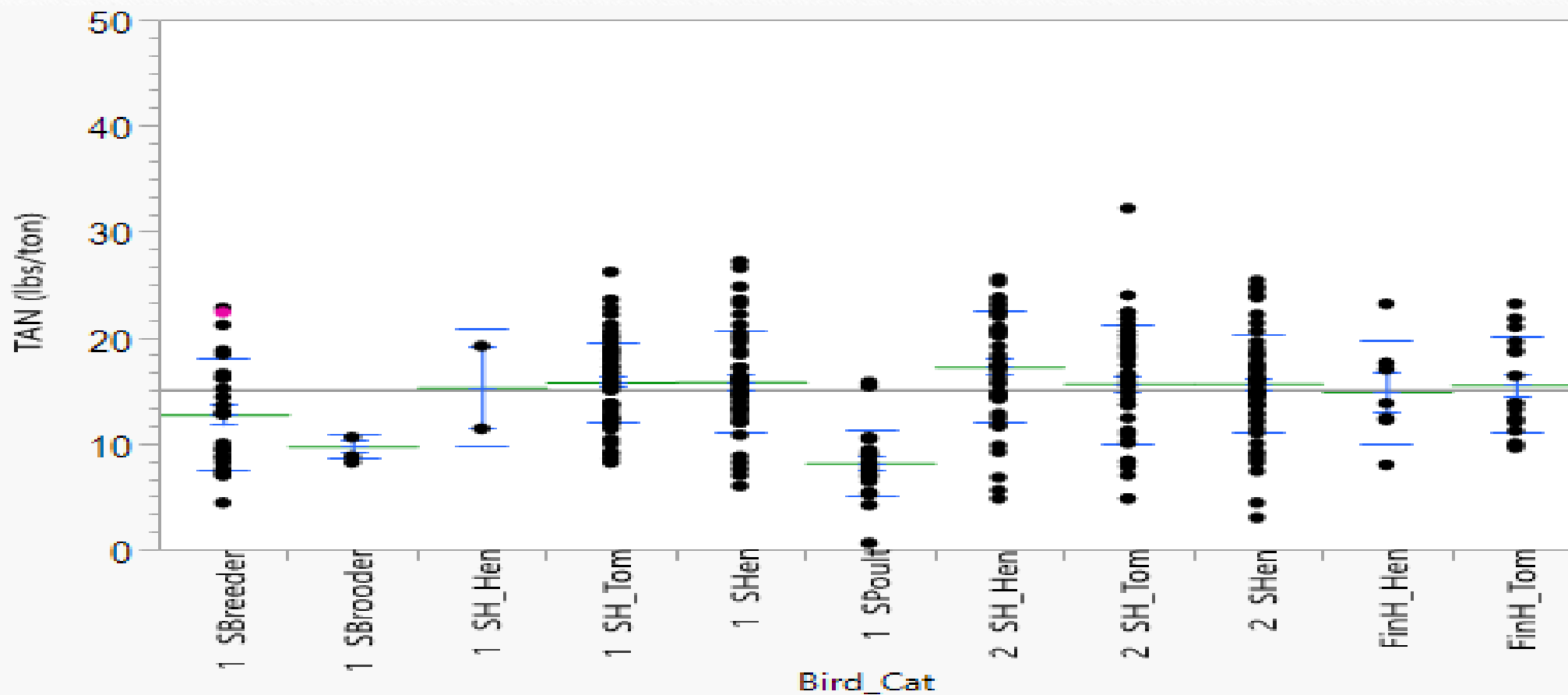




Figure 4. Concentration of potassium for all production and bird types between from 2012 to 2016

