



◆ **Xiuying Huang**

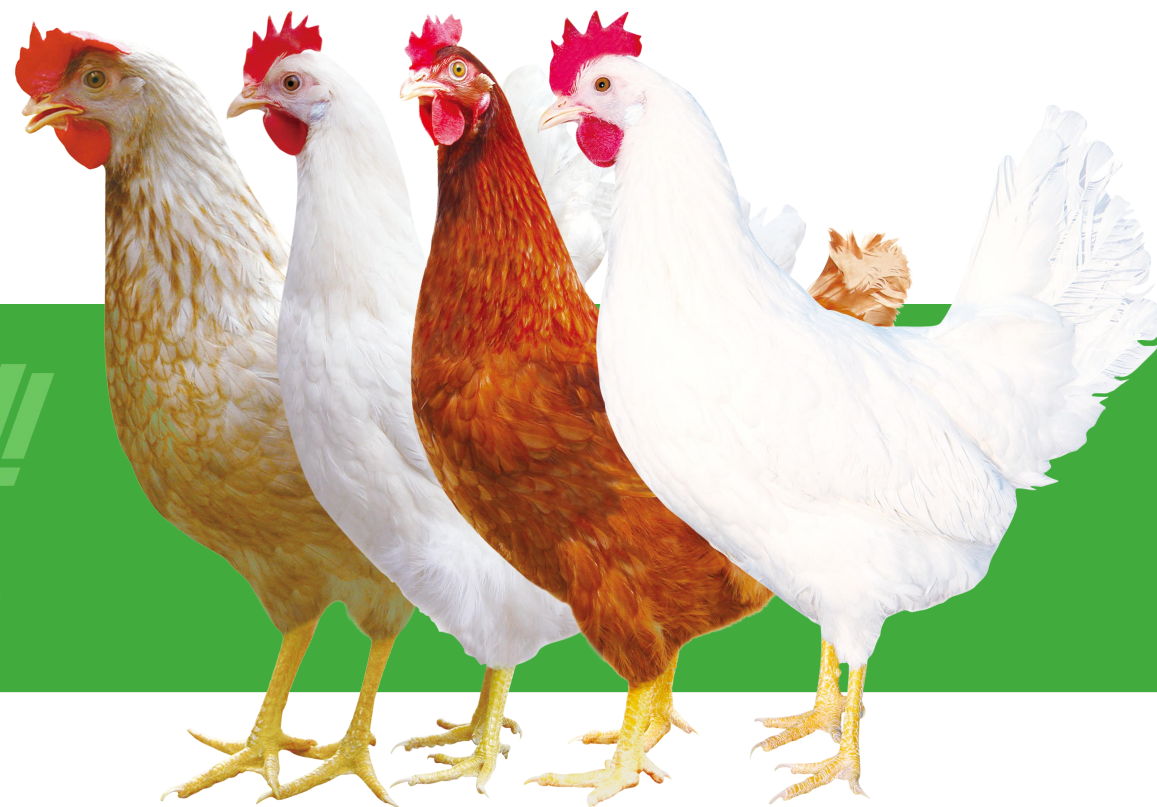
- ✓ **Ph.D. in Preventive Veterinary Medicine.**
- ✓ **Production Director of Breeding Company, responsible for production management, including breeder, hatching, feed and disease prevention and control.**
- ✓ **Secretary General of the Poultry Disease Branch of the Veterinary Association.**

