

# Commercialization of the Broiler Breeder Precision Feeding System

University of Alberta  
AFNS 900: Directed Research Project  
April 14, 2021

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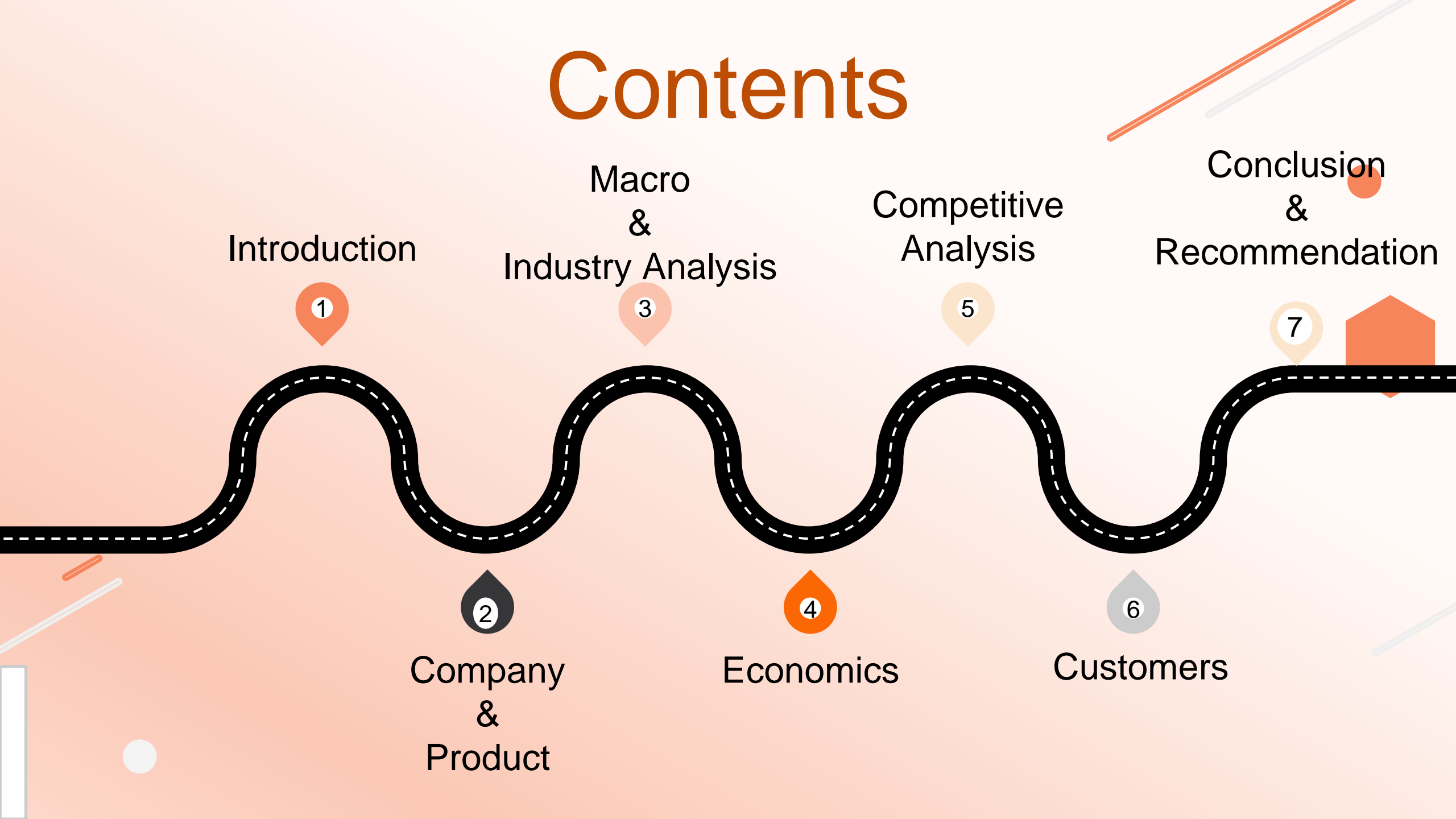
Company & Product



Economics



Customers



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1

# Introduction

# FEED MANAGEMENT CHALLENGE IN THE HATCHING EGG INDUSTRY



Genetic Selection



- Genetic Selection = Increased feed consumption ↑
- Reduction in Feed Conversion Ratio ↓

