

# USER MANUAL MODEL: SH2000H HATCHER DIGITAL EGG HATCHER



VERY IMPORTANT! READ THIS USER MANUAL BEFORE USING YOUR HATCHER



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# Thank you for your choosing Surehatch!

Incubation and hatching is an exciting journey – thank you for trusting Surehatch as your hatcher brand of choice in this endeavor. We wish you all the best and hope that you enjoy this journey as much as we do!

Feel free to contact us for advice or assistance at the details below. Join the **Surehatch Egg Hatcher Owner's Club** on Facebook and meet some fellow Surehatch users!

Happy hatching!

**Team Surehatch** 

Facebook: Surehatch Egg Hatcher Owner's Club Instagram: @surehatch Website: www.surehatch.com E-mail: sales@surehatch.com

Technical Specs: SH2000H Hatcher

**Voltage:** 120V AC, 60Hz Single Phase For Indoor Use Only Take caution when operating as moving parts can cause injury

Surehatch Hatchers have been designed for easy operation to produce the best possible hatch rates taking all the variables of successful incubation into account.

All Surehatch hatchers and hatchers have been tested in our factory and are made to high quality standards. Ultimately the success of your hatchery operation lies in the hands of the hatchery manager/user and the quality of the hatching eggs. It is therefore critically important that the hatchery manager ensures that he/she follows the best recommended practices for successful incubation.

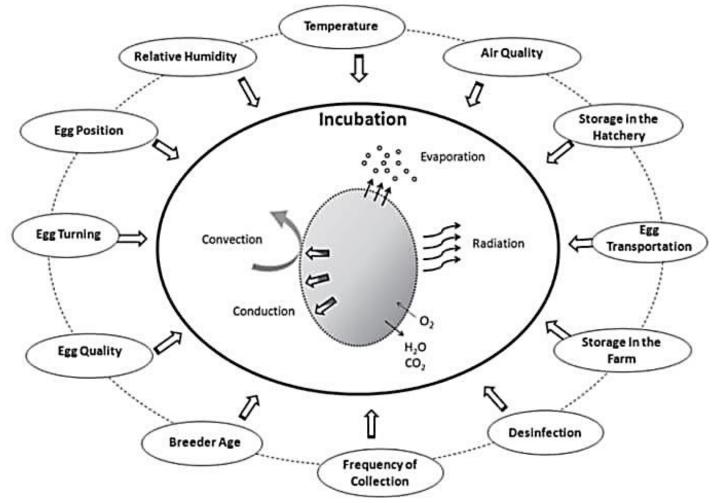
The information provided in this user manual aims to help ensure optimal functioning of the hatcher to achieve the best possible incubation results. In addition to the contents of this user manual we also recommend that you further your knowledge of incubation by studying additional hatchery management info available on the internet.

**NOTE:** It is recommended that you operate the hatcher with a small quantity of inexpensive eggs to be assured of your operating procedures and the performance of the hatcher before attempting to hatch large quantities of eggs or expensive eggs.

Success in incubation has 3 main pillars which determines hatching results – these are:

- 1) The hatcher (That is our part)
- 2) The quality of the hatching eggs (That is up to the hen and cock)
- 3) The inputs/management of the entire process (That is you)