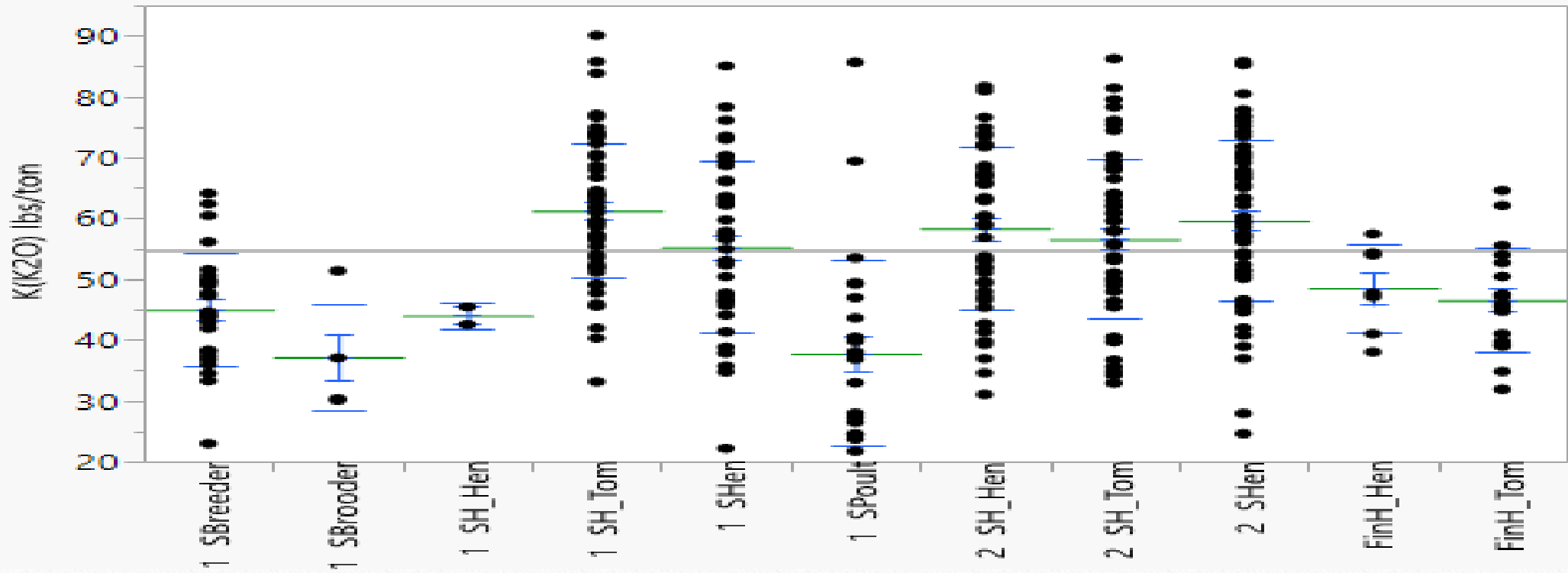
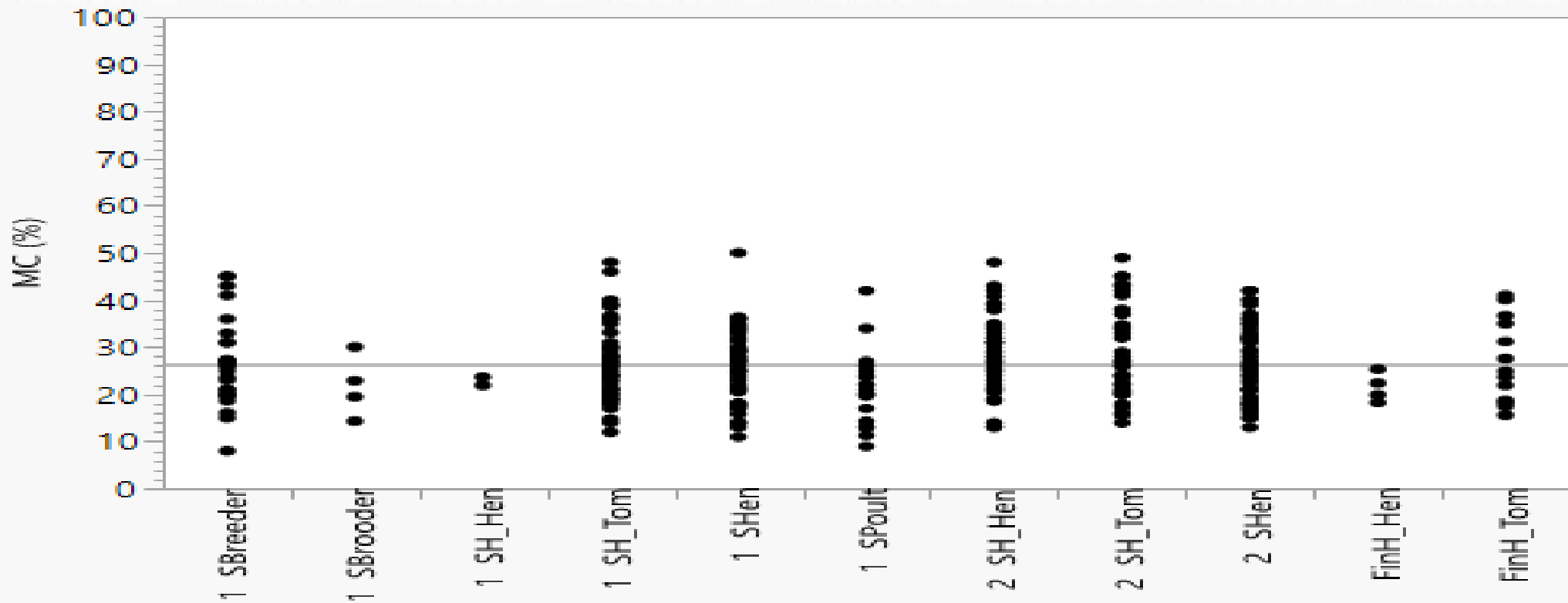