Body weight is important for Sexual Maturity



Heavier birds produce less good chicks

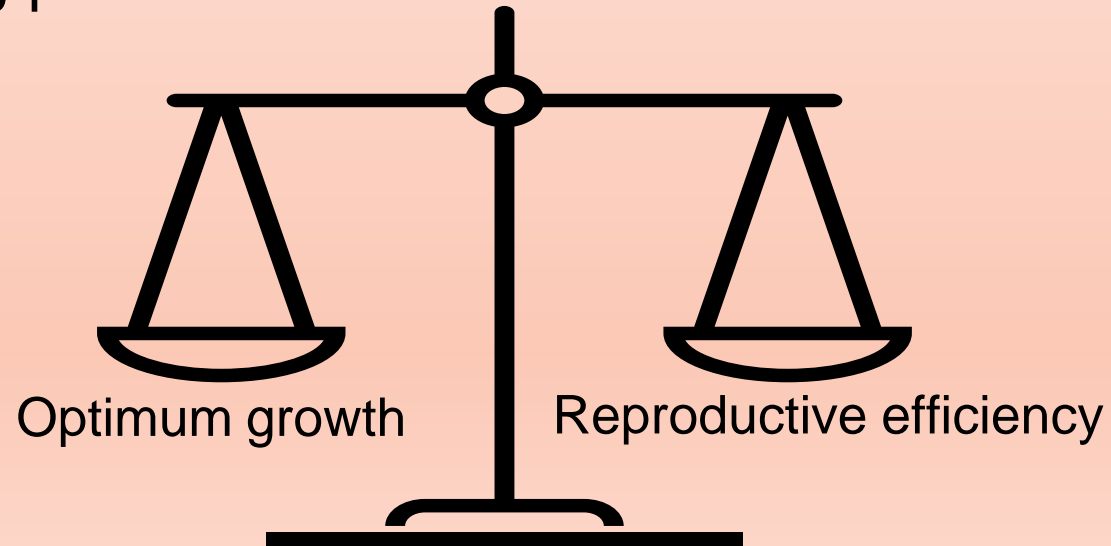
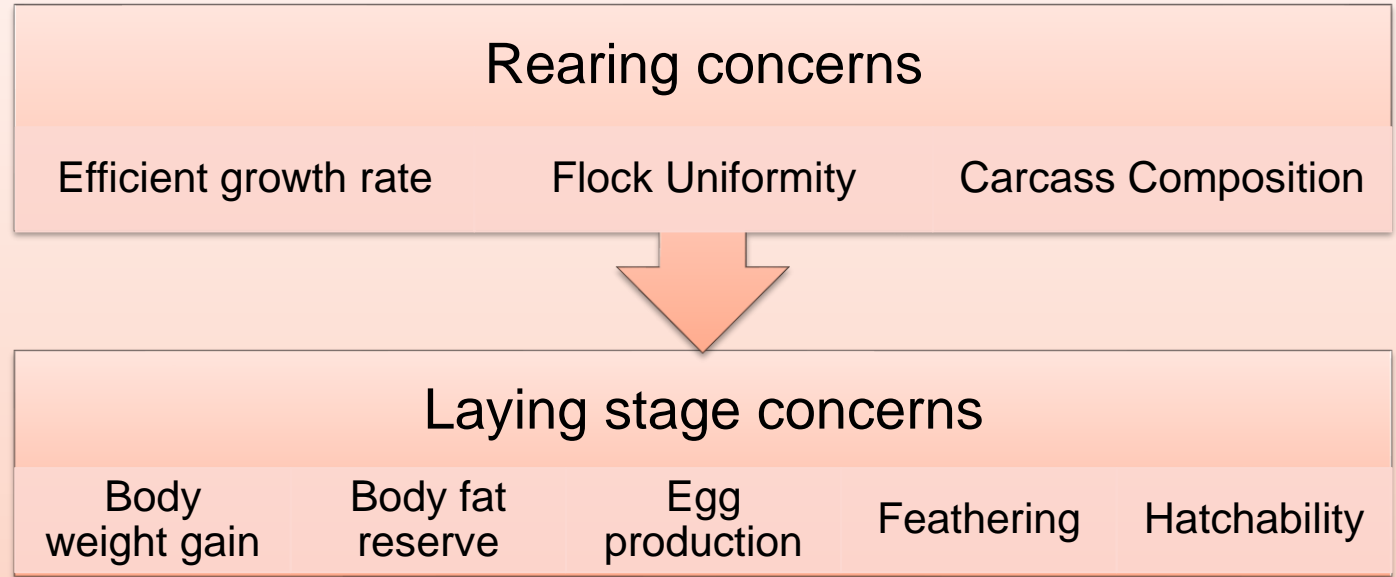