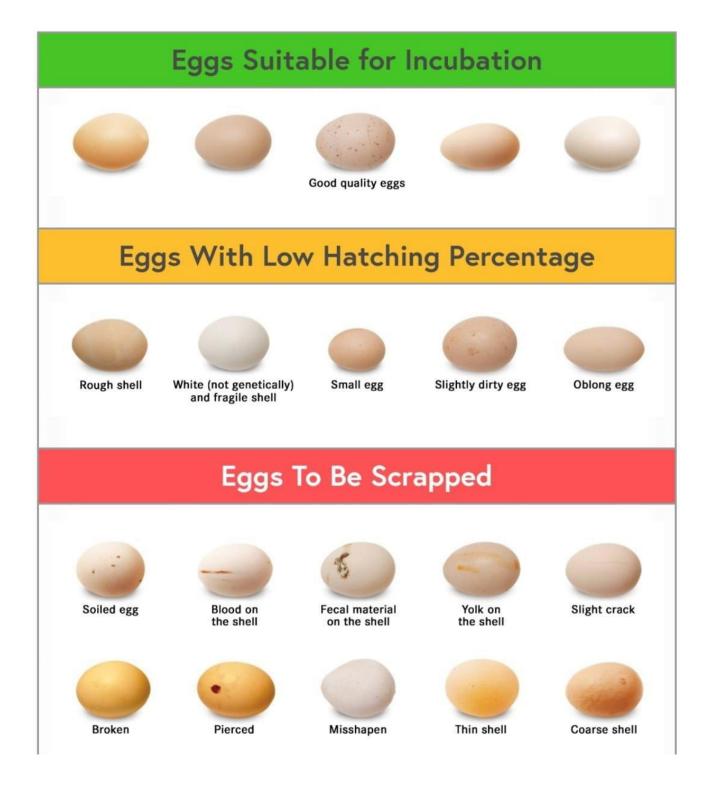
All 3 pillars need to work together to produce a successful hatch. Below shows the interaction of all the variables which determine incubation success:



#### Hatching Egg quality and Pre-Incubation Egg Storage

It is important to note that the hatcher can only give good hatch rates if the eggs which are placed in it is of good quality. Infertile eggs will never hatch, poor quality eggs will give low hatch rates. Good quality hatching eggs havethe best chances of successful hatching. Shipped eggs have lower hatchability due to the vibration/disturbances to the embryo and non-ideal temperature conditions during transport.

# **Choose eggs of normal shape.** They must not be elongated, spherical, undulated or with any other malformation.



#### Only use good quality, clean fertile hatching eggs

**Do not store eggs for longer than 7 days before incubating**. On average, one day's storage adds one hour to incubation time. This must be taken into account when eggs are set, so freshand stored eggs should be set at different times

The longer you store the eggs, the lower the hatch rate. Hatchability is depressed by prolonged storage. The effect increases with storage time after the initial six-day period, resulting in losses of 0.5 to 1.5% per day with the percent increasing as storage extends further

Use eggs from good medium aged flock – young birds produce small eggs which are not ideal for incubation. Older flock produce eggs which have lower hatchability

**Only set eggs which are uniform and clean**. Never set "dirty" eggs – eggs with visible manureon, as you will introduce pathogens into the hatcher

Don't wipe eggs before setting as you will close the egg pores which they need to breathe through – rather use a brush to clean eggs

If you smell a bad egg, remove immediately and discard

- Candle eggs after 10 days in the hatcher to check for fertility. Eggs cannot be checked for fertility before 10 days in the hatcher
- Remove eggs which are not fertile as they can potentially become "poppers" eggs that burstand release pathogens
- Don't use a permanent marker when marking eggs. The egg can absorb the toxic chemicals in the permanent marker which leads to potential early death. Rather write on the plastic tray

Never mix waterfowl (like duck eggs) with dry or game fowl (like chickens) in the same hatcher or hatcher. Waterfowl have potential pathogens on their shells which may negativelyaffect chicken eggs and cause early deaths of embryos

Place eggs with their sharp end pointing downwards both in storage as well as when placing inthe hatcher