How to perform poultry vaccination

Beijing huaduyukou poultry Co., Ltd

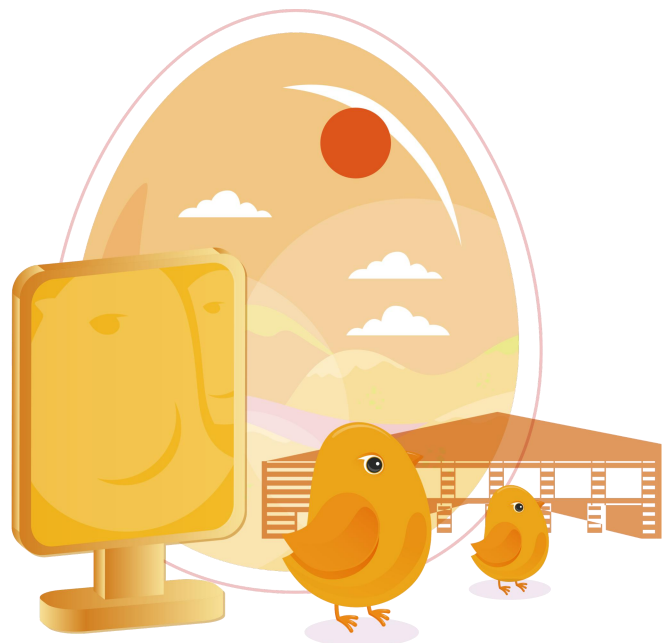
Production Director Xiuying Huang

Nov,2021



引领中国蛋鸡行业
—— 健康发展 ——

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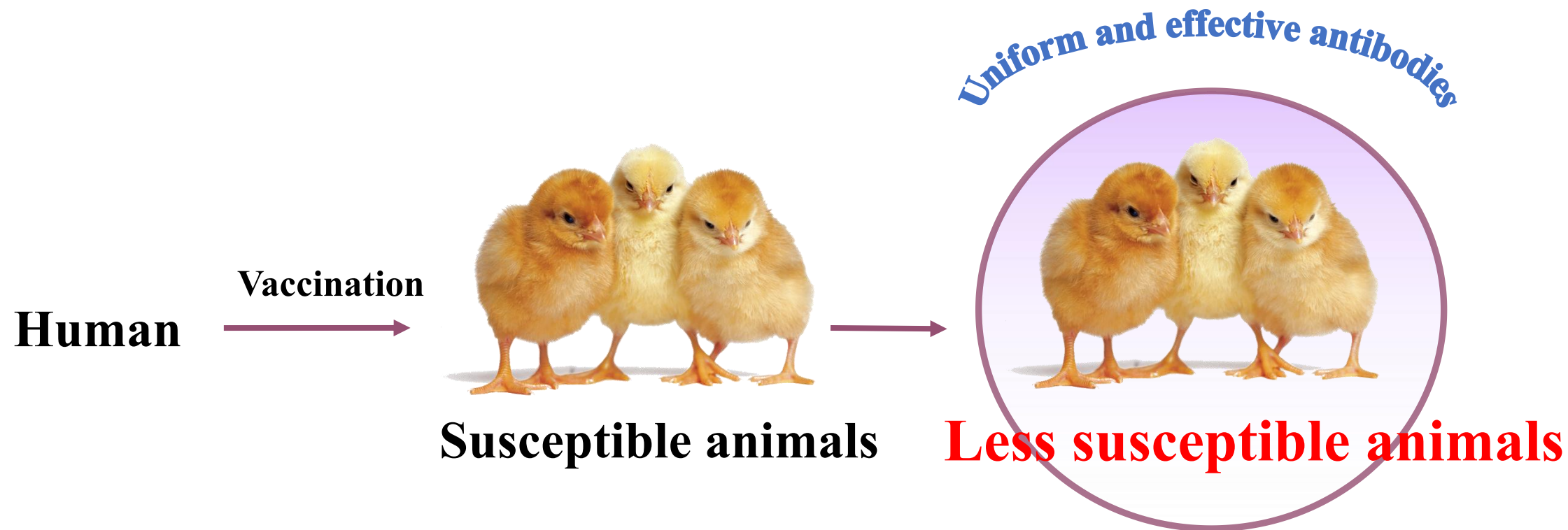
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01