Prevent birds from attaining growth potential

# PRODUCTION MANAGEMENT



Same egg producing potential



## MANAGEMENT APPROACH

25-33%

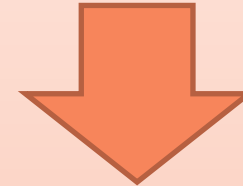
FEED RESTRICTION  
DURING REARING

50-90%

FEED RESTRICTION  
DURING  
PRODUCTION



Intense Competition



BROILER  
BREEDER  
PRECISION  
FEEDING  
SYSTEM





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**Company &  
Product**



# Precision ZX

Ag-Tech Company that focuses on Smart  
nutrition

Founded in 2015

**Building innovative new products**



# PRODUCT OVERVIEW

Real-time Data Collection

Sequential feeding

Autonomous feeding system

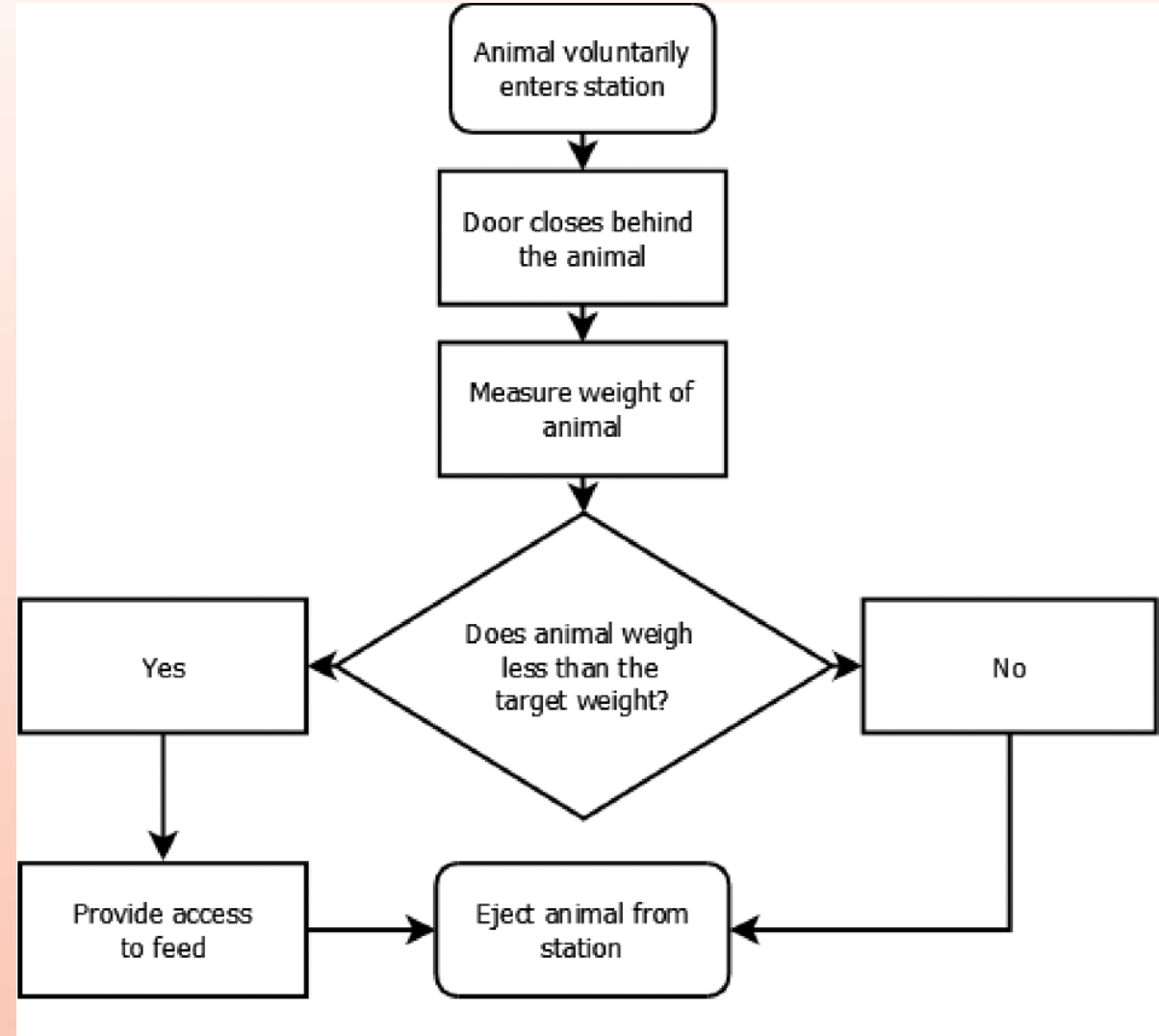


Sleek and intuitive design

Several modifications for commercial settings

# PRODUCT DESIGN

- 1 Automated Entrance**  
Birds enter into the system
- 2 Scale Area**  
Gathers data to assess bird's eligibility
- 3 Ejection unit vs Internal door**  
Removes Bird or grants access to feed trough
- 4 Feeding Unit**  
Bird feeds here