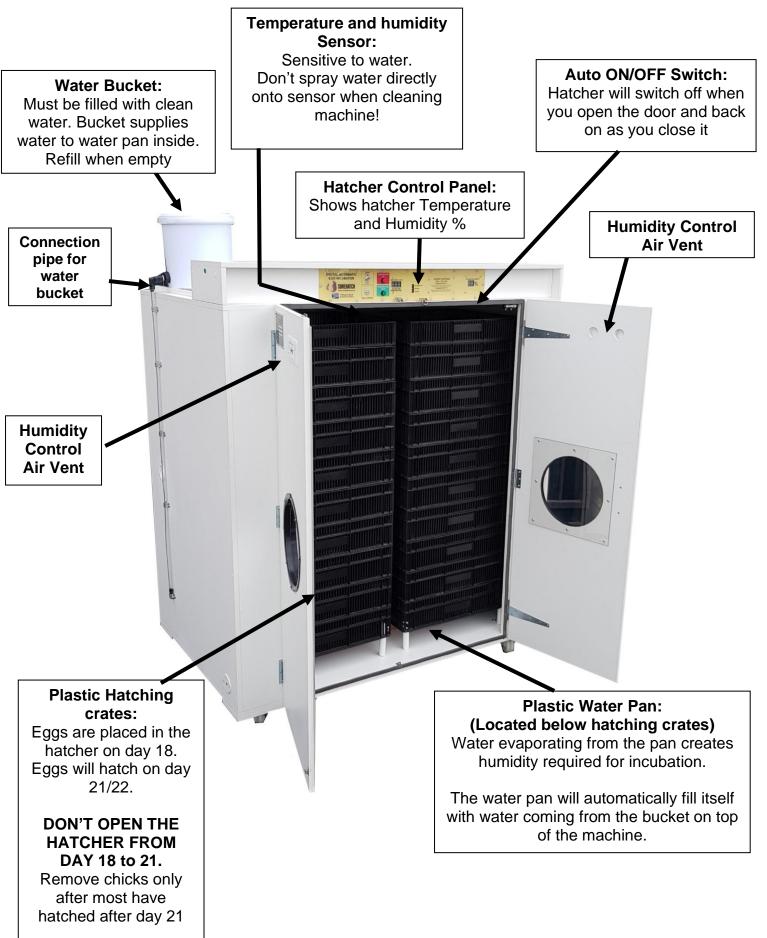
## Location/Placement of the hatcher

- Hatcher/hatcher must be placed INDOORS.
- Select a suitable room which has an <u>average temperature</u> of 68°F 82°F
- **Don't let the room temperature exceed 86° F.** The hatcher/hatcher cools down via the air which it pulls in from the room. If the room temperature goes over 86°F the hatcher will struggle to cool down and can potentially overheat the eggs
- Have a reliable source of electricity (110V Household Electricity Single Phase).
   If you use a generator as a back-up make sure it's an INVERTER GENERATOR. Any other type of generator could damage the electronics.
- Ensure that the floor surface is level where you place the hatcher. The door of your hatcher/hatcher will not shut properly if the floor is uneven.
- Place the hatcher/hatcher away from direct sunlight. You may place the hatcher on a table or on the ground, whichever suits you best. Place the hatcher 2 feet away from a corneror wall so that air can move around it freely.
- The room must have **good ventilation**. It's important that there is **always fresh air that comes into the room**.
- Depending on your room layout, we recommended that you make use of a wall/window extractor fan to pull the air out of the room. As eggs develop into chicks, they release C02 (Carbon Dioxide) which needs to be extracted out of the room. Ensure that fresh air (Oxygen)enters the room. Ideally the air in the room needs to be replaced by fresh air every 4 to 6 hours.
- **Try to maintain on average a 50% to 60% humidity in the ROOM**. It is normal for humidity to fluctuate day by day this is fine as long as you don't have extremes (Like 20% or 90% humidity in the room). Your hatcher has been designed to be capable to regulate its humidityunder most conditions however, the more stable the room humidity, the easier it is for your hatcher to regulate.
- If you are in a very dry climate, place some water pans in the room to increase humidity. If you maintain an average room temperature as suggested earlier then your room humidity usually results in about 50%
- If you are in a very humid climate, you can remove the water pan/containers out of the hatcher/hatcher to decrease humidity in the hatcher/hatcher
- Maintaining hygiene is particularly important in your hatcher/hatchers as well as in the hatchery room. Do not keep chicks in same room as the hatcher/hatcher. Use a separate room to placehatched chicks. This is done to maintain hygiene.
- We recommend having strict access control to the hatchery room. Do not let any unauthorized persons tamper with the hatchers/hatchers while you are away.