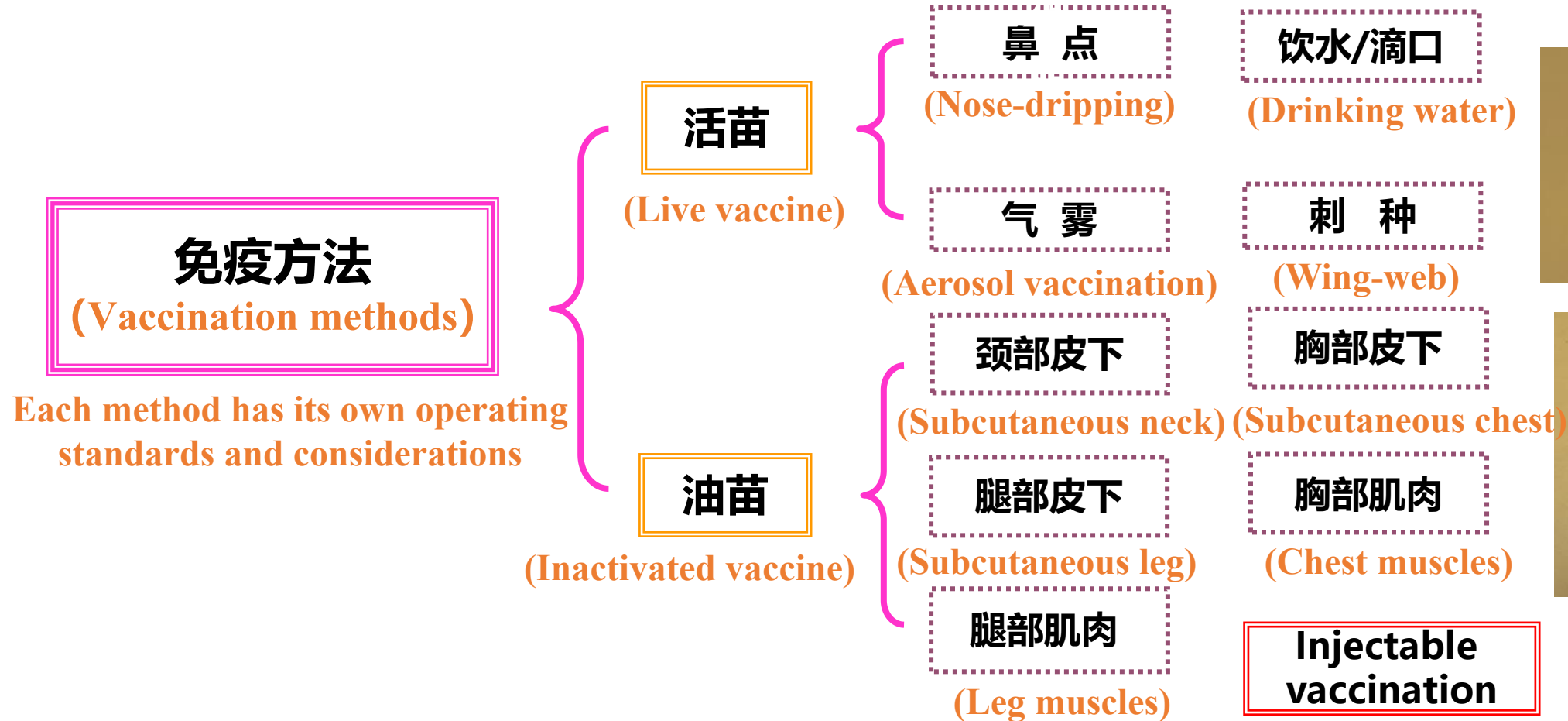
Main vaccination methods

The role of vaccination



Routes for vaccination

★ Vaccine types + Characteristics → Routes of vaccination



Training content



**Nose-dripping and
eye dripping**



Wing-web



Injection

Key points of vaccination

Inoculate effective vaccines into chickens

No environmental pollution

Key points

Before



During



After

Vaccine

Effective

Buy and store

Control stress

Harmless treatment

Chickens

Healthy

Disease free

Disease free

Reduce stress response

Person

Skilled

Meet the requirements

Serious and sober

Observe the effect

Equipment

Clean and accurate

Disinfected, cleaned
and calibrated

Work accurately

Disinfected, cleaned

02

Procedures and standards



Part one

Nose-dripping and eye-dripping vaccination

Nose-dripping and eye-dripping vaccination



Preparation

Procedures and standards

Notice

Preparation

Preparation of materials for inoculation



Drop bottle



Syringe



Measuring cup



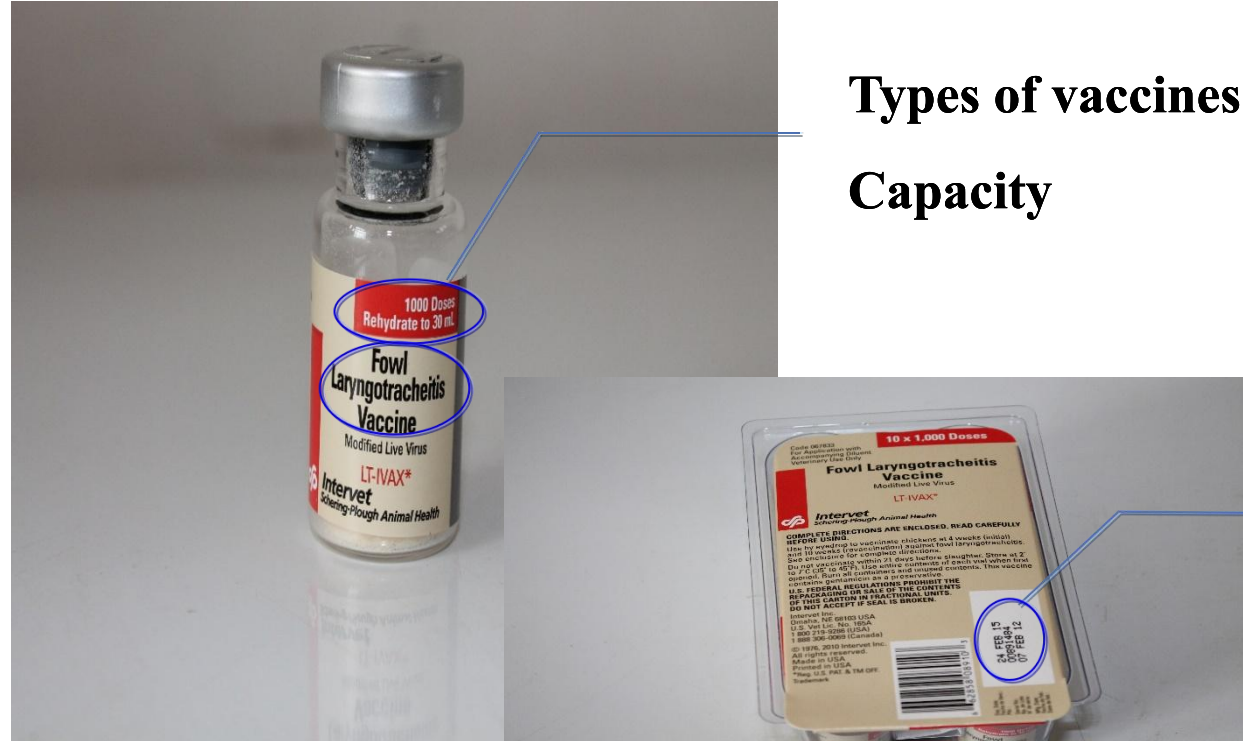
Diluent

Preparation of the vaccine

Vaccine checking

Types of vaccines

Capacity



Production batch number

Shelf-life (expire date)

Storage conditions

Preparation of the diluent



Diluent bottle checking

Production batch number

Capacity

Expire date

Store conditions



The vaccine should be stored at 2-8°C. If the temperature exceeds the specified range, it needs to add the ice in time to avoid reduction of the potency due to high temperature.