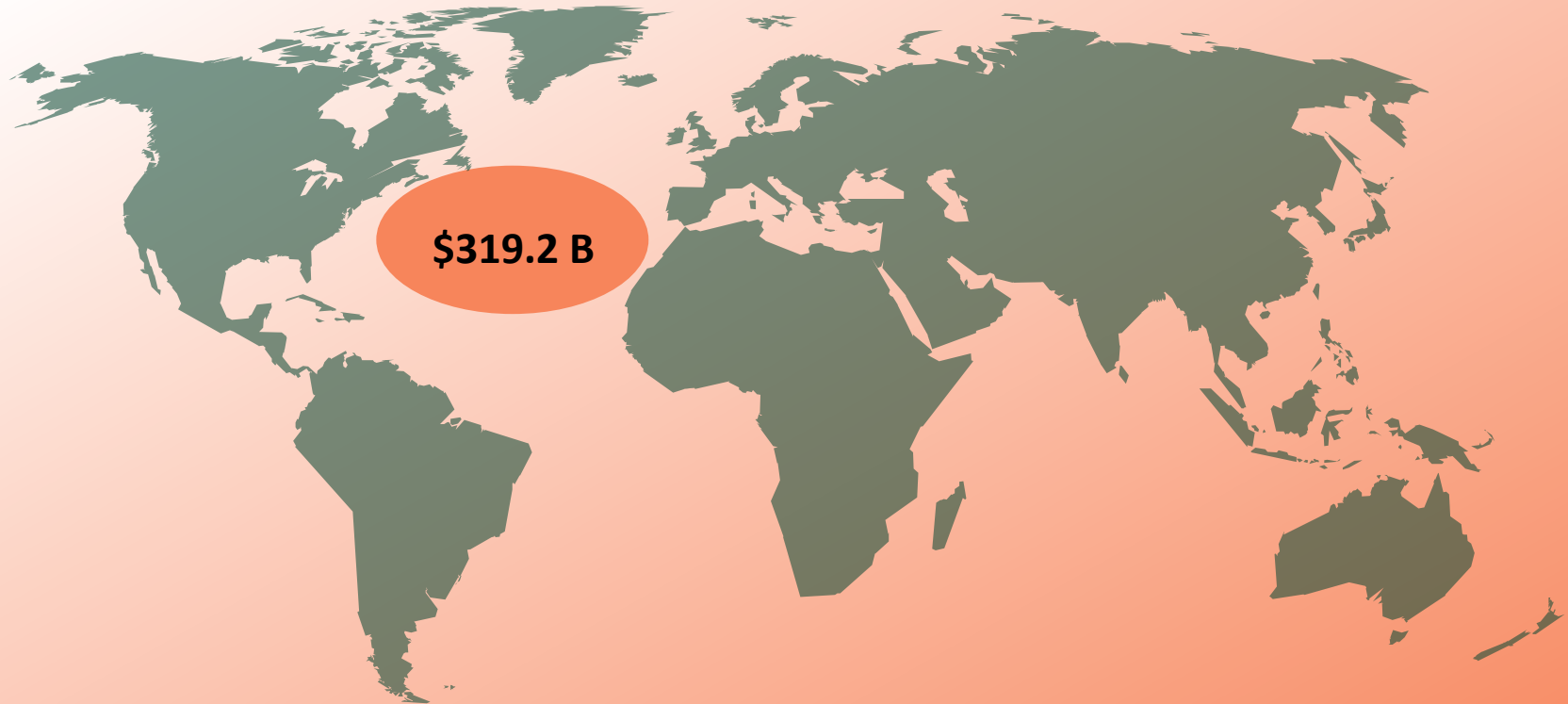
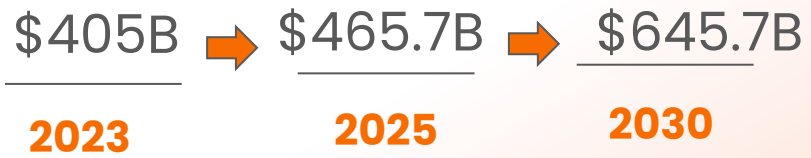
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**Macro & Industry  
Analysis**

