2008
Small – Scale Egg Production
In a Range Setting Field Day

Piedmont Research Station
Salisbury, NC
September 18, 2008
PROGRAM

8:45 am  Welcome and Remarks - Sylvia Blankenship (NCSU), Eddie Pitzer (NCDA&CS), and Joe Hampton (Piedmont Research Station)

9:00 am  Building Your Diet Around Forage - Joe Moritz, West Virginia University

9:45 am  Are You a Good Neighbor? - Donna Carver, NC State University

10:30 am  Break

10:45 am  Breeds to Choose for Egg and Meat Production on Range Conditions - Ken Anderson, NC State University

11:30 am  Marketing Your Product - Kim Decker, NCDA&CS

12:00 pm  Lunch

1:15 pm  Prepare for Tour and Board Bus

2:00 pm  Poultry Unit Tour - Aaron Sellers (Piedmont Research Station) and Ken Anderson (NCSU)
2008 FIELD DAY PLANNING COMMITTEE

Sam Pardue, Chair, Department of Poultry Science, NC State University

Ken Anderson, Department of Poultry Science, NC State University

Marjie Bender, American Livestock Breeds Conservancy

Dan Campeau, North Carolina Cooperative Extension, NC State University

Joe Hampton, Piedmont Research Station, NC Department of Agriculture and Consumer Services

Bob Pike, GCB Foods, LLC

Debbie Roos, North Carolina Cooperative Extension, NC State University

Aaron Sellers, Piedmont Research Station, NC Department of Agriculture and Consumer Services
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Ken Anderson

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Kim Decker
Building Your Diet Around Forage

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West Virginia University
Division of Animal and Nutritional Sciences

Outline
- Poultry foraging behavior considerations
  - Breed
  - Pasture accessibility
  - Feeding management
- How can forage quality be defined?
  - Total vs. digestibility nutrient formulation
  - Assessing forage quality is a moving target
- Current Research
  - West Virginia University
  - University of Nebraska
  - Penn State University
  - University of Guelph, Ontario
  - University of Lisbon, Portugal

Poultry Foraging Behavior Considerations
- Breed characteristics
Poultry Foraging Behavior Considerations

- Breed characteristics
  - Age / familiarity

Poultry Foraging Behavior Considerations

- Pasture encouragement

Poultry Foraging Behavior Considerations

- Pasture accessibility
Poultry Foraging Behavior Considerations

- Pasture accessibility

Poultry Foraging Behavior Considerations

- Pasture accessibility

Poultry Foraging Behavior Considerations

- Feeding management
  - Feed restriction
  - Nutrient deficient feed
  - Choice feeding
Defining Forage Quality

Traditionally, poultry diet formulations are based on total nutrients.

However, this tells us nothing about nutrient digestibility or availability.

Problem with Total Nutrient Formulation

Corn/sbm diet containing 10 grams of protein.

In this example, the protein in the diet is 80% digestible—or 20% of dietary protein is not available.

Total Nutrient Formulation May be an Even Greater Problem with Forage

Corn/sbm diet containing 10 grams of protein.
Forage containing 10 grams of protein.

20% unavailable protein.
40% unavailable protein.
So What’s Wrong with Forage?

Dehydrated Alfalfa vs. Corn grain (both at ≈ 90% DM)

<table>
<thead>
<tr>
<th></th>
<th>Methionine (%)</th>
<th>Fiber (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dehydrated Alfalfa</td>
<td>0.24</td>
<td>24.1</td>
</tr>
<tr>
<td>Corn Grain</td>
<td>0.18</td>
<td>2.2</td>
</tr>
</tbody>
</table>

1994 NRC Nutrient Requirements of Poultry

So What’s Wrong with Forage?

- Fiber - plant cell wall components i.e., cellulose, lignin, pectin and non starch polysaccharides (NSP)

- Cellulose and lignin are not digestible by poultry enzymes

- NSP’s can imbibe water in the digesta
- Leads to a more viscous digesta
- Decreases contact between all dietary nutrients and intestinal enzymes / points of absorption
- Increases endogenous enzyme and bile production
- Explosive bacterial growth in lower GI tract
- Leads to sticky wet excreta

So What’s Wrong With Forage?

