

Northeast SARE

2001 Farmer/Grower Grant Report

Project Title: Comparison of standard broiler breeds on pasture

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Goals of the Project

I compared the two major chicken broiler breeds raised in our area in direct trials in an organic pastured poultry operation. Cornish X chickens are the standard for meat production because of their rapid rate of gain, superior feed efficiency, and high meat quality. However, the Cornish X breed is bred for traditional confinement operations and do not forage well. The Kosher King breed also has excellent meat quality, and tends to a better forager than the Cornish X, but has a slower growth rate. The goal of the project was to determine whether Kosher King chickens, can achieve a better feed efficiency on pasture, in spite of their slow growth rate, by better utilization of the pasture.

Farm Update

The Big Red Barn is a 64 acre farm (about 15 tillable or pasture) in north central Massachusetts. The farm is a typical hill farm with some flat tillable fields, hillside pastures, and 40+ acres of forest. We are part of the Monadnock region and our seasonal weather has more in common with southern Vermont and New Hampshire than Massachusetts. Our soil is primarily sandy loam with the occasional rock outcropping. The farm has been organically managed for 18 years, the past 4 under our management. It has been certified organic by NOFA/MASS for the past 4 years. We are a diversified operation having about 3.5 acres planted a season in vegetables and flowers. We are also experimenting with livestock systems and have raised laying hens, ducks, broilers and pigs. Meat and eggs are marketed to local consumers. Vegetables and flowers are marketed to wholesalers.

Cooperators

Jeremy Barker-Plotkin assisted with writing the initial grant application. My family assisted with feeding and slaughtering the chickens. I have consulted with several local poultry growers about problems encountered in the trials. Julie Rawson and I are still exchanging information about the quality of the poultry supplied by Clearview Hatchery.

Project Methods

Three trials were run sequentially on pasture. Each trial consisted of 28-31 Cornish X chickens and 28-31 Kosher King chickens. Trials began on May 2nd, June 7th and July 11th. Day old chicks of both breeds were bought from Clearview Hatchery in Pennsylvania. Chicks were kept in a special brooder area for 3-4 weeks and then moved to pasture. Chickens were kept in movable coops on pasture and moved daily to fresh pasture. Water and food were kept in front of chickens at all times. The pasture was mowed in advance of the chickens so grass length was at a stage that was palatable for the birds. Chickens were fed certified organic grain from

Vermont Organic Grain. They were fed chick starter for the first 3 weeks then transitioned to 22% organic rangebird feed. We were unable to obtain a consistent supply of 22% rangebird feed throughout the season, so we used 18% rangebird feed or turkey pellets on occasion. Birds in the same trial were always fed identical feed. Slaughter dates were determined by size of the birds and the available dates for our local slaughterhouse.

Findings and Accomplishments

Data Table of 2001 Chicken Trials

	1st CC	1st KK	2nd CC	2nd KK	3rd CC	3rd KK
Date Chicks Received	5/2	5/2	6/7	6/7	7/11	7/11
Date Chickens Moved to Pasture	5/25	6/1	7/5	7/5	8/17	8/17
Date Chickens Slaughtered	7/8	7/8	8/26	8/26	10/14	10/14
Days on Pasture	44	38	52	52	58	58
Days Under Management	67	67	81	81	96	96
Weeks Under Management	9.57	9.57	11.57	11.57	13.71	13.71
Number of Chickens Slaughtered	26	30	28	30	27	28
Average Dressed Weight at Slaughter	2.827	3.467	1.964	2.542	3.87	4.946
Feed Consumed per Bird/Total in lbs.	19.43	17.5	28.44	26.77	34.18	33.12
Feed Consumed per Bird/per Day in lbs.	0.29	0.26	0.34	0.33	0.36	0.35
Feed Conversion (lbs of feed per lb of dressed weight)	6.87	5.05	14.48	10.53	8.83	6.7

My aim in running this trial was to get the birds out on pasture after 3 weeks, manage the birds for 8 weeks and then slaughter them. We expected to get chickens after 8 weeks that were around an average carcass weight of 4 lbs and we expected that Kosher Kings were going to be more efficient than Cornish Cross chickens. Our target feed conversion was 3 to 1 for dressed birds.

Based upon these goals our results were very disappointing. Our data does show that Kosher Kings are more efficient, but I feel that the Cornish Cross chicks I got from Clearview Hatchery were not of high quality and therefore a fair comparison between them and the Kosher Kings cannot be drawn. Before this trial I had never gotten Cornish Cross chicks from Clearview. My Cornish Cross birds had always come from a local source. Clearview is the only source for Kosher Kings and birds I have gotten from them in the past have been of high quality. For purposes of the trial, I thought that it was important to get birds from the same source to eliminate any qualitative differences between hatchery sources. We have raised Cornish Cross birds before with access to pasture and they have achieved average weights over 4 lbs in 10 weeks and over 5 lbs in 13 weeks.

Furthermore, there was something seriously wrong with the chicks provided in Trial 2. These chicks would not put on weight at all. I checked with other local producers that get Clearview Hatchery chicks and they reported that their chicks from around the same time were tiny as well. When we slaughtered these birds, I noticed that they were starting to put on fat even though they were nowhere near full size.

I also believe that the feed we used from Vermont Organic Grain was not of high quality. I had problems getting a consistent supply of grain from Vermont Organic. I did get several 'webby' bags of grain throughout the season that seemed old or of very poor quality. Feed conversion for Kosher Kings for Trial 1 was still very high even though this was the best birds of the 3 trials. My wife and I had already decided to seek an alternative source of feed for next season even before Vermont Organic folded in November.

Overall I believe that my findings can be used as a starting point for continued experimentation on my farm but do not prove anything concerning the two breeds. There was obviously some problem in the trials especially with the Cornish Cross results as compared to past batches raised on farm. I have never had such small birds raised for so long. I suspect that both the feed and the stock source are to blame but can't prove my supposition. Other growers in my area have complained to both Clearview and Vermont Organic but both claim not to be responsible.

Site Conditions

We did have a drought for much of July, August and September in our area. This drought affected the quality of the second cut hay in our area. We do not hay our pastures as we are still bringing them back into useful production but the drought may have impacted the quality of the forage available to Trial 2 and especially Trial 3.

Economic Findings

Inconclusive. We were hoping to provide a cost comparison for raising Kosher Kings to Cornish Cross birds.

New Ideas and the Future

We are continuing to refine our poultry operation and will continue to raise poultry on pasture with mobile houses. At the local slaughterhouse our birds are always the most alert, the most healthy, and the cleanest. We are returning to using local sources for Cornish Cross birds but will probably order one batch of 30 Kosher Kings again in 2002. The Cornish Cross birds are great meat birds and make the best roasters, but we like the Kosher Kings as foragers and for chicken parts. Our entire approach to feed is changing in 2002. We have a new source of feed out of Pennsylvania and we are thinking of experimenting with mixing our own rangebird ration. I am convinced that Northeast organic growers have not been receiving consistent quality feed even though they were paying a premium price for the feed they were getting. We will be keeping data on our birds and will repeat the experiment. In a few years, we should have some good data comparing the two breeds on pasture.

Outreach

I didn't write any articles for publication because my results were so bad and need to be repeated. I have discussed the results with local pastured poultry producers and as a whole we are questioning the source and quality of our organic feed.

Don Franczyk
1/10/02