# MARKET

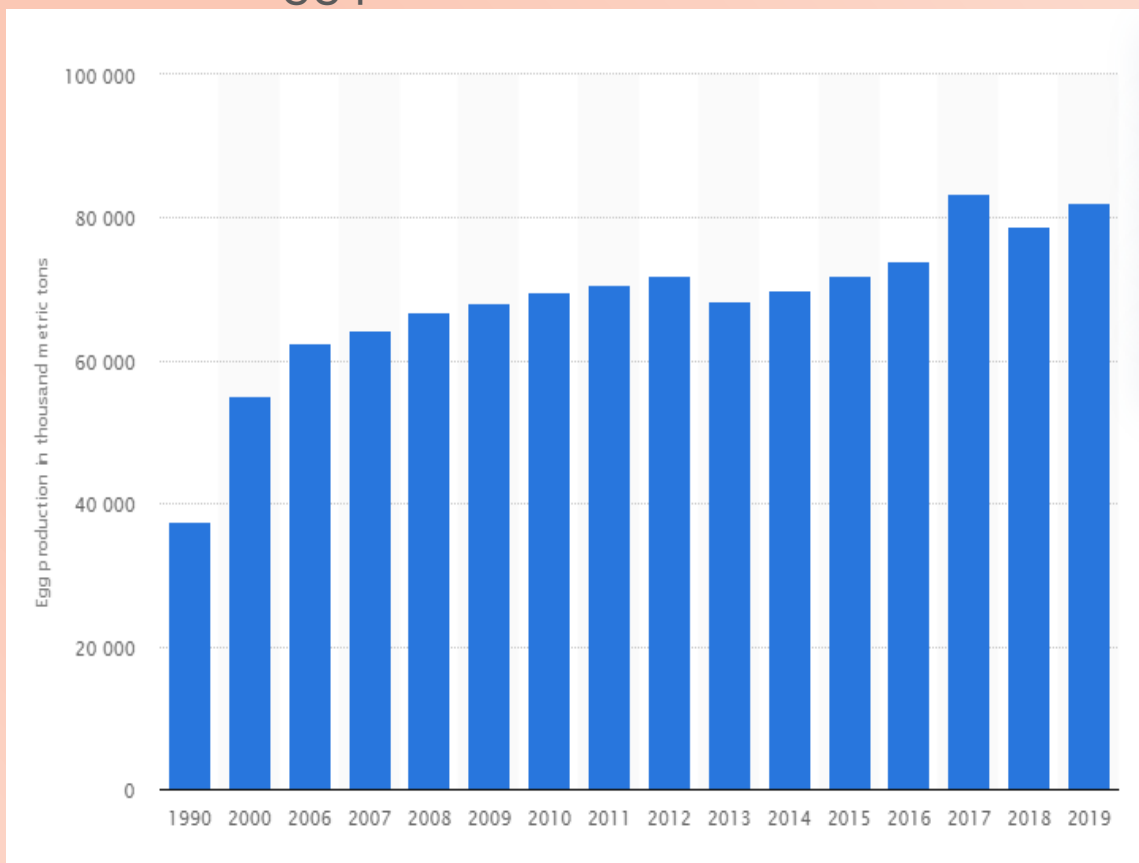
## PROSPECTED INCREASE

Worldwide Poultry Production

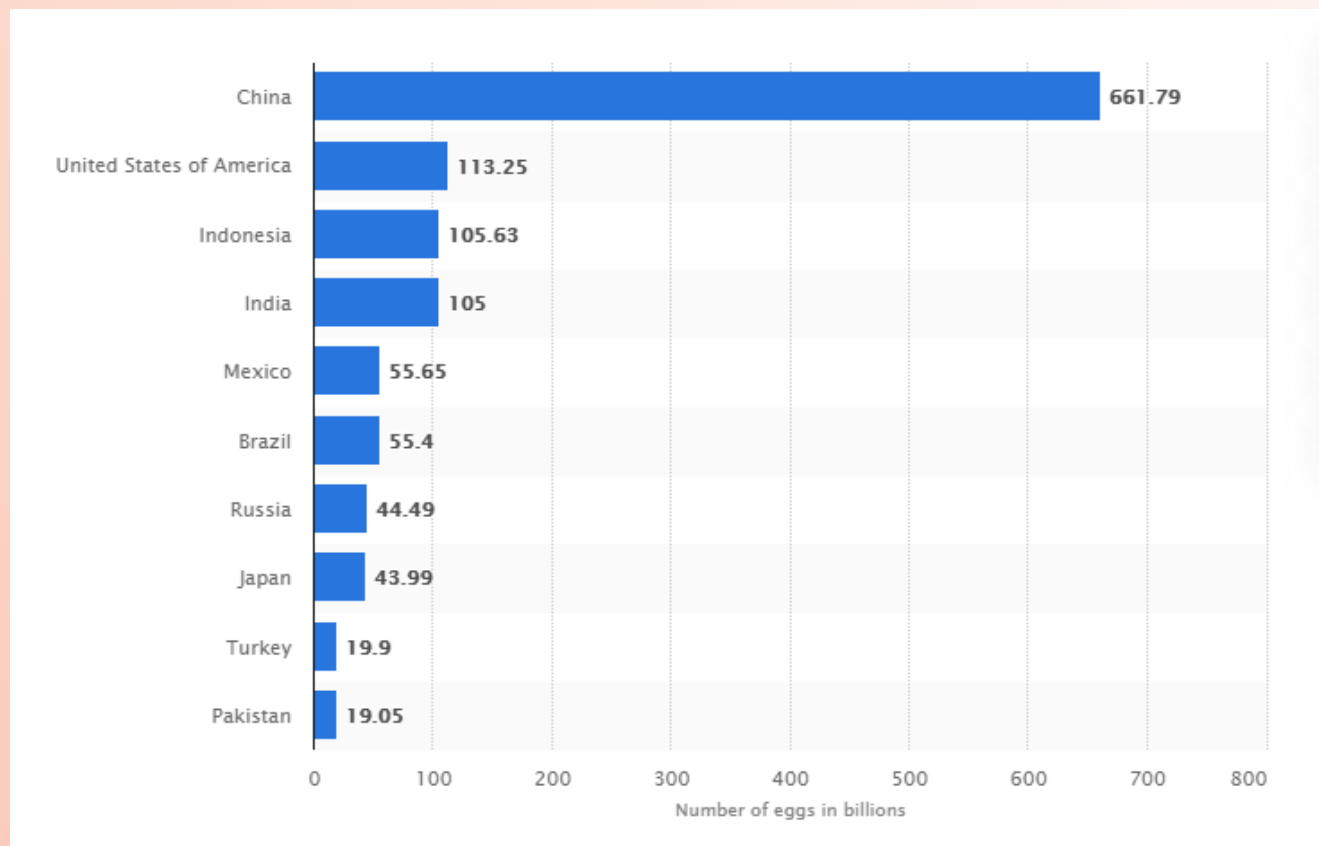


# MARKET POTENTIAL

## World Egg production 