<table>
<thead>
<tr>
<th></th>
<th>Methionine digestibility (%)</th>
<th>ME (kcal/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dehydrated Alfalfa</td>
<td>73</td>
<td>1,200</td>
</tr>
<tr>
<td>Corn grain</td>
<td>91</td>
<td>3,350</td>
</tr>
</tbody>
</table>

1994 NRC Nutrient Requirements of Poultry
Care needs to be taken when taking nutrient values of forage at face value

Negative effects on other nutrients must also be considered

Currently, Many Nutritionists Formulate Diets Based on Digestible Nutrients

- This method ensures that poultry are receiving the precise quantity of nutrients that they require
- However, estimating digestible nutrients of forage is even more complicated...

Forage Digestibility (Quality) Changes Throughout and Among Seasons

- High ambient temperature
  - Promotes lignification
  - 1st cut hay is of higher digestibility than 2nd cut hay
- Short days and long nights
  - Reduces total photosynthesis
  - Spring grass is typically more digestible than fall grass from the same field
Based on Confounded Effects of...
- Foraging behavior (breed, access, feed management and bird age)
- High fiber (NSP) content of forage that decreases nutrient digestibility
- Changing nutrient characteristics of forage due to growth, temperature and season

I cannot recommend basing your nutrient plan on forage.

Pasture Has Been Documented as an Important Nutrient Source
- Vitamins and Minerals
  - Morrison, 1956
- Protein
  - Duckworth, 1954
  - Morrison, 1956

Genetics, Nutrient Requirements, Grow-out times (all different compared to today)

Forage Used to Replace Synthetic Methionine for Organic Broilers (Ross 308)

West Virginia University 2005
Forage to Replace Methionine

- 4 treatments
  - With synthetic methionine, ad libitum
  - With synthetic methionine, 50% feed restricted
  - Without synthetic methionine, ad libitum
  - Without synthetic methionine, 50% feed restricted

- Study was conducted in Summer and Fall months

---

Forage to Replace Methionine

- Pasture
  - Tall fescue
    - Retains palatability when mature
  - Orchard grass
    - Tolerates shade but loses palatability when mature
  - Red clover
    - Similar to alfalfa in nutritional value but continuous grazing will eliminate it from pasture
  - White clover
    - Resistant to grazing pressure

---

Forage to Replace Methionine

- Results
  - Feed restriction increased foraging
    - Ad libitum (7.3 g of DM/bird/d) vs. 50% feed restricted (12.8 g of DM/bird/d)
    - A 75% increase in forage intake
  - Fall forage was of lower (total nutrition) value compared to Summer forage
  - Foraging contributed to maintaining performance among birds fed diets with methionine and birds fed diets without methionine

---
Using Reduced Dietary Energy, Forage and a NSP Enzyme to Reduce Organic Broiler Feed Cost (Ross 308)

Forage and an NSP Enzyme to Increase Dietary Energy

- 4 treatments
  - Normal energy without NSP enzyme
  - Normal energy with NSP enzyme
  - Low energy (7%) without NSP enzyme
  - Low energy (7%) with NSP enzyme

- Study was conducted in Spring and Summer months

Forage and an NSP Enzyme to Increase Dietary Energy

- Pasture
  - Tall fescue
    - Retains palatability when mature
  - Kentucky bluegrass
    - Most growth in spring and fall, semi-dormant in summer
  - Red clover
    - Similar to alfalfa in nutritional value but continuous grazing will eliminate it from pasture
  - White clover
    - Resistant to grazing pressure
Forage and an NSP Enzyme to Increase Dietary Energy

**Results**
- Low energy diets (7%) did not increase forage intake
- NSP enzyme inclusion enhanced performance in Spring months only (38 to 56d period)
- The use of low energy diets with an NSP enzyme did not compensate for the 7% energy dilution (21-56d period)

Digestibility of Forage (Spring) - Using the Precision Fed Rooster Model

- 2 treatments
  - Spring forage without NSP enzyme
  - Spring forage with NSP enzyme

Digestibility of Forages (Spring)

- Pasture
  - Tall fescue
    - Retains palatability when mature
  - Kentucky bluegrass
    - Most growth in spring and fall, semi-dormant in summer
  - Red clover
    - Similar to alfalfa in nutritional value but continuous grazing will eliminate it from pasture
  - White clover
    - Resistant to grazing pressure
Digestibility of Forage (Spring)