# Some basics about incubation you need to know

- Chicken eggs take 21 days to incubate
- For the first 18 days eggs are placed in plastic egg trays (Also called the setter)
- On the morning of day 18 the eggs must be moved from the plastic egg trays(setter) to the hatcher (Hatching crates below the egg tray).
- The eggs must lay still in the hatcher. On day 21/22 the chicks will start hatching. Chicks can be left inside the hatcher for up to 24 hours after they have hatched.
- DO NOT TO OPEN THE HATCHER/HATCHER FROM DAY 18 to 21 opening the door causes major moisture loss and may "shrink-wrap" the chicks inside the eggs
- Ideal incubation temperature is 99.5°F (Fluctuations between 96°F to 101°F is normal). Your hatcher is pre-set to regulate the temperature to 99.5°F
- Ideal hatcher humidity: Day 1 to 18: 50-60%. Day 18 to 21: 60-65%
- Eggs must lose 12% of weight due to moisture loss in the first 18 days.
- Only eggs which are fertile can stand a chance to hatch. There are various reasons why
  eggs don't hatch at the end of this manual you will find reasons why eggs fail to hatch. You
  can check if the eggs are fertile after 10 days in the hatcher. You can't check for fertility
  before they are placed in the hatcher.

## **CONTENTS INSIDE YOUR HATCHER:**



# **STARTING UP YOUR HATCHER:**

#### STEP 1: Plug in your hatcher:

#### Switch ON your hatcher by plugging it in to the wall plug.

#### STEP 2: Connect water bucket to hatcher and fill bucket with water

Your hatcher has an automatic float valve inside that will allow water to flow into the inside water pan from the bucket on top of the machine. Make sure that you check the bucket daily and fill with CLEAN WATER as required.

#### STEP 3: SETTING HATCHER TEMPERATURE: (This will take about 1 hour)

The hatcher has been factory set to heat up to 99.5°F (37.5 Degrees Celsius) when you switch it on. The hatcher will take about 1 hour to heat up to 99.5°F

# \*\*\*You can change the temperature display from Fahrenheit to Celsius by pressingboth TEMP UP and TEMP DOWN together at the same time and keeping it pressed for 6 seconds.

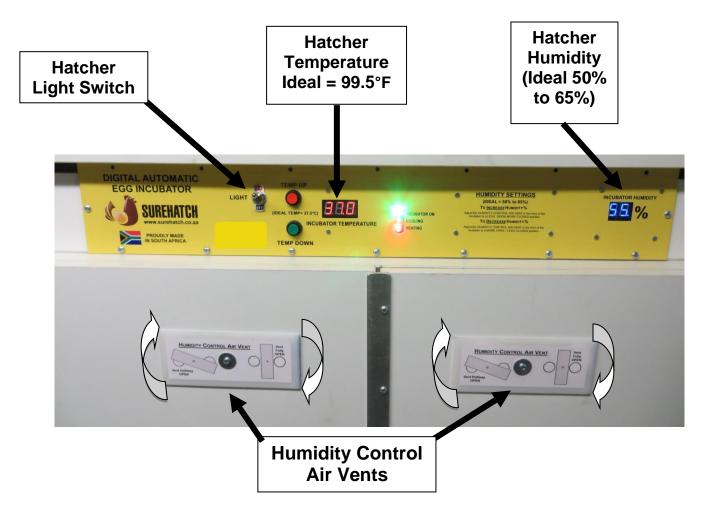
#### Next steps:

- Close hatcher door

- Wait for hatcher to reach 99.5°F

- To change the hatcher temperature set-point simply press the "Temp Up" or "Temp Down" Button (Generally not required – only for advanced users

# **HATCHER Control Panel:**



#### STEP 4: SETTING HATCHER HUMIDITY (This will take 1 to 2 hours)

You can start adjusting humidity once the hatcher has been running at a temperature of **99.5°F** for an **at least 1 hour**.