1990-2019

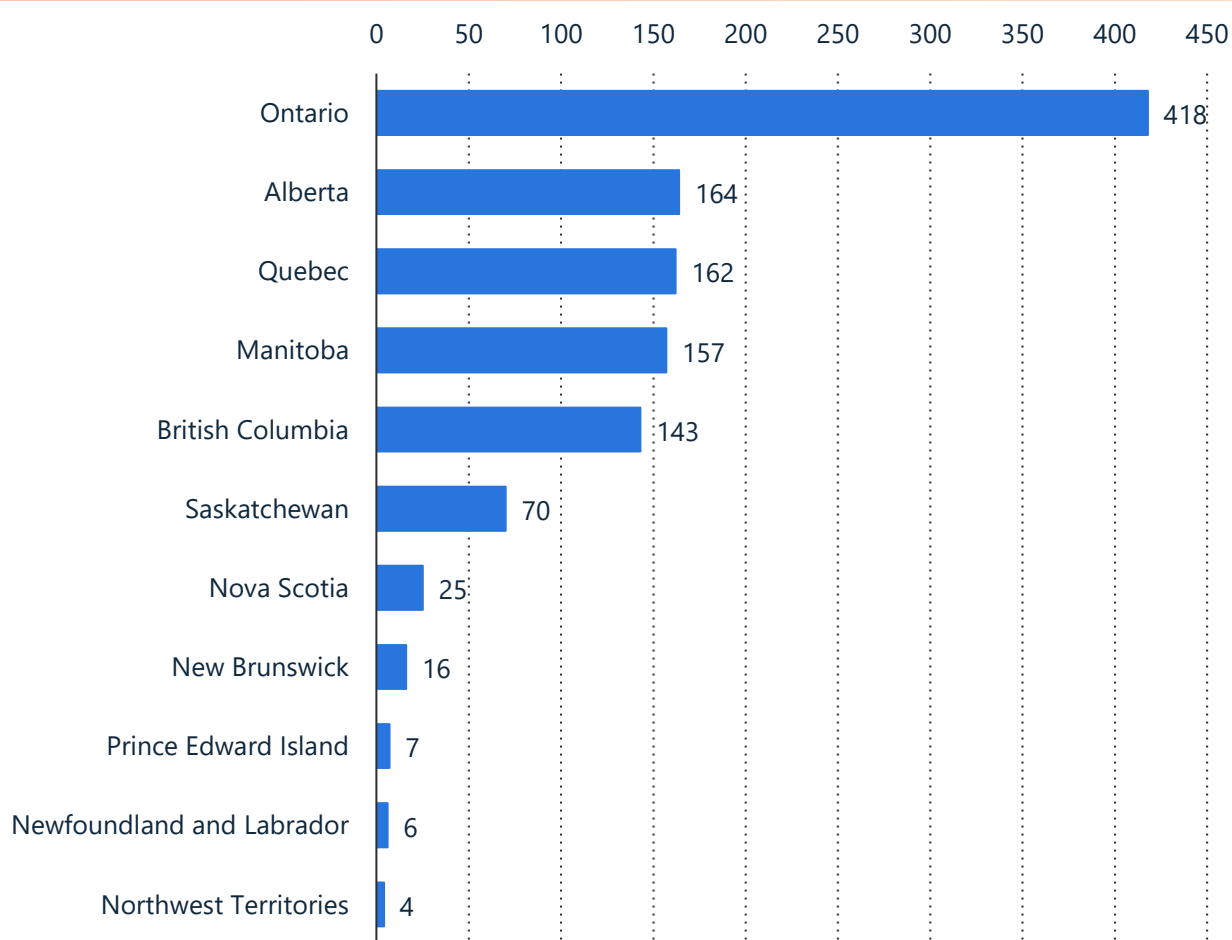


## Top 10 egg producing countries 2019



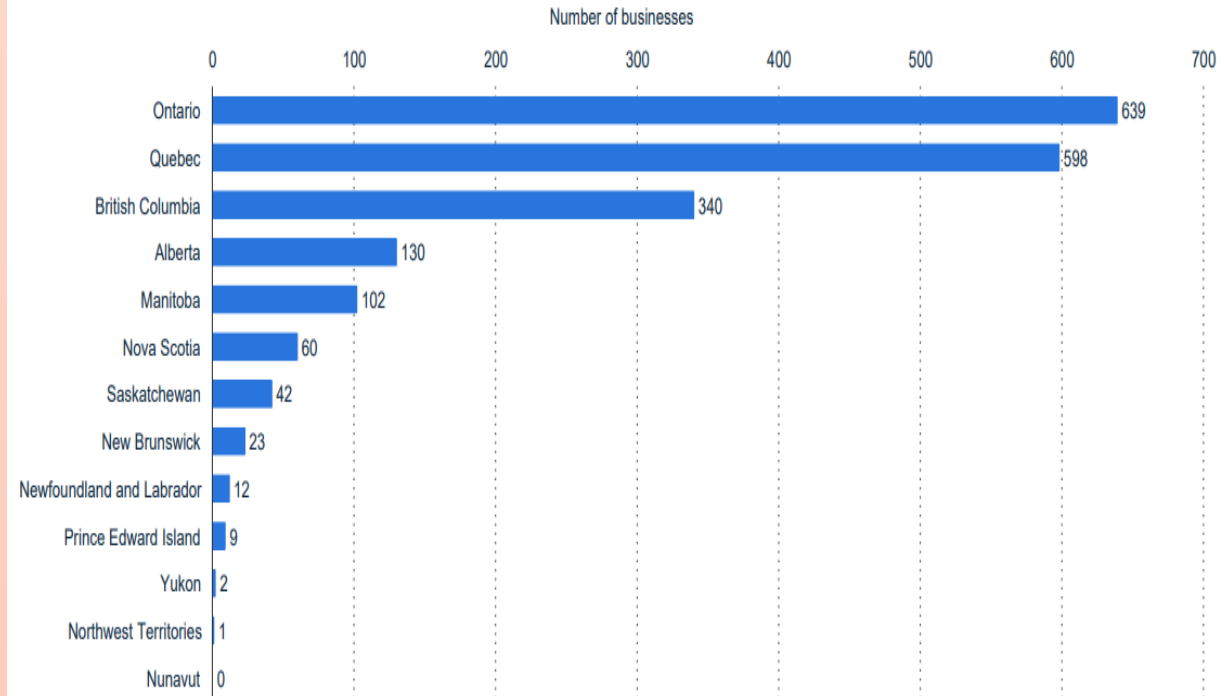
# Number of egg producers in Canada in 2019