Results - dry matter basis

<table>
<thead>
<tr>
<th>ME (kcal/kg)</th>
<th>Met (%)</th>
<th>Lys (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forage w/ enzyme</td>
<td>2,085</td>
<td>87.4</td>
</tr>
<tr>
<td>Forage w/out enzyme</td>
<td>1,628</td>
<td>88.3</td>
</tr>
</tbody>
</table>

West Virginia University 2007

Use of Pasture to Decrease Dietary Cost

- May work with use of an NSP enzyme; however, a 7% energy reduction seems too much
- Enzyme use and less of a 7% dietary reduction may not be cost effective

West Virginia University 2007

Use of Pasture to Decrease Dietary Cost

- If dietary cost cannot be decreased, can forage consumption lead to other benefits?
- Functional Foods?
Increasing n-3 Fatty Acids in Poultry Meat and Eggs

- n-3 fatty acids
  - Decrease risk of heart disease
  - Inhibit growth of prostate and breast cancer
  - Delays the loss of immunological function
  - Required for normal fetal brain and visual development

- n-3 fatty acid containing foods
  - Fish and seafood (primary)
  - Chicken and eggs
  - Canola and soybean oil
  - Wheat grass, flaxseed, flaxseed oil
  - Legumes, green vegetables, whole milk, ground beef

- Why poultry meat and eggs?
  - A source that may be more readily consumed by the general public (children)
  - Fish oil, flaxseed incorporation and vegetable oil into hen and broiler diets can enhance n-3 fatty acid content
  - Green pastures are also a source of n-3 fatty acids
Outdoor Coop Housing and Forage Based Diets vs. Cage Housing and Mash Diets (brown egg laying hens)

Penn State University 2003

Outdoor vs. Indoor Egg Characteristics

- 4 treatments
  - Outdoor - alfalfa
  - Outdoor - clover
  - Outdoor - grass
  - Indoor - all mash feed

- Study was conducted in Summer months

Penn State University 2003

Outdoor vs. Indoor Egg Characteristics

- Results

<table>
<thead>
<tr>
<th></th>
<th>Egg Production (%)</th>
<th>Ending hen wt (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outdoor - alfalfa</td>
<td>73b</td>
<td></td>
</tr>
<tr>
<td>Outdoor - clover</td>
<td>74b</td>
<td>1570ab</td>
</tr>
<tr>
<td>Outdoor - grass</td>
<td>69b</td>
<td></td>
</tr>
<tr>
<td>Indoor - all mash feed</td>
<td>85a</td>
<td>1821a</td>
</tr>
</tbody>
</table>

Penn State University 2003
### Outdoor vs. Indoor Egg Characteristics

#### Results

<table>
<thead>
<tr>
<th></th>
<th>yolk n-3 f.a. (%)</th>
<th>Vit A (IU/100g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outdoor - alfalfa</td>
<td>3.8&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Outdoor - clover</td>
<td>3.5&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2932&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Outdoor - grass</td>
<td>3.2&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Indoor - all mash feed</td>
<td>1.3&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2075&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

*Penn State University 2003*

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### Omega-3 Chicken Forage Blend

Consists of: 20% Common Flax, 5% Ladino Clover, 5% Birdsfoot Broadleaf Trefoil, 10% Non-dormant Alfalfa, 20% Red Cowpeas, 40% Buckwheat. Plant at 50 pounds per acre or 2—3 pounds per 1,000 sq. ft.

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### Feeding Flaxseed on Egg n-3 Fatty Acid Composition

- **2 treatments**
  - Corn/SBM based diet
  - Corn/SBM based diet + 10% flaxseed

- **Birds were housed individually in laying cages**

*University of Guelph, Ontario 2003*
Feeding Flaxseed on Egg n-3 Fatty Acid Composition (brown and white egg laying hens)

Results

<table>
<thead>
<tr>
<th>Diet</th>
<th>whole egg n-3 f.a.(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn/SBM based diet</td>
<td>0.2b</td>
</tr>
<tr>
<td>Corn/SBM based diet + 10% flaxseed</td>
<td>0.8*</td>
</tr>
</tbody>
</table>