Case



No ice cubes after taking out of fridge

Infecting avian infectious bronchitis

Calculate the dose of the vaccine

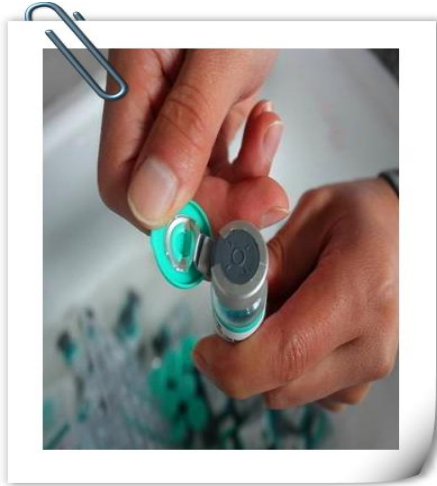
$$\text{Vaccine dosage} = \frac{\text{Number of chickens} \times \text{Inoculation dose per chicken}}{\text{1 bottle of vaccine total feathers}}$$

For example: 10,000 chickens, vaccine is 250ml per bottle, 0.5ml per chicken

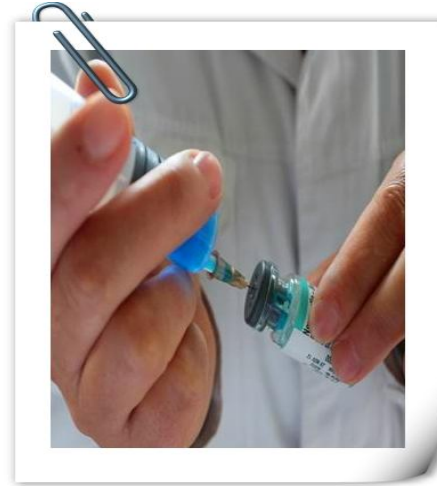
The calculated amount is: $10000 \times 0.5 / 250 = 20$ bottles

Procedures and standards

Formulating vaccine



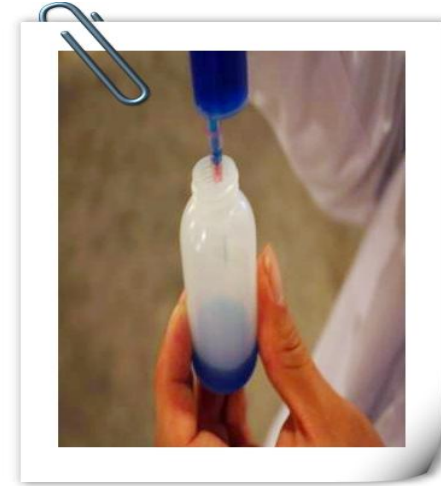
Open vaccine



Dilute vaccine



Mixing



Packing

Dilution: Pour a small amount of diluent into the vial, shake the vaccine gently. After the vaccine is completely dissolved, the vaccine particles are not visible under the light, pour it back into the diluent bottle, rinse the vaccine bottle 3 times with diluent, ensure that there is no residue in the vaccine bottle.

Packing vaccines



**Dispense the diluted vaccine into each dropper bottle.
Packing capacity based on 30 minutes vaccination per person.
Don't pack too much. Avoid reducing vaccine potency over time.**

Operating

Catch chicken : Gently, steady, fast



Operating

1、 Empty dropping bottle to avoid repeated reversals.

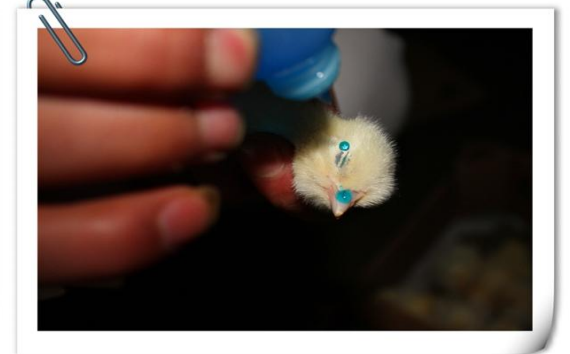
2、 Fix the head of the chicken horizontally and drop the mouth of the bottle 0.5-1cm from the eye of the chicken. Drop the vaccine solution vertically.



3. Close the chicken's mouth, cover one side of the nostril, and drop the vaccine into the other side of the nostril. If the chicken 's nostril is blocked, the other side can be replaced.

4. Fix the left eye or right eye during vaccination, If the eyes became red or tearing , replace another eye.

Don't in operation



Do not tilt

Close-distance

Far-distance

**Incomplete Absorption
Vaccine dumped**

These errors can lead to wasted vaccine, cross-infection, inaccurate vaccination metering, etc.

Resulting in vaccination failure.

Checking cage door



If change cage position, check whether the cage door is closed

Catching the hens outside the cage



Check if any chickens come out, between aisle? Manure trench?
Catch them, and vaccination again, then put back into the cage.

Notice

Notes

- ◆ A henhouse is vaccinated one day.
- ◆ The henhouse cannot be disinfected 48 hours before and after living vaccine immunization.
- ◆ Chicken house disinfection, drinking water tube disinfection, external environment disinfection.





Part two

Wing-web vaccination

Main content



Preparation

Procedures and standards

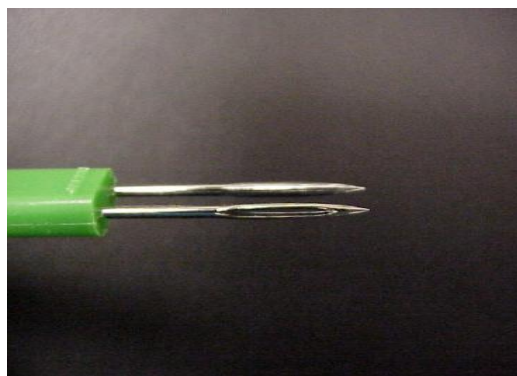
Notice

Preparation

Equipment preparation



Vaccine



**Vaccination needle
or
Vaccination gun**



Foam board



Pot for sterilization

The foam board is used to calibrate the dose of the needle. You can continuously pierce the foam board 190 times vertically and see if the dosage is 0.5ml. It is generally considered that one drop is 0.0025ml.