The main way in which to change humidity on your hatcher is to adjust the **Humidity Control Air Vents** on the front of the hatcher. (Slide these plastic vents up or down to open or close the vents).

\*\*\*\*\*The more open the vent is, the less the humidity will be. The less open, the higher the humidity will be.

Never close the humidity control air vents completely – it's always good to keep them slightly open to assist in sufficient air exchanges for the eggs. Set humidity by following the "Humidity Settings" instructions on the hatcher Ideal humidity percentage is between 50% and 65%

### HUMIDITY SETTINGS (IDEAL = 50% to 65%)

Humidity % is determined by the surface area of the water container/ pan and the amount of fresh air exchange in the hatcher. You can regulate humidity % by decreasing or increasing the SURFACE AREA of the water and by regulating the fresh air that comes into the hatcher

#### The ideal humidity % for incubation is between 50% and 65%

#### TO INCREASE HUMIDITY %

1) Fill water container/pan with WARM WATER

2) Adjust the HUMIDITY CONTROL AIR VENT in the front of the hatcher to a LESS OPEN/ MORE CLOSED position

If the above two steps fail to increase humidity, do the following in addition to the above:

3) Place water pans and humidifier in the room where the hatcher is standing to increase room humidity

#### To Decrease Humidity %

1) Adjust the AIR VENT in front to a MORE OPEN / LESS CLOSED position

2) Remove one of the water containers

If the above two steps fail to decrease humidity, do the following:

3) Remove both water containers completely (Only in very humid / wet areas)

4) Place a dehumidifier in the room (Only in very humid / wet areas)

After you are satisfied with the temperature and humidity you may place the eggs in the hatcher

# Hatcher light:

Your hatcher has a light located on the inside of the hatcher. This light may be switched on in order to view the eggs or chicks inside the hatcher.

**VERY IMPORTANT:** Don't leave the light on as this will negatively effect the functioning of the hatcher. Only use the light when necessary. Switch the light **OFF** after you have viewed the eggs/chicks inside the hatcher.

# **CONGRATULATIONS!**

## YOU HAVE NOW SUCCESSFULLY SET UP YOUR SUREHATCH EGG HATCHER. NEXT YOU NEED TO FOLLOW THE DAILY CHECKLIST

Remember to clean the hatcher after each hatch. Sanitation is CRITICALLY importantfor successful hatching. Before loading any eggs, clean the hatcher by wiping the insides with a cloth and hatcher sanitizer. It is essential that the hatcher and trays/crates be cleaned thoroughly between hatches.

Before cleaning inside the hatcher, be sure to disconnect its electrical cord from theoutlet to avoid possible electrical shock. Take care not to introduce moisture or waterinto the electrical system of the hatcher and allow all surfaces to dry before again reconnecting the electrical cord to the outlet.

BE CAREFUL not to spray water directly onto the temperature or humidity sensor located inside the machine as this will damage the sensor.

# DAILY CHECKLIST FOR YOUR SUREHATCH HATCHER:

#### Check the following once per day — Correct where necessary

- **CHECK Electricity** - Electricity must always be **ON.** Power interruptions will negatively affect the eggs.

#### - CHECK Hatcher Temperature

#### Ideal temperature is 99.5°F (Fluctuation between 96°F to 101°F is normal)

#### - CHECK Hatcher Humidity

Ideal humidity % for incubation is between 50% and 65%. Humidity takes hours to build up and is quickly lost when the hatcher door is opened. It is normal for humidity to fluctuate 10% to 15% from day to day due to changes in outside humidity.