University of Guelph, Ontario 2003

Effect of Pasture on n-3 Fatty Acid Composition of Free Range Broilers (slow growing broilers)

<table>
<thead>
<tr>
<th>Pasture Access</th>
<th>Study was conducted in Spring and Fall months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subterranean clover (portable floorless pens)</td>
<td></td>
</tr>
<tr>
<td>White clover (portable floorless pens)</td>
<td></td>
</tr>
<tr>
<td>No pasture access (floorless pen on wood shavings)</td>
<td></td>
</tr>
<tr>
<td>Commercial broiler (35d) vs. Label Rouge broilers (81d) fatty acid comparison</td>
<td></td>
</tr>
</tbody>
</table>

University of Lisbon, Portugal 2008
Pasture Effects on Broiler n-3 Fatty Acid Composition

Results
- Day 56 pasture intake was estimated to be between 18-26% (as is basis)
- Low level of pasture intake had a low impact on fatty acid composition of meat (no differences)
- Commercial broilers had greater n-3 composition compared to label rouge broilers

Conclusions
- Forage utilization may be limited in the ability to lower broiler dietary cost
- Forage may be able to enhance n-3 fatty acids contents of eggs but not meat
- Pasture access allows for natural behaviors and enrichment and certainly separates the small grower from “commercial” free range or organic production

My recommendations
- In order to...
  1) provide your birds the most consistent nutrient profile possible
  2) to assure that your products are of consistent quality
- Supply all required and potential enhancing nutrients in the diet
References


That depends...

...on your definition of “Good Neighbor”.

Strongly correlated with...

...the size of your property.
...the presence of animals.
...smells emanating from your property.
...noise levels (especially while folks are trying to sleep).
...uneven distribution of needed resources among neighbors.
What about neighbors that grow birds?

Rule of thumb is less sharing...
...keep birds confined to your property
...keep noises down
...keep smells to a minimum
...share equipment cautiously
...NEVER share diseases!

What diseases can be shared?

- Any disease that is transmissible or contagious
- Bacteria
- Viruses
- Fungi
- Mycoplasmas
- Protozoa
- Parasites

Bacteria

- Have both DNA and RNA so are capable of reproducing outside of the host
- Can be fairly resistant to harsh environmental conditions
- Some can form spores which are very resistant to harsh environmental conditions
- Like moist temperate conditions
- Grow well on artificial media
- CAN BE TREATED WITH ANTIBIOTICS
Viruses
- Very small organisms
- Have either RNA or DNA, not both
- Cannot reproduce outside of host
- Like cool moist conditions
- Generally VERY species specific
- Do not grow well on artificial media
- CANNOT be treated with antibiotics

Fungi
- Parasitic plants that lack chlorophyll
- Most species either beneficial or harmless
- Disease caused by yeast-like and mold-like fungi
- Most common in stressed birds and birds over-treated with antibiotics
- Commonly associated with moldy shavings or moldy feed
- Can be treated with fungicides but antibiotics can make situation worse

Mycoplasmas
- Similar to bacteria but lack cell wall
- Does not readily grow on artificial media
- Is reportable (MG) in North Carolina
- CAN be treated with antibiotics
Protozoa

- Single-celled organism that can be a parasite
- Cause tissue damage as the “eggs” rupture out of the host cell
- Can cause severe disease and death
- Coccidia and Cryptosporidia are example
- No real treatment
- Prevention is key
- Once on your farm very difficult to eradicate

Parasites

- Organisms that live on other organisms (hosts) without providing any benefit in return.
- External parasites
- Internal parasites

External parasites

- Parasites that live on the skin, shanks, feathers
- Fleas, Bed bugs, lice, mites, flies, mosquitoes, ticks
- Primarily cause mechanical damage
- Cause long-term decline in health
- Tissue/feather damage is visible, nits and bugs can also be visible
Internal parasites

Live inside birds
Some can be seen with unaided eye
Two main types of life cycles

Reservoirs of disease

- Disease-causing organisms are generally found in live birds, in secretions of live birds, and freshly dead birds.
- Rodents and insects can be reservoirs.
- Most diseases are spread by humans.
- Avoid sick birds, secretions from birds, and manage mortality to prevent infecting your birds