Taking vaccine



Check if the vaccine name, manufacturer, batch number, expiration date and packaging are intact;

Check the quality of the vaccine and store the vaccine in the specified temperature range.

Procedures and standards

Formulating vaccine



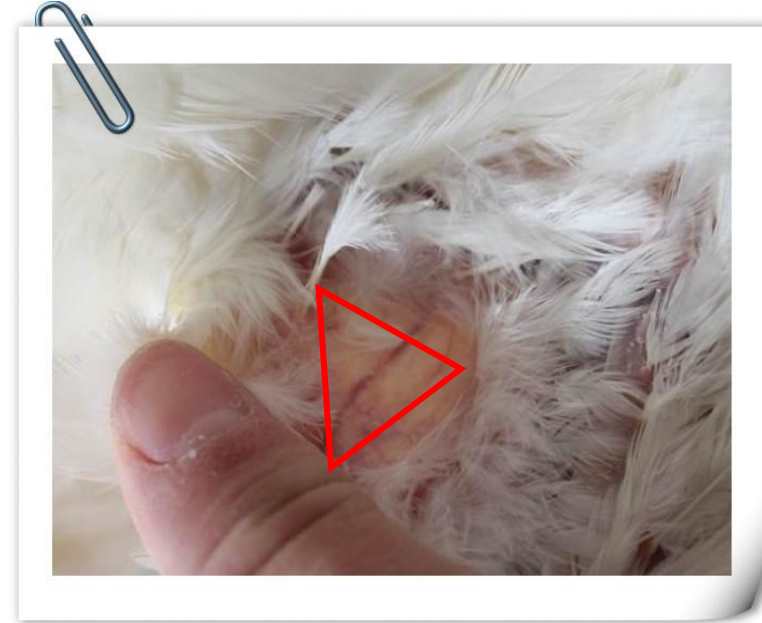
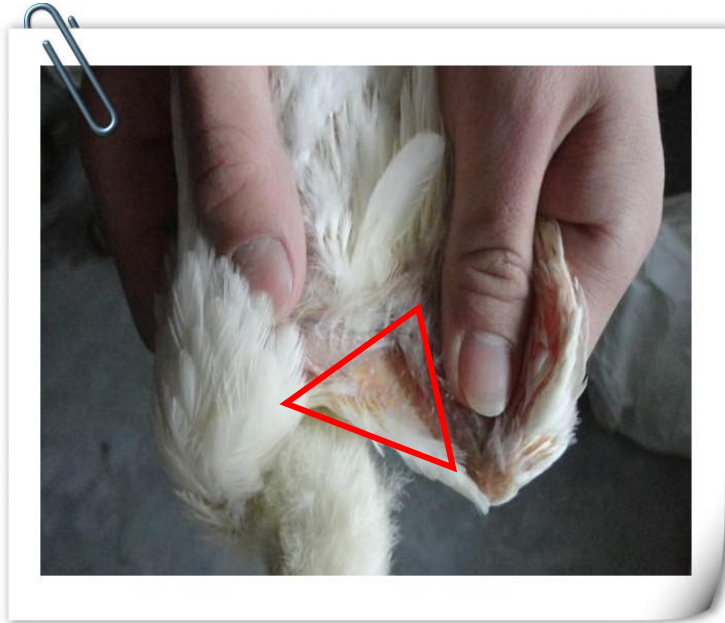
Dilution: Shake the vaccine gently, after the vaccine is completely dissolved, the vaccine particles are not visible under the light, pour it back into the diluent bottle, rinse the vaccine bottle 3 times with diluent, ensure that there is no residue in the vaccine bottle.

Formulating and packing vaccine



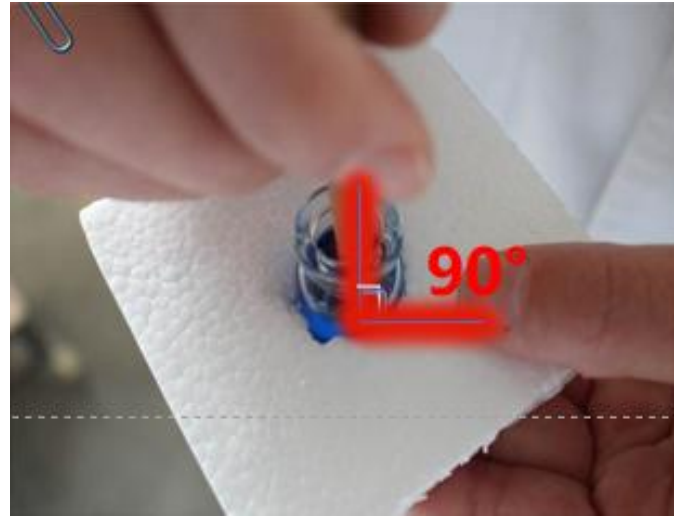
Use a syringe to distribute the diluted vaccine to the vaccinators, 0.5ml per person per time is appropriate, ensure that the vaccination is completed within 30 minutes.