Figure 5. Moisture content of litter from all production and bird types between from 2012 to 2016

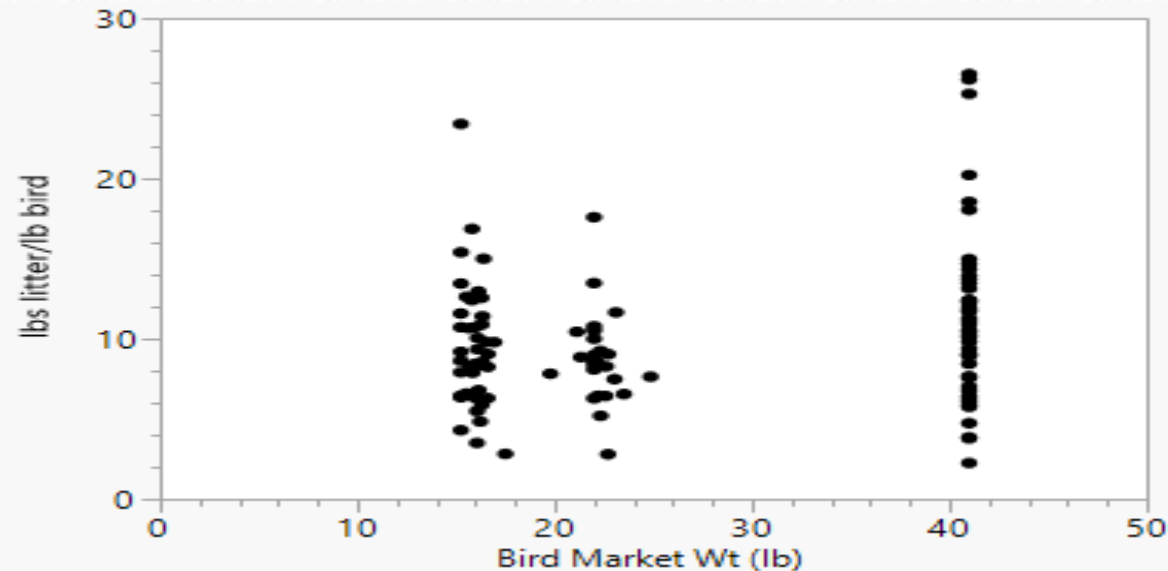




# Table 2. Pounds of litter per bird produced

Bird and Production type	Samples (N)	Litter produced per Bird
Finisher Heavy Tom	20	13.45 ± 6.32 <sup>A</sup>
Finisher Heavy Hen	8	10.88 ± 3.50 <sup>A,B</sup>
1 Stage Heavy Tom	13	10.38 ± 2.16 <sup>A,B</sup>
1 Stage Hen	20	10.11 ± 4.75 <sup>A,B</sup>
2 Stage Heavy Tom	22	9.80 ± 4.80 <sup>A,B</sup>
2 Stage Hen	20	9.33 ± 2.58 <sup>A,B</sup>
1 Stage Heavy Hen	3	8.14 ± 4.18 <sup>A,B</sup>
2 Stage Heavy Hen	16	7.55 ± 1.95 <sup>B</sup>

**Figure 6. Plot of litter produced per bird vs. Bird Market weight. Note, on the horizontal axis, Hens are clustered around 15, Heavy hens around 22 and Heavy Toms around 41 Bird Market Wt.**



# Status of Work

---

- Also Identified number of flocks/year
- Population/flock
- Number of Flock between clean out
- Tons of litter at clean out
- Number of crust outs and tons removed at each event
- Litter Analysis :TKN; NH<sub>4</sub>; P<sub>2</sub>O<sub>5</sub>; K<sub>2</sub>O; Na; Ca; Mg; % Moisture
- Additives made to litter



# Status of Work

---

- All Information Sent to VT PI for Analysis, grouping, statistics reporting etc.
- The Draft of the Turkey Analysis report should be completed by October 31