Disease Transmission

- Vertical
- Horizontal
- Direct
- Indirect
Carrier Birds

- Birds that have recovered from a disease but can still shed the organism.
- Quarantine can sometimes help you identify these birds (Salmonella, Laryngotracheitis)

Diseases you cannot share but can prevent

- Nutritional
- Chemical toxins
- Other toxins
- Traumatic injury
- Excessive stress
- Predators

Biosecurity

- What is within your realm of control?
- Common denominators
  - Cannot survive in UV light
  - Do not tolerate drying
  - Do not tolerate high temperatures
- Let mother nature work for you
- If possible keep a closed flock
- Provide a healthy environment
- Medicate only when necessary
### Biosecurity
- Comfortable birds are not stressed
- Provide clean dry housing
- Provide enough space for birds
- Provide roosts
- Sanitation is important
- Low levels of ammonia don’t damage the respiratory tract

### Biosecurity
- Whenever you visit premises that have birds be sure to change clothes and boots before returning to your birds.
- Keep wild birds away from your birds
- When indicated clean and disinfect feeders, waterers, and coops.
- Use common sense.

### Disinfecting
- cide - Kill
- static - slows growth
- sanitizers - reduce numbers of bacteria
- Hot water
- Down time
- Sunlight drying
- Chemical disinfectants – READ THE LABEL
If your birds get sick...

NCDA Veterinary Diagnostic Laboratory System

http://www.ncvdrl.com/
Breeds to Choose for Egg and Meat Production on Range Conditions

Kenneth Anderson
Department of Poultry Science
North Carolina State University

What are you going to hear today

• What you will not hear!
  – What is the ideal breed for eggs
  – What is the ideal meat breed
  – Commercial lines are the only way to go
  – Heritage breeds are where it is at
• What will you hear!
  – Decide what fits your operation
  – What product do you want to market
  – What your customers want and are willing to pay for

What type of chicken is for your operation?

• The breed of chickens that a producer selects for his flock depends upon the purpose for which the chickens are intended.
  – Egg laying stock
  – Meat-type birds
  – Dual purpose breeds.
• Each type is genetically selected to satisfy the best attributes for which they are intended
• No single breed of bird will provide the best characteristics for all three purposes.
Choosing a Breed for Range Production

• Producers may choose to use commercial strains
  – Egg production
    • Advantages include being readily available, lightly muscled, high egg production, and feed efficient
    • Disadvantages are little post production value, needs greater feed supplementation, poor foraging, and nesting behavior
  – Meat production
    • Advantages include being readily available, heavily muscled, fast growing, and feed efficient
    • Disadvantages are weak legs, aortic ruptures, ascites, poor foraging, and poor heat tolerance

• Producers may choose to use heritage strains are typically dual purpose
  – Egg production
    • Advantages include being good foraging, inherent nesting behavior, tolerant of poor management and more local availability
    • Disadvantages are lower egg production, poorer feed efficiency, variability in flock uniformity requires culling, and more heavily muscled
  – Meat production
    • Advantages include being readily available, fewer leg problems, fewer growth related health problems, good foragers, and good immunity
    • Disadvantages are lighter muscling, slower growing, poorer feed efficiency

Which Pathway will you choose?

• Egg production concentration
  – Higher egg production
  – Meat production is minimal
    • Male birds
    • Old fowl

• Meat production concentration
  – Processed chicken
    – Virtually no egg production

• Dual Purpose production
  – Combination of both meat and egg production
Commercial Production Strains

Commercial Layer Strains
- White Egg Strains
  - Bovans
  - Hy-Line
  - Dekalb
  - Lohmann
- Brown Egg Strains
  - Hy-Line
  - Bovans
  - Hisex
  - Dekalb

Commercial Meat Strains
- Arbor Acres
- Ross
- Cobb-Vantress
- Peterson
- Hubbard
- Hybro

Egg/Meat Production

- Heritage Strains
  - White Egg Breeds
    - Leghorn
    - Minorca
  - Brown Egg Breeds (Dual Purpose)
    - Plymouth Rock
    - Rhode Island Red
    - New Hampshire Red
    - Buckeye
  - Meat Breeds
    - Cornish
- American Livestock Breed Conservancy
  - Information on heirloom breeds
  - Sources
Selection for the traits wanted