Fix the hen and clean the fluff



The hen was fixed lightly and steadily by the catcher, and the feathers of the hen wing triangle were plucked away with the thumb and placed horizontally.

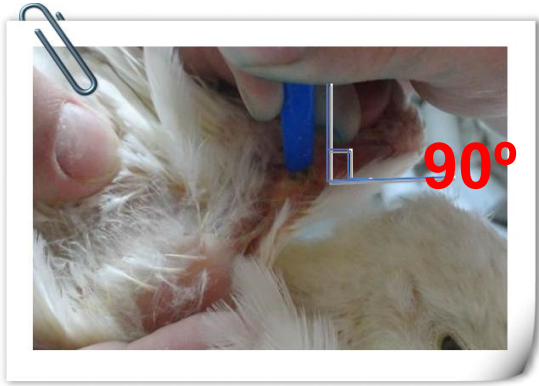
Dip vaccine



When the vaccine is dipped, the vaccine liquid surface is completely immersed in the needle slot of the needle.

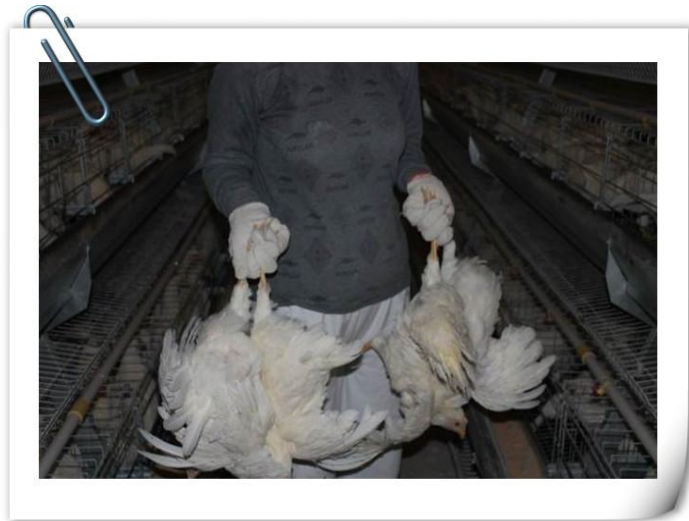
Prick needle vertical in and out, to avoid contact with the bottle wall needle slot.

Wing-web vaccination



- ◆ The needle vertically puncture the inner wings of the hen.
- ◆ Moderate strength and speed.
- ◆ In the inoculation operation, insert the needle groove vertically, and pull out obliquely.
- ◆ Avoid stabbing blood vessels and muscles.

Catching the hens



Catch the hens outside the cage.

Notice

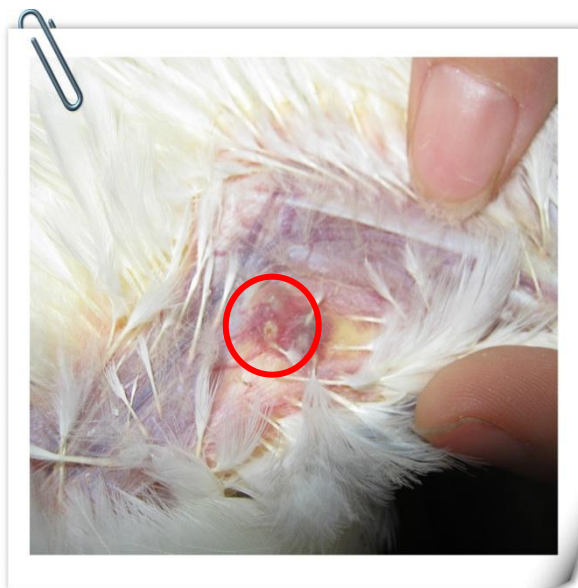
Notice

- ◆ The spines Pierce the wings.
- ◆ A henhouse is inoculated one day.
- ◆ When stabbing , make sure that there are no feathers in the stabbing part.
- ◆ The vial containing the diluted vaccine should not be directly touched by hand.
- ◆ The henhouse cannot be disinfected 48 hours before and after living vaccine immunization.

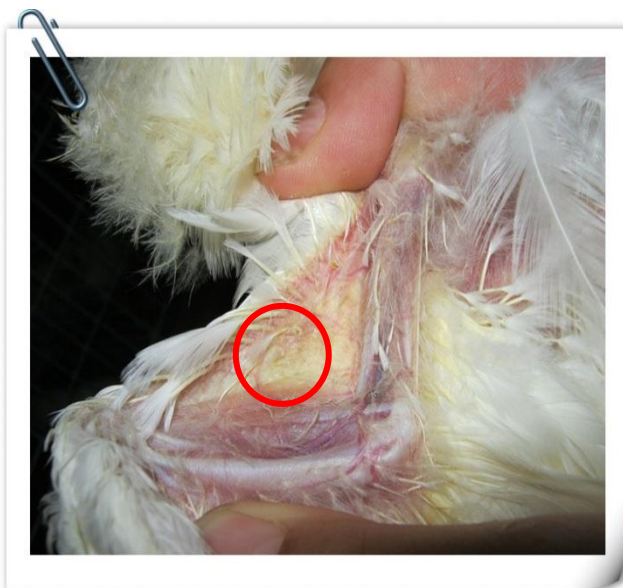


Case analysis

For example: In the process of vaccination, since the vaccinators inoculated with a needle that not dipped into the vaccine, there were puncture holes in the puncture site, but the dose was insufficient, resulting in fowl pox.