- CHECK Hatcher Fan Must always be ON and spinning
- Check for smelly, rotten eggs remove and throw away if any
- Check that FRESH AIR is coming into the room
- CHECK that nothing is blocking hatcher AIR VENT
- CHECK that there's NO DIRECT SUNLIGHT on the hatcher
- CHECK ROOM TEMPERATURE Ideal room temperature = 68°F 82°F
- Don't let the room temperature exceed 86° F.
- CLOSE hatcher DOOR after you have opened it.
- Make sure no one can tamper with hatcher while you are away!
- ONLY incubate CLEAN, FRESH, FERTILE eggs

#### MAINTAINING BIOSECURITY AND HYGIENE

- WIPE CLEAN the insides of your hatcher after every hatch
- WASH YOUR HANDS EVERY TIME BEFORE you work with the hatcher or touch the eggs
- WASH your hatching crate/s and egg trays after every hatch with disinfectant
- Keep your incubation room clean and sanitized!
- Throw away any eggs which are smelly, dirty or rotten

# **Trouble Shooting Failures with Egg Incubation**

When incubation of eggs fails, indications are often available that a well trained professionaluses for diagnosing the causes for failure. The information listed below includes the more common symptoms for incubation failures, the causes for each symptom, and the recommended corrective measures Symptoms of incubation/breeder management problemsinclude:

- Clear eggs with no visible embryonic development.
- Blood rings in incubated eggs.
- Many dead embryos at an early stage.
- Chicks fully formed, but dead without pipping.
- Pipped eggs, but died without hatching.
- Early hatching.
- Late hatching or not hatching uniformly.
- Sticky embryos.
- Embryos sticking or adhering to shell.
- Crippled and malformed chicks.
- Abnormal, weak, or small chicks.
- Chicks with labored breathing.
- Large, soft-bodied mushy chicks.
- Rough or unhealed navels on chicks.
- Short down on chicks.
- Excessive yellow down color.

<u>Symptoms</u>	Probable Cause	Corrective Measures
Clear Eggs with no embryonic development (infertiles)	Males undernourished	Follow a recommended feeding program to provide adequate nutrition. Replace underweight males with vigorous ones
	Too few males	Increase the number of males in the flock. Use young cockerels more resistant to environmental stress. Do not use too many males. Rear all males together. Place temporary partitions within large pens. Conduct an approved disease control program. Provide comfortable housing. Properly select and maintain drinking fountains. Replace with younger males. Artificially inseminate infertile hens. Replace males in the pen/house. Replace males in the pen/house. Provide recommended floor space, at least 3 ft²/bird.
	Seasonal decline in fertility	
	Competition among breeding males	
	Diseased flock	
	Frozen combs and wattles	
	Old males	
	Selected mating in pens	
	Male sterility	
	Crowded breeders	
	Improper artificial insemination techniques or use of old/over-diluted semen.	Follow recommendations of primary breeder company.

Eggs damaged by environment Gather eggs frequently (at least once daily).

Eggs stored too long or incorrectly

Store eggs at 50-60 degrees F. and 60% relative humidity. Incubate eggs within 7 days of lay.

<u>Symptoms</u>	Probable Cause	Corrective Measures
Blood rings	Improper storage	Follow recommended egg storage and gathering recommendations.
	Improper incubation temperatures	Check thermometer accuracy and hatcher functions. Follow recommended temperature settings.
	Improper breeder nutrition	Feed breeders a diet with balanced nutrient levels.
	Improper fumigation	Follow fumigation recommendations.

#### Symptoms

Many dead embryos at early stages

#### Probable Cause

Improper incubation temperatures (usually too high) Improper egg turning

Inherited low hatchability

Improper ventilation

Pullorum disease or other salmonelloses Improper nutrition of breeders

#### **Corrective Measures**

Follow recommended incubation temperatures.

Turn at least 3 times daily.

Avoid cross breeding. May need to secure different breeding stock.

Increase ventilation rate in hatcher and/or room, but avoid drafts. Add oxygen at high altitudes.

