Most Profitable Slaughter Age for Ostriches
18 Theses on ostrich nutrition and feed related topics completed since 1998
2 in progress
University of Stellenbosch (12)
Nelson Mandela Metropolitan University (3)
University of Pretoria (1)
Rhodes University (1)
Agricultural University of Padova, Italy (1)
Hogeschool Gent, Belgium (1)
University of Ankara, Turkey (1)
Gap to apply scientific knowledge to practical production situation
Simulation models may be a technique to convert scientific results to useful outputs
Simulation model to predict the optimal slaughter weight/age for ostriches

• Growth rate follows a certain pattern
• Feed intake follows a certain pattern in relation to growth
• Feed composition effects feed intake, growth rate and feed conversion ration
• Meat yield and dressing percentage follows a certain pattern
• Skin size follows a certain pattern
• Skin grades declines over time
• Feather yield and quality change with time
• Skin quality and nodule size change with time
• All factors must be taken into consideration together with current prices of products
### Mortality:

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<thead>
<tr>
<th>Age</th>
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<tr>
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<tr>
<td>16&lt;17</td>
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Number of Animals

Mature Weight: "a" = 104.7

Growth Tempo: "b" = 0.011

Days of Fastest Growth: "c" = 128
## Standard Feeds

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<tr>
<th>Use</th>
<th>Feed Type</th>
<th>Min Age</th>
<th>Max Age</th>
<th>R / Ton</th>
<th>g / Day / Bird</th>
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### Skin Prices:

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<th>Grade 2</th>
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<td>1.33</td>
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Grade Adjustment %: 0%
Average Slaughter Weight: 85.8
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## Ostrich Stats

### Flock Size Summary

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<th>Month Age</th>
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<th>Cumulative Chick Costs (R)</th>
<th>Cumulative Feed Costs (R)</th>
<th>Cumulative Miscellaneous Cost (R)</th>
<th>Meat Income (R)</th>
<th>Skin Income (R)</th>
<th>Feather Income (R)</th>
<th>Total Income Bird (R)</th>
<th>Total Cost Bird (R)</th>
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Scenario 1: Current situation

Normal feed price (R5 970; R5 518; R4 575; R4 264; R3 841)
Normal growth rate (104.7; 0.11; 128)
Normal skin grading (26%; 45%; 19%; 10%)
Meat export price
40% mortality rate
R300 per chick and R220 slaughter fee
Proposed dietary energy values

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Only margin above chick cost, feed price and slaughter fee

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</table>
Scenario 2: Effect of feed price

Feed price (-20%; -10%; 0%; +10%; +20%)
Normal growth (104.7; 0.11; 128)
Normal skin grading (26%; 45%; 19%; 10%)
Meat export price
40% mortality rate
R300 per chick and R220 slaughter fee
Proposed dietary energy values

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Scenario 3: Effect of mortality rate

Mortality rate (30%; 35%; 40%; 45%; 50%)
Normal feed price
Normal growth rate
Normal skin grading
Meat export price
R300 per chick and R 220 slaughter fee
Proposed dietary energy values

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</table>
Scenario 4: Effect of skin damage

Mortality rate (+20%; +10%; 0%; -10%; -20%)
Normal feed price
Normal growth rate
Normal skin grading
Meat export price
R300 per chick cost and R 220 slaughter fee
Proposed dietary energy values

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<tr>
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<tr>
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<td>642</td>
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Scenario 5: Effect of growth rate

Growth rate change (five different diets)
Normal feed price
Normal skin grading
Meat export price
R300 per chick and R 220 slaughter fee
Proposed dietary energy values

<table>
<thead>
<tr>
<th>Growth rate</th>
<th>Age</th>
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<td>Diet 5</td>
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Scenario 6: Export vs heat treated meat

Heat treated meat
Normal feed price
Normal growth rate
Normal skin grading
40% mortality rate
R300 per chick cost and R 220 slaughter fee
Proposed dietary energy levels

<table>
<thead>
<tr>
<th>Export vs heat treated meat</th>
<th>Age</th>
<th>Age</th>
<th>Age</th>
<th>Age</th>
<th>Age</th>
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</thead>
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</table>
Scenario 7: Use of pasture

Growth and finisher phase on pasture (62% & 45%)
Normal growth rate
Normal skin grading
Meat export price
40% mortality rate
R300 per chick cost and R 220 slaughter fee
Proposed dietary energy values

<table>
<thead>
<tr>
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<th>Age 9.5</th>
<th>Age 10.0</th>
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<tbody>
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<td>91</td>
<td>93</td>
<td>95</td>
<td>96</td>
<td>97</td>
</tr>
<tr>
<td>Grower on pasture</td>
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<td>427</td>
<td>482</td>
<td>361</td>
<td>386</td>
<td>251</td>
<td>297</td>
<td>116</td>
</tr>
<tr>
<td>Finisher on pasture</td>
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<td>682</td>
<td>716</td>
<td>772</td>
<td>654</td>
<td>679</td>
<td>549</td>
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<tr>
<td>Both on pasture</td>
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<td>561</td>
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<td>772</td>
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<td>668</td>
<td>714</td>
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</table>
Scenario 8: The effect of diet composition

Normal feed price (R5970; R5518; R4264; R3841)
Normal growth rate (104.7; 0.11; 128)
Normal skin grading (26%; 45%; 19%; 10%)
Meat export price
40% mortality rate
R300 per chick cost and R 220 slaughter fee
Dietary energy level of 80%, 90%, 100%, 110% and 120% same price

<table>
<thead>
<tr>
<th>Energy level (%)</th>
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<td>110</td>
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<tr>
<td>120</td>
<td>700</td>
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## Scenario 9: Combined effects

Lower energy feed (95%)
Lower feed price (90%)
Lower growth rate (Diet 2)

**Versus**

Higher energy feed (105%)
Higher feed prices (110%)
Higher growth rate (Diet 5)

<table>
<thead>
<tr>
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<th>9.5</th>
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<td>High</td>
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<td>252</td>
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</table>
## Scenario 10: Purchase of older chicks

Purchase of chicks at different ages for example: Respectively 3, 4, 5 and 6 months of age at R 28/kg live weight

<table>
<thead>
<tr>
<th>Age</th>
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<th>9.0</th>
<th>9.5</th>
<th>10.0</th>
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<tr>
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<td>425</td>
<td>480</td>
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</table>
Conclusions

- Simulation models is a powerful tool to make science accessible to producers in the field and may be a very useful aid for producers to help with day-to-day decision making.

- The price of end products as well as input costs change on a regular base and will effect day-to-day decision making.
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