Successful puncturing



Failed puncturing



Consequences



Part three

Vaccination by Injection

Main content



Preparation

Procedures and standards

Notice

Preparation

Equipment preparation

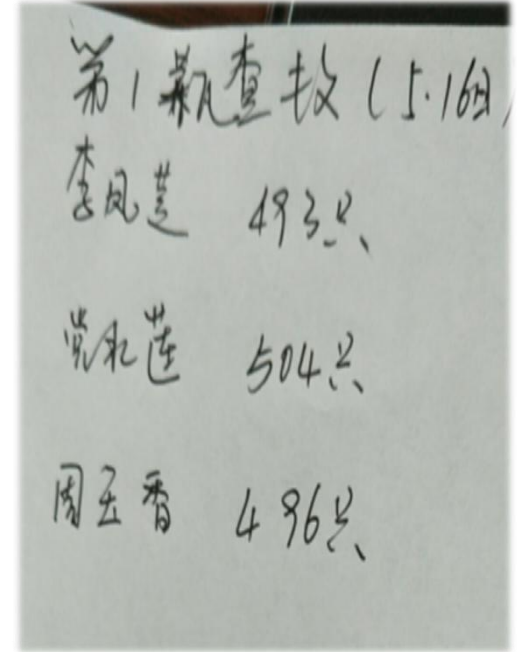


The needles and syringes to be used 1 day before vaccination shall be soaked in 75% alcohol, cover the container well to prevent alcohol from evaporating.

After disinfection, replaces the alcohol in the the syringe with boiled water or distilled water.

Then disassemble the syringe and rinse it with boiling or distilled water before assembling and injecting distilled water.

Dosage based calibration



- Inject the vaccine 10 times consecutively into the volumetric vial to see if it is 5ml.
- Adjust with water first, and calibrate with inactivated vaccine.
- Check the number of chickens after the first bottle of vaccine.

Taking vaccine



Vaccine checking

Types of vaccines

Capacity

Taking vaccine



Cold-chain storage and transfer

Vaccine pre-warming



Before inoculation, the vaccine was preheated in warm water at 36-38° .

Checking and mixing



Checking the uniformity: Put the vaccine under the light or sunlight to see if there is delamination.

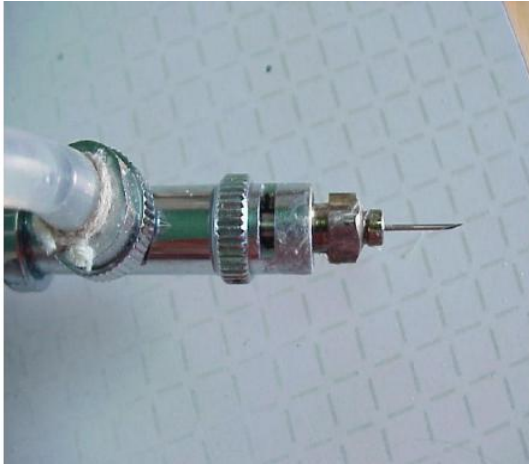
Mix the vaccine: Shake the vaccine up and down for 1 minute before using the vaccine, not too fast or too violently.

Dose adjustment, dressing needle



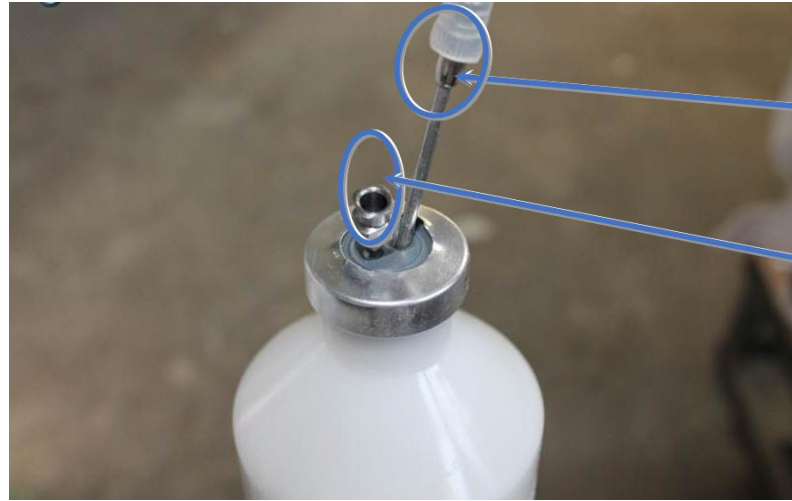
According to the age of the flock, install the required injection needle and use the pliers to rotate one circle to fix it.

Install syringe needle



Adjust the direction of the bevel of the needle according to the vaccinator's habit of using the syringe, and pay attention to the needle with burrs not to use.