Number of egg producers

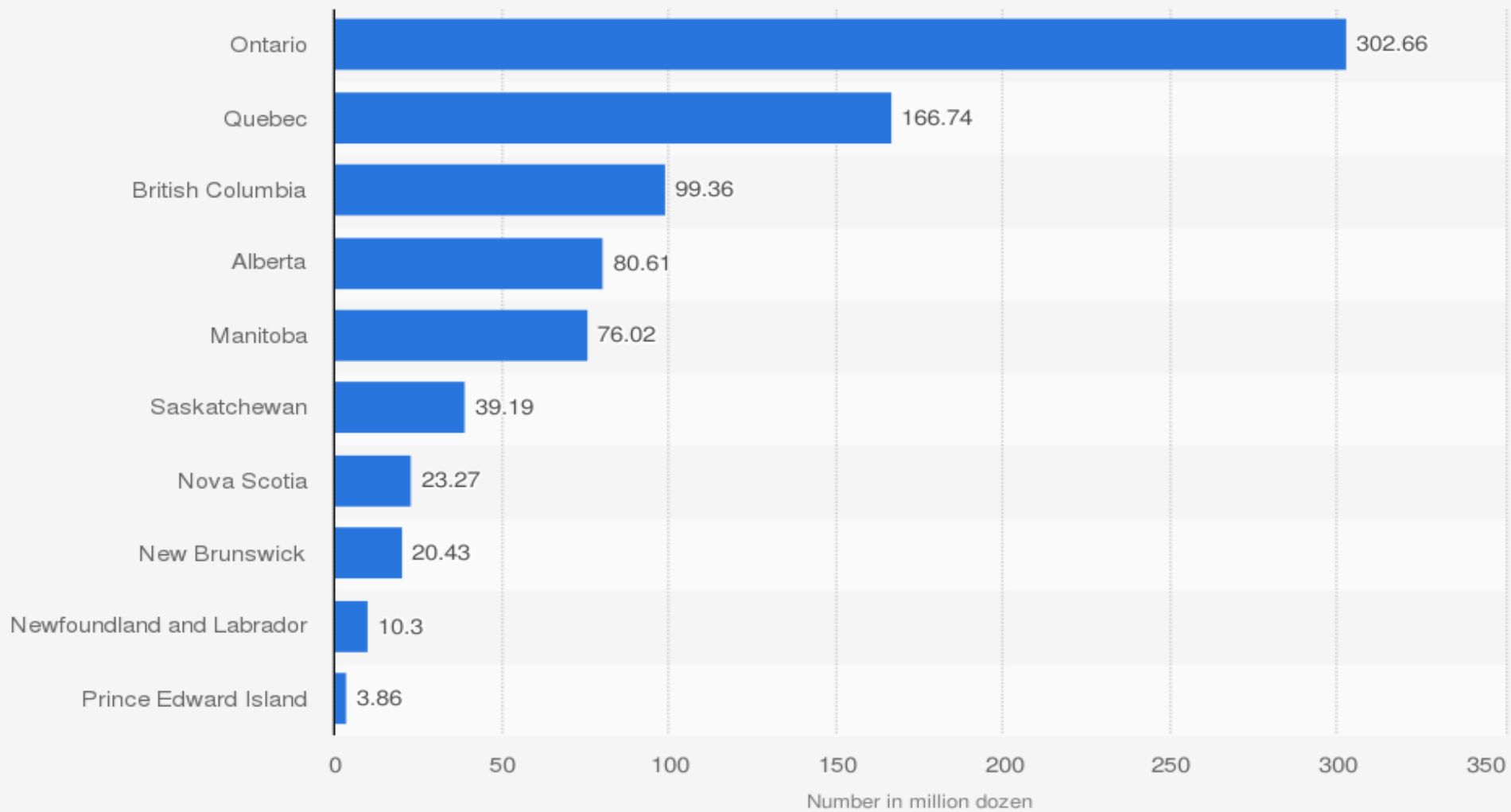


## Number of poultry and egg production businesses in Canada as of December 2020, by region

Number of chicken farms in Canada by region 2020



## Number of eggs produced in Canada 2019, by province (in million dozen)



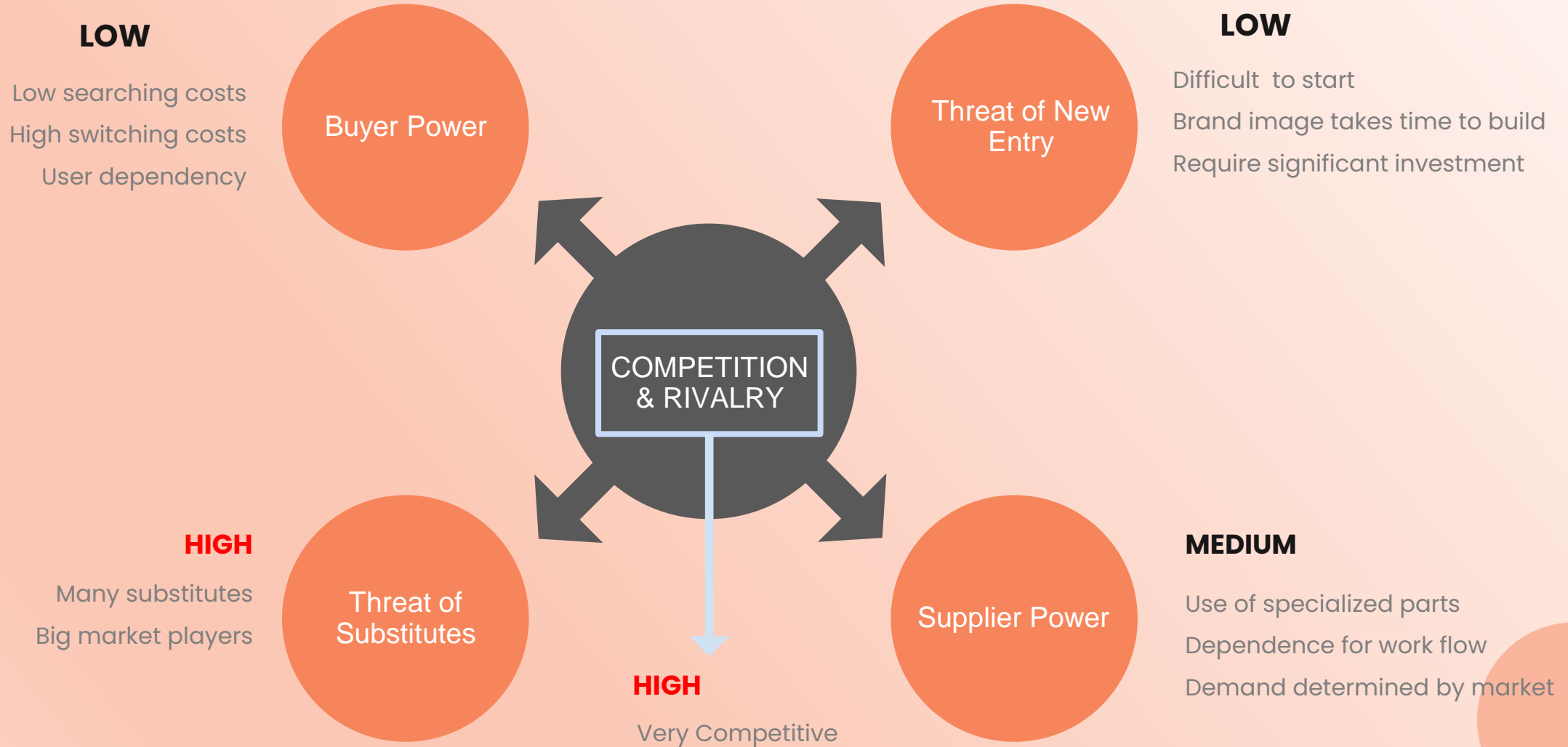
Source  
StatCan  
© Statista 2020

Additional Information:  
Canada; StatCan; 2019



# FIVE FORCES ANALYSIS

Poultry Breeding Equipment Industry





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# Economics



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**Competitive  
Analysis**

# Competitor Matrix

HIGH

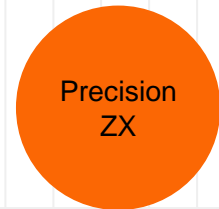
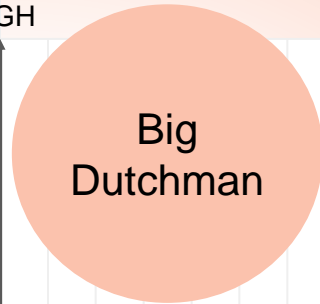
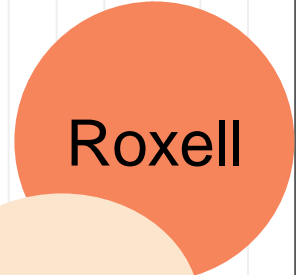
LOW

Industry Experience

*Innovation*

LOW

HIGH



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6

**Customers**

Customers

## Primary Breeders

Large Companies



Numerous Proprietary  
Information

Low supplier power

Value of stock is undisclosed



Customers

## Commercial Breeders

Current hatch per bird is 115-119

### PREVALENCE OF ENGAGING



Increase  
Hatchability



Longer egg  
production



Efficient Male  
Management



Increased  
Uniformity



Increased Feed  
Efficiency

240 Canadian producers, mostly family owned

Customers

## Research Institutions

Increasing need for Modern facilities

### 3 Major Funding sources

#### LOSS OF RESEARCH RESOURCES



More Controlled Environment



Less labour requirede



More Accurate data

