

Microscopic View

**Infertile**



• No Development

**Fertile**



• Blastoderm

**Infertile**



• Blastodisc

# DAY 1



1

## **Embryonic Development**

Appearance of Tissue Development

## **Troubleshooting**

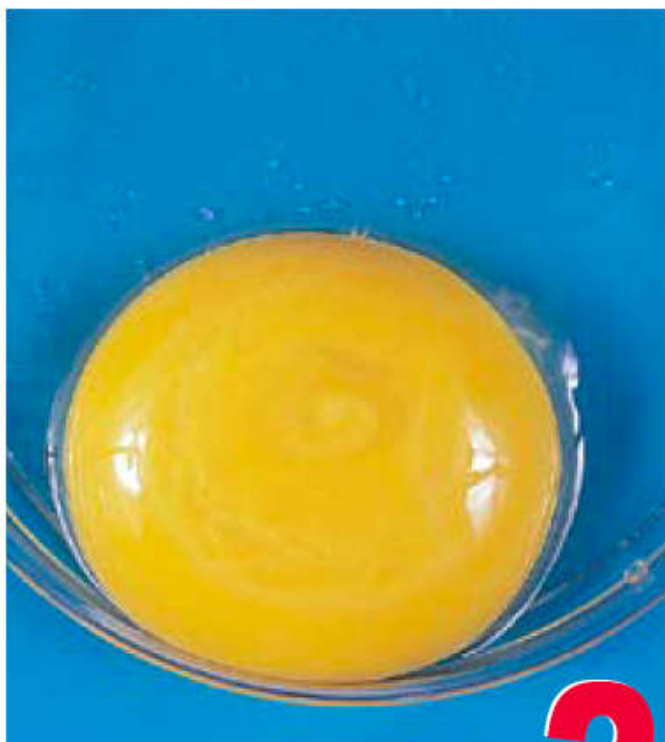
Low fertility

Pre-incubation

Improper fumigation

Improper turning

- Improper temperature
- Improper humidity
- Improper ventilation
- Inverted eggs
- Rough egg handling
- Insufficient egg holding time
- Rough setting of eggs
- Contaminated eggs
- Nutritional-drugs-toxins



2

### **Embryonic Development**

- Tissue development very visible.
- Appearance of blood vessels.

### **Troubleshooting**

- Low fertility
- Pre-incubation
- Improper fumigation

- Improper turning
- Improper temperature
- Improper humidity
- Improper ventilation
- Inverted eggs
- Rough egg handling
- Insufficient egg holding time
- Rough setting of eggs
- Contaminated eggs
- Nutritional-drugs-toxins



3

### **Embryonic Development**

- Heart beats.
- Blood vessels very visible.

### **Troubleshooting**

- Low fertility
- Pre-incubation

- Improper fumigation
- Improper turning
- Improper temperature
- Improper humidity
- Improper ventilation
- Inverted eggs
- Rough egg handling
- Insufficient egg holding time
- Rough setting of eggs
- Contaminated eggs
- Nutritional-drugs-toxins



4

### Embryonic Development

Eye pigmented.

### Troubleshooting

- Improper turning
- Improper temperature

Improper humidity

Improper ventilation

Inverted eggs

Rough setting of eggs

Contaminated eggs

Nutritional-drugs-toxins



5

### Embryonic Development

Appearance of elbows and knees.

### Troubleshooting

Improper turning

Improper temperature

Improper humidity

Improper ventilation

Inverted eggs

Rough setting of eggs

Contaminated eggs

Nutritional-drugs-toxins



6

### Embryonic Development

Appearance of beak.

Voluntary movement begins.

### Troubleshooting

Improper turning

Improper temperature

Improper humidity

Improper ventilation

Inverted eggs

Rough setting of eggs

Contaminated eggs

Nutritional-drugs-toxins



### **Embryonic Development**

Comb growth begins.

Egg tooth begins to appear.

### **Troubleshooting**

Improper turning

Improper temperature

Improper humidity

Improper ventilation

Inverted eggs

Rough setting of eggs

Contaminated eggs

Nutritional-drugs-toxins





8

### **Embryonic Development**

Feather tracts seen.

Upper and lower beak equal in length.

### **Troubleshooting**

Improper turning

Improper temperature

Improper humidity

Improper ventilation

Inverted eggs

Insufficient egg holding time

Rough setting of eggs

Contaminated eggs

Nutritional-drugs-toxins



### **Embryonic Development**

Embryo starts to look bird-like.

Mouth opening appears.

### **Troubleshooting**

Improper turning

Improper temperature

Improper humidity

Improper ventilation

Inverted eggs

Insufficient egg holding time

Rough setting of eggs

Contaminated eggs

Nutritional-drugs-toxins



# 10

### **Embryonic Development**

Egg tooth prominent.

Toe nails.

### **Troubleshooting**

Improper turning

Improper temperature

Improper humidity

Improper ventilation

Inverted eggs

Insufficient egg holding time

Rough setting of eggs

Contaminated eggs

Nutritional-drugs-toxins



11

### **Embryonic Development**

Comb serrated.

Tail feathers apparent.