Insert the needle

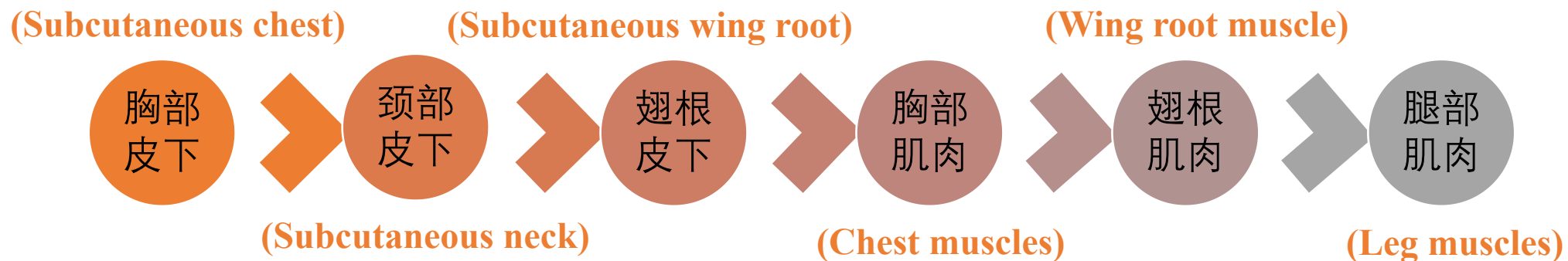


Needle for inserting a bottle

Needle for deflating air

Insert the bottle insertion needle and the deflation needle into the bottle cap respectively, pull the wrench, start the vaccination after the liquid medicine is injected.

Classification of injection immunization



抗体上升与维持、鸡群应激
(The rise and maintenance of antibody、hens stress)

Procedures and standards

Neck subcutaneous injection



The posterior epidermis of the neck is lifted to generate an air cavity between the skin and the cervical epidermis.

The injection needle is inserted into the air cavity.

The needle should be directed towards the poultry body, and the injection site should be 1/3 below the central line of the neck.

Neck subcutaneous injection



Correct

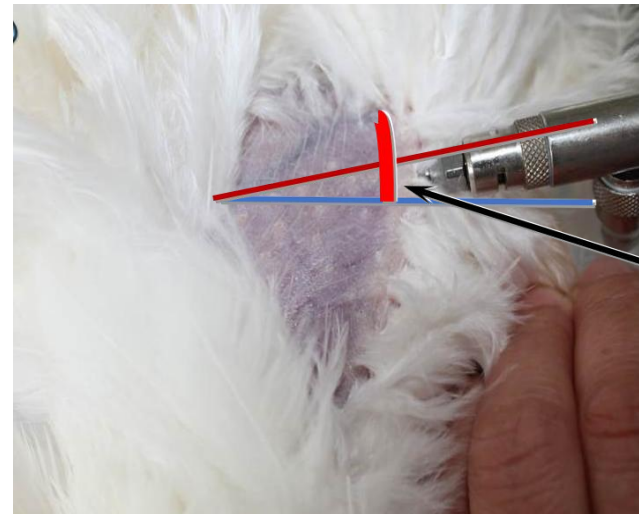


Wrong



Consequences

Chest subcutaneous injection



15-30°

When subcutaneous injection of chest is carried out, one hand grabbed the wings and the other hand grabbed the legs. The chest is up and grabbed parallelly. The injector pulled the chest feather away, and the needle is 15 – 30° to inject the vaccine. At the same time, the injection site is pressed with the thumb to spread the vaccine and prevent leakage.

Notice

Notice

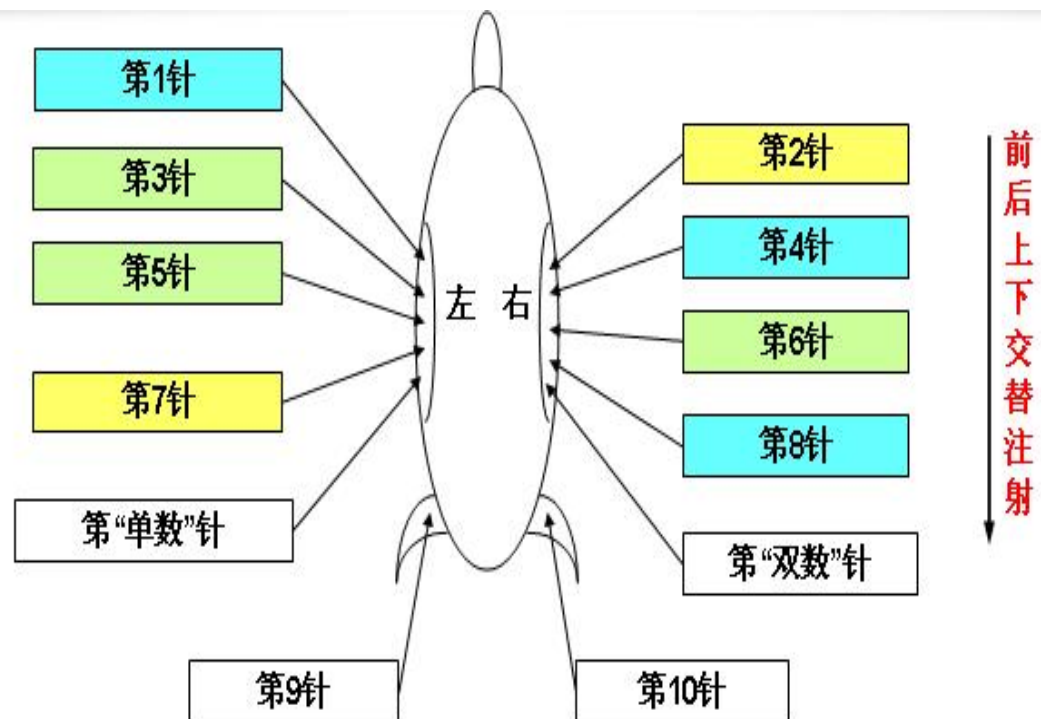