Use eggs from disease-free sources. Have NPIP representatives blood-test the breeder flock. Provide a well-balanced nutritional diet to breeders

#### **Corrective Measures**

Maintain recommended humidity for species ofbird incubated.

Check thermometer accuracy and hatcher functions. Follow recommended temperature settings. Adjust ventilation to provide optimum moistureloss rate from egg during incubation. Turn eggs at least three times daily until 3 days prior to hatching. Gather eggs frequently and store under proper conditions. Conduct a good disease control and breeder

management program. Use a well-balanced nutritional diet.

#### <u>Symptoms</u>

Chicks fully formed, but dead without pipping

#### Probable Cause

Low average humidity

Improper incubation temperature

Improper ventilation in hatcher

Improper turning of eggs

Chilling of eggs

Diseased or poorly conditioned breeder flock

#### Symptoms

#### Probable Cause

Pipped eggs, but died without hatching

Insufficient moisture

Improper ventilation

Improper setting of eggs causing malpositioned embryos

#### <u>Symptoms</u>

#### Probable Cause

Early hatching (may have bloody navels)

High incubation temperatures

Improper egg storage

#### <u>Symptoms</u>

Late hatching or not hatching uniformly

#### **Probable Cause**

Low incubation temperatures

Old or improperly stored eggs

#### **Corrective Measures**

Increase humidity during the hatching period.

Increase ventilation rate in hatcher and/orroom, but avoid drafts.

Set eggs with small end down. Turn eggs properly but avoid turning within 3 days of hatching.

#### Corrective Measures

Follow recommended incubation temperatures. Check equipment for proper function. Guard against electrical surges or high hatcher room temperatures. Store eggs at 60 Degrees F. and 60% R.H. Turnat least 3 times daily.

#### <u>Corrective Measures</u>

Follow recommended incubation temperatures.

Gather eggs frequently, cool immediately and store eggs properly. Do not store longer than 7 days.

#### **Symptoms**

Sticky embryos (embryos may be smeared with egg contents)

#### Probable Cause

High average incubation humidity

Low incubation temperature

Lethal genes

Inadequate ventilation

Improper fumigation of eggs

#### **Corrective Measures**

Follow recommended incubation humidity. Check size of air cell as an indicator for adjusting humidity condition.

Follow recommended temperature settings.

Avoid cross breeding. May need to secure different breeding stock. Increase ventilation rate in hatcher and/or room, but avoid drafts. Fumigate eggs by following the procedure carefully.

#### <u>Symptoms</u>

Embryos sticking or adhering to shell

#### Probable Cause

Low incubation humidity (especially during hatching)

Excessive ventilation rate

#### **Corrective Measures**

Increase incubation humidity by increasing water evaporation. Embryos dried too much.

Reduce ventilation rate but maintain minimum air exchange to prevent suffocation of embryos.

t

#### Symptoms

#### Probable Cause

Crippled and malformed chicks

Improper incubation
temperatures (usually too high)

Low incubation humidity

Improper egg setting position or turning during incubation

Heredity

Slick hatching trays

Improper nutrition of breeders

# Symptoms

Abnormal, weak, or small chicks

#### Probable Cause

High incubation or hatching temperatures Small eggs hatch small chicks Insufficient incubation humidity Improper ventilation in hatcher unit Diseased or poorly

conditioned breeder flock

Improper nutrition of breeders

Excessive fumigation in

#### **Corrective Measures**

Follow recommended incubation temperatures.

Increase incubation humidity by increasing water evaporation. Embryos dried too much. Set eggs with small ends down. Turn eggs atleast 3 times daily. Do not turn eggs within 3 days of hatching. Proper culling and breeding practices will reduce problems. Use trays with wire floors or place crinoline on hatching surface. Provide a well-balanced nutritional diet to breeders.

#### **Corrective Measures**

Follow recommended incubation temperatures.

Set only standard or large sized eggs.