### **Troubleshooting**

Improper turning

Improper temperature

Improper humidity

Improper ventilation

Inverted eggs

Insufficient egg holding time

Rough setting of eggs

Contaminated eggs

Nutritional-drugs-toxins



12

### **Embryonic Development**

Toes fully formed.

First few visible feathers.

### **Troubleshooting**

Improper turning

Improper temperature

Improper humidity

Improper ventilation

Inverted eggs

Insufficient egg holding time

Rough setting of eggs

Contaminated eggs

Nutritional-drugs-toxins



# 13

## **Embryonic Development**

Appearance of scales.

Body covered lightly with feathers.

## **Troubleshooting**

Improper turning

Improper temperature

Improper humidity

Improper ventilation

Inverted eggs

Insufficient egg holding time

Rough setting of eggs

Contaminated eggs

Nutritional-drugs-toxins



# 14

## **Embryonic Development**

Embryo turns head towards large end of egg.

## **Troubleshooting**

Improper turning

Improper temperature

Improper humidity

Improper ventilation

Inverted eggs

Insufficient egg holding time

Rough setting of eggs

Contaminated eggs

Nutritional-drugs-toxins



# 15

## **Embryonic Development**

Gut is drawn into abdominal cavity.

## **Troubleshooting**

Improper turning

Improper temperature

Improper humidity

Improper ventilation

Inverted eggs

Contaminated eggs

Nutritional-drugs-toxins





# 16

## **Embryonic Development**

Feathers cover complete body.

Albumen nearly gone.

## **Troubleshooting**

Improper turning

Improper temperature

Improper humidity

Improper ventilation

Inverted eggs

Contaminated eggs

Nutritional-drugs-toxins



17

### **Embryonic Development**

Amniotic fluid decreases.

Head is between legs.

### **Troubleshooting**

Improper turning

Improper temperature

Improper humidity

Improper ventilation

Inverted eggs

Contaminated eggs

Nutritional-drugs-toxins



# 18

## **Embryonic Development**

Growth of embryo nearly complete.

Yolk sac is still on outside of embryo.

Head is under the right wing.

## **Troubleshooting**

Hatcher opened too much during hatch cycle

Rough transfer

Transfer cracks

Wet trays and hatchers

Inconsistent transfer

Improper turning

Improper temperature

Improper humidity

Improper ventilation

Inverted eggs

Contaminated eggs

Nutritional-drugs-toxins



# 19

## **Embryonic Development**

Yolk sac draws into body cavity.

Amniotic fluid gone.

Embryo occupies most of space within egg (not in the air cell).

## **Troubleshooting**

Hatcher opened too much during hatch cycle

Rough transfer

Transfer cracks

Wet trays and hatcher

Inconsistent transfer

Improper turning

Improper temperature

Improper humidity

Improper ventilation

Inverted eggs

Contaminated eggs

Nutritional-drugs-toxins



# 20

## **Embryonic Development**

Yolk sac drawn completely into body.

Embryo becomes a chick (breathing in air cell).

Internal and external pip.

## **Troubleshooting**

Hatcher opened too much during hatch cycle

Rough transfer

Transfer cracks

Wet trays and hatchers

Inconsistent transfer

Improper turning

Improper temperature

Improper humidity

Improper ventilation

Inverted eggs

Contaminated eggs

Nutritional-drugs-toxins



### **Embryonic Development**

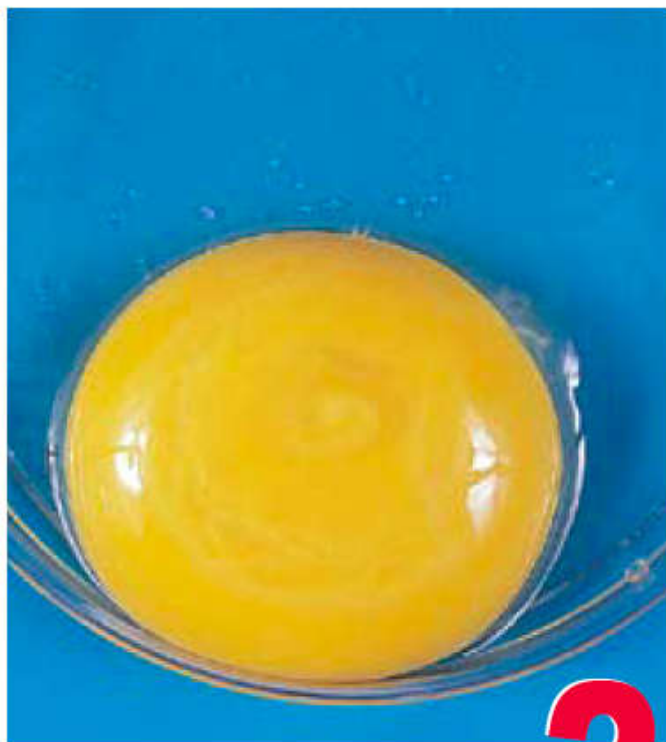
Chick hatches

Feathers dry

Should be pulled from hatcher before becoming dehydrated.

No longer an embryo - will require feed, water, and controlled climate.

Bird ready for placement into house



2

### **Embryonic Development**

Tissue development very visible.

Appearance of blood vessels.

### **Troubleshooting**

Low fertility

Pre-incubation

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