- Egg production and muscle development are two of the most highly heritable traits in chickens
- However, selection for one trait will negatively influence the other

Meat Production

Importance of Access
- Hatchery customer service
- Hatchery location
- Delivery
  - Time
  - Personnel
  - Parcel post

Other Factors
- All Females
  - No Male Aggression
  - Tranquil flock
- All Males
  - Larger birds in same time period
  - Uniformity
- Customer preference
  - Cornish Game Hen
  - Roaster

Beyond Cornish Crosses
- Silver Cross (5 lb~9wk)
  - Noll’s Poultry Farm
- Cebe Red or Black (5 lb~9-10 wk)
  - Cebe Farms
- Other lines
  - Shady Lane Poultry Farm, Inc.

Other Stocks
- Label Rouge (Canadian source)
  - Selected for free range environment and flavor
  - Low mortality
  - 5 lb in ~12 wks
- FR Broilers
  - S & G Poultry
- Redbro
  - Hubbard ISA Shaver
Reference

• http://www.poultryhelp.com/link-breeds.html
Marketing Your Product

Kim Decker
Marketing Specialist
N. C. Department of Agriculture & Consumer Services
Kim.Decker@ncagr.gov
919-733-7912

Direct Marketing

- Selling Products Directly to the Consumer
  - Making a connection with the consumer
  - Determining the consumer wants or needs
  - Offering products that meet these needs

Advantages

- Higher Prices
- More Net Income
- Build Relationships with Customers
- Personal Satisfaction and Fulfillment
- Working at Home
- Maintaining Autonomy or Independence
Disadvantages

- Time Consuming
- Must Have People/Salesmanship Skills
- Must Have Proper Facilities
- Consistent Supply

Important Topics

- State Law Requirements
- Business Plans/Marketing Plans
- Liability Insurance
- Competition

N.C. Egg Law

- Richard Hoyle
- Poultry Programs Administrator
- North Carolina Department of Agriculture and Consumer Services
- 2 West Edenton St. Raleigh NC 27601
- Phone:919-733-7576
- Richard.Hoyle@ncagr.gov
General Statute 106-245.15
Labeling

• Grade  
  – Under 30 dozen sold from your production may be labeled as ungraded

• Size  
  – Must show weigh class (Small, Medium, Large, Extra Large, or Jumbo)

• Numerical Count  
  – 1 Dozen, 12 Eggs

General Statute 106-245.15
Labeling

• Name and Address  
  – Must show the name and address of distributor or packer

• “Eggs”  
  – Must have the word “eggs” on the principal display panel.

General Statute 106-245.15
Labeling

• “Fresh”  
  – May only state fresh if the eggs meet the USDA Grade A Standards

• Obscure Incorrect Labeling  
  – Eggs sold in used containers must be clean and free from odors and have the previous labeling that is incorrect obscured.
Invoices

- All Eggs Sold For Resale Must Be Accompanied By An Invoice Containing
  - Date of Sale
  - Name and Address of Seller
  - Quantity
  - Grade
  - Size
  - Must be maintain at site of sale for 30 days

Advertisement

- When Price is Designated the Following Must be Shown:
  - (Does not apply if you fall under the 30 dozen per week exemption)
  - Applicable Grade
  - Applicable Size
    - (Eggs may be labeled smaller than the actual egg size)

Sanitation

- Food Establishment
  - Eggs must be graded, packed and stored in accordance with food establishment requirements
- 60°F or Less Pre Processing
  - Ungraded eggs must be stored at 60°F until processed or graded. Eggs sold as ungraded must be stored at 45°F or less after gathering
Sanitation

- 45°F or Less Post Processing
  - All eggs must be stored, displayed, and sold at 45°F or Less
- Sanitary Methods of Cleaning Eggs
  - If eggs are washed they should be washed in water 20°F or warmer than the eggs and should contain 200PPM of bleach

Organic

- Must be Certified by One of the Following Agencies in Order to be Labeled as Organic:
  - State
  - Federal
  - Accredited Organization
  - The agency must be Identified on the Container

Marketing Requirements

- For any Marketing Claims the Producer Must be Capable of:
  - Maintaining Identity
  - Provide supporting Evidence
Exemptions

- Own Production
  - Up to 30 dozen per week may be labeled as ungraded eggs
- On Premises of Production
  - Under grade eggs (cracks & dirties) may be sold on the site of production if they are properly labeled and sales do not exceed 30 dozen per customer.

Business Resource Web Sites

- www.ncagr.com/markets/gradnreg/regl ator/egglaw.htm
- http://chatham.ces.ncsu.edu/growingsmallfa rms/meatandeggs.html
- www.agmrc.org/agmrc/business
- www.sbcn.nc.gov/
- /www.ncreal.org/

Market Segments

- Farmers Markets
- On Farm Sales
- Restaurants and Institutions
- Internet Sales
Which Market

- Each Market Requires Different Approaches
- Target Consumer Demographics
  - Who purchases your type of product
  - What are the reasons for buying
  - What are they willing to pay
  - Population figures
  - Income

Farmers Markets

- Market Rules/Cost
- Days and Hours of Operation
- Customers Need to Know When & Where
- Travel Time

On Farm Sales

- No Transportation Cost
- Market Area/Demographics
- Advertising/Marketing
- Other Products & Services
Kim Decker

Restaurants and Institutions
- Chefs on Cutting Edge of the “Buy Local” Trend
- Steady Market
- Consistent Product and Supply is Key
- Labor Saving Priority
- Fresher Eggs/Improved Performance in Cooking & Baking

Restaurants and Institutions
- Details are Important
- Who calls whom
- Regular Delivery Schedule Vs Demand Basis
- Payment Terms
- Encourage Feedback
- Invite Staff to Your Farm

Internet Sales
- Web Sites
  - www.ncfarmfresh.com/
  - www.eatwild.org
  - www.localharvest.org
  - www.newfarm.org/farmlocator/index.php
  - www.carolinafarmstewards.org/
  - www.localharvest.org/
Positioning Your Product

• Why is Your Product Different
  – Product Quality/Freshness/Locally Produced
  – Organic/Free Range/Natural/ Cage Free/ Free Roaming/Pasture Raised

Prospecting

• Barriers
  – Lack of Motivation
  – Fear
• Overcoming Fear of Rejection
  – Strictly a Numbers Game

• Be Organized
  – Keep Detailed Records of Contacted customers
  – Customer Contact Information and Preferences
• Establish Goals
  – Review Regularly
• Value Vs Price
• Qualify Prospects
### Qualification Criteria

- Method, Date and Name of Initial Contact
- Customer’s Current and Previous Supplier
- Contact’s first reason for inquiry (poor service from previous supplier)
- All Contact Details Throughout Experience

### Objectives of Prospecting

- Identify Yourself and Farm (Sell Your Story)
- Identify Benefits, Features and Advantages to Customer
  - How can you or your product help them
- Involve Customer
- Ask Questions
  - Focus on Customer Needs

### When Prospecting

- Make Eye Contact
- Speak Clearly
- Don’t Rush or Deliberately Talk Slow
Build Relationships

- Know Your Customers
- Emotional and Physical Connections
- Word of Mouth is King
- Customer is Always Right

Pricing is Key

- Who is Your Competition
  - Other Producers, Supermarkets, other Food Suppliers
- What Products
- What Message
- What Price

Know Your Cost

- Production Cost
- Processing Cost
- Marketing Cost
- Transportation Cost
**Production Cost**

- Type of bird
- Type of Feed
- Facilities
- Replacement stock

**Processing Cost**

- Type of Equipment
- Packaging
- Distance From Market
- Number of Deliveries
- Labor
- Water, Electricity, Refrigeration, Taxes

**Marketing Cost**

- Brochures
- Carton Development
- Display Signs
- Print, Media, Radio Advertising
- Sample Product
- Liability Insurance
Transportation Cost

- Vehicle Maintenance
- Gas
- Insurance

Price - Cost = Profit

- Must Establish or Wasting Time

NCDA&CS Marketing Assistance

- “Goodness Grows In NC” Program
- “Got to be NC” Advertising Campaign
- Foodservice and Retail Marketing Specialist
- www.ncagr.com/markets
- www.ncfarmfresh.com