



## Reducing Feed Costs with Whole Wheat

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Reductions in yields for grain crops in the Atlantic region, wheat in the West, and corn in Ontario and the mid-western United States all point to increasing feed prices this fall.

With confirmation of early crop reductions, prices of some feed ingredients have already started to move up. Price increases may be tempered some by reported bumper crops in other parts of the world (Europe, Russia and South America) and the good soybean yields in the United States.

In an effort to head off higher feed input costs, producers have options to offset increased feed costs. The feeding of whole wheat has received major attention over the last few years and some poultry producers have profited substantially from its inclusion in their feeding programs.

With whole wheat making up 10-15% of feed fed to a flock of broilers the math is fairly straightforward in calculating the savings.

*Example:* 250,000kg Chicken produced/yr  
@ 1.8 feed conversion = 450,000kg feed  
= 450T

Cost Savings:

Ration (\$380/T) – Wheat (\$200/T) = \$180/T

Total Savings:

(450T fed x 15% Wheat) x \$180  
= 67.5T Wheat x \$180 = \$12,150/yr

Savings fluctuate as feed tonnage and the price margins increase or decrease.

### Whole Wheat Dilution Program

Starter-5%; Grower-10%; Finisher-15%

There are variations to the program used, but key elements have to be adhered to for consistent results.

1. Early Introduction will optimize gizzard and gut development
2. Introduce whole wheat at day old –chicks will pick around until ready to consume
3. As birds grow increase the level of whole wheat
4. 15% dilution by 21 days and maintain until final week
5. Possible coccidial problems above 15% dilution
6. Un-medicated finished allows increased dilution of 20-25% or more last few days

## **Benefits of Whole Wheat Dilution**

1. Reduced input feed costs
2. Improved feed utilization
3. Improved flock health
4. Reduced mortality
5. Improved bird performance
6. Reduced condemnations
7. Improved profits
8. Reduced grinding costs at feed mill
9. Reduced wheat costs by varying sources
10. Increased feed mill capacity as whole wheat doesn't need grinding or pelleting

## **Why does Whole Wheat Dilution work?**

1. Nutrients in wheat are close to ration nutrient levels
2. Early gut development enhances its performance
3. Early introduction slows growth leading to: lowered SDS, Ascites, leg problems
4. Birds overall development more balanced and in tune with immune system
5. Better developed gizzards grind coccidial oocysts and some bacteria
6. Prolonged gizzard grinding with whole wheat slows digesta movement into gut
7. Enzyme release into gut increased by prolonged digesta movement
8. Increased enzymes break down large molecules that bind nutrients
9. Smaller molecules allows for greater absorption from the gut
10. Moisture in excreta reduced by breakup of large molecules
11. Birds prefer larger particle sizes when feeding

## **How to Dilute Broiler Rations**

1. At the Feed mill
  - a. Add whole wheat prior to pelleting
  - b. Add whole wheat after pelleting
2. On Farm: Computerized
  - a. Ration & whole wheat added by weight to feed hopper
  - b. Mixed as dumped from hopper and travel through feed system
  - c. Allows early dilution at low levels
  - d. Allows gradual increase of dilution rate
  - e. Computer programmed for automatic dilution rate increases based on age and/or bird weight
  - f. Installation costs of bin, auger, wiring and feed weigher may be considered high
  - g. The computerized feed weigher regulates the amount of ration & whole wheat being fed.

1. On Farm: Variable Speed Motor
  - a. Auger from whole wheat feed bin in tandem with ration bin
  - b. Whole wheat auger speed regulated by variable speed motor through driver wheat to boot of ration bin at desired %. Drop spout required in auger to calibrate motor speed to amount of wheat moving in auger
  - c. Dilution percentage calculated from time and speed calibration
  - d. Increasing dilution by manual settings of driver
  - e. Acceptable cost of set-up include bin, motor, auger, driver, wiring, multi-auger boot

### **Whole Wheat Research & Experience**

- Satisfaction when dilution program followed properly
- Higher dilution rates have yielded poorer results (cocci, growth, days to market, etc.)
- Mortality reduced
- Returns improved
- Quick system payback – Larger facilities faster

### **Acceptance of Whole Wheat Feeding**

- Overall reduction in feed costs with poultry
- Producers using system have good response
- Producers benefiting even without extreme feed prices
- Need whole industry buy in to reap maximum benefits on COP
- Reduced input costs

### **Slow uptake**

- Feed prices not severe yet
- Some upfront investment needed
- Some tried improper procedures with poor results and gave up
- Using low quality local grain
- Misinformation
- Reduced sale volume of complete rations
- Some producers sourcing own wheat sources

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