101 Research projects in Universities and Government Lab 2018

### Research Funding Sources

Total \$25,794,177

■ Other Industry Sources

\$3.92

■ CPRC

\$4.48

■ Provincial Governments & Universities

\$6.77

■ Federal Government

\$10.63

Amount (\$ million)



## Barriers to Adoption

### 1. PERFORMANCE IN COMMERCIAL SETTING

Research environment are controlled – Larger number of flock

### 1. LOGISTICS & REGULATORY

Require government approvals

Each province has its own regulations & requirements

### 1. SMALL MARKET SIZE

Consumers spread thinly

### 1. BRAND EQUITY

Producer's sticking to the familiar  
further reduce market size

### 1. MARKETING & IMPLEMENTATION

Costs to educate consumers





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# **Conclusion & Recommendations**

# Conclusion



## Commercial producers: **PROMISING**

Further research on consumer behaviour,  
ROI & market size



## Primary Breeders: **PROMISING BUT UNKNOWN**

Risky & time consuming  
Weak value proposition



## Research Institutes: **NOT VIABLE**

Institutional bureaucracy  
Inconsistent demand  
Small market size

**Part 1**

**Getting intimate with target market**

- Develop and pre-launch an MVP
- Conduct more primary research

**Part 2**

**Pursuing Primary Breeder route**

- Further research necessary
- Interview this segment
- Product redesign
- Construct a compelling value proposition

**Part 3**

**Exploring Opportunity within the US market**

- Larger market size



**Thank you!**

Are there any questions?