Maintain recommended humidity for species of bird incubated..

Increase ventilation rate, but avoid drafts.

Use eggs from disease-free sources only. Have NPIP representatives blood-test the breeder flock.

Provide a well-balanced nutritional diet to breeders (especially vitamin levels). Fumigate using proper procedures.

Follow recommended fumigation procedures.

Check disease status of breeder flock. Conduct a

thorough cleanup and disinfection of hatcher and

#### <u>Symptoms</u>

Probable Cause

Chicks with labored breathing

**Symptoms** 

navels

Rough or unhealed

Excessive use of fumigant

Respiratory diseases

Probable Cause

Improper incubation

High hatching humidity

Navel infection (Omphalitis)

temperatures

# **Corrective Measures**

hatching facilities.

Follow recommended incubation temperatures.

Maintain proper humidity.

**Corrective Measures** 

Clean and disinfect hatcher and hatching units between settings of eggs. Maintain dry hatching trays. Properly store and fumigate eggs.

# <u>Symptoms</u>

# <u>Probable Cause</u>

Short down on chicks High incubation temperatures Low incubation humidity

Excessive ventilation

# **Corrective Measures**

Follow recommended incubation temperatures.

Follow suggestions to correct insufficient humidity. Reduce vent openings to restrict but maintain

adequate air exchange.

after hatching

Holding chicks in hatcher toolong Remove all chicks as soon as fluffy but within 24 hours after hatching.

#### **Symptoms**

#### Probable Cause

Excessive yellow coloring of down

#### Improper and excessive fumigation in hatcher unit

#### **Corrective Measures**

Follow recommended fumigation procedures.

# Trouble Shooting Failures with Surehatch Egg Hatchers

In general there is very little that will go wrong with your Surehatch hatcher. In the unlikely event that something goes wrong, please contact us or consult the trouble shooting below. NB Always switch off the hatcher when making repairs. ONLY ELECTRICIANS SHOULD MAKE REPAIRS due to the dangers of electrical shock.

<u>Symptoms</u>	Probable Cause	<b>Corrective Measures</b>
Hatcher not running	Hatcher not plugged in or electricity not on. Auto off switch atdoor faulty	Make sure that all plugs are correctly plugged in and that the electricity is on. Check auto off switch on door
Fan is working but Hatcher not producing heat	Faulty Temperature Controller or faulty heating elements	Replace Temperature Controller. Once this is done and the problem persists, consider replacing the heating elements (Very unlikely to happen)
Hatcher does not regulate temperature	Faulty Temperature Controller or temperature sensor	Replace temperature controller or temperature sensor
Egg trays not turning	Egg Turner not switched on or eggs loaded incorrectly	Make sure egg turner is switched on. Load eggs in balance (Load equal number of eggs in front and back of the machine). If all eggs areloaded in front or back then the turner will not turn
Incorrect temperature	Someone adjusted temperature or faulty temperature controller	Adjust temperature and monitor. If not resolved consider replacing temperature controller and temperature probe
Humidity too high (Shows 99% Reading)	Faulty Humidity Sensor due to water spilled onto it	Dry out sensor with hair dryer (Blow on sensor for 3 min on cold setting of hair dryer). If reading does not go back to normal replace humidity sensor



# Thank you for your support!

We wish you all the best and look forward todoing business again.

Happy hatching!

The Surehatch Team

# Facebook:

Surehatch Egg Hatcher Owner's Club Website: <u>www.surehatch.com</u> E-mail: <u>sales@surehatch.com</u>

#### LIMITED WARRANTEE & LIMITED LIABILITY

Whereas Surehatch has no control over usage of equipment supplied, it assumes no responsibility for losses or damage from their equipment. No guarantee on hatchability of eggs.
 Do not expose electrical parts to water. Installation of replacement electrical parts should be done by gualified electrician.

#### STANDARD TERMS AND CONDITIONS APPLY

Contact us via email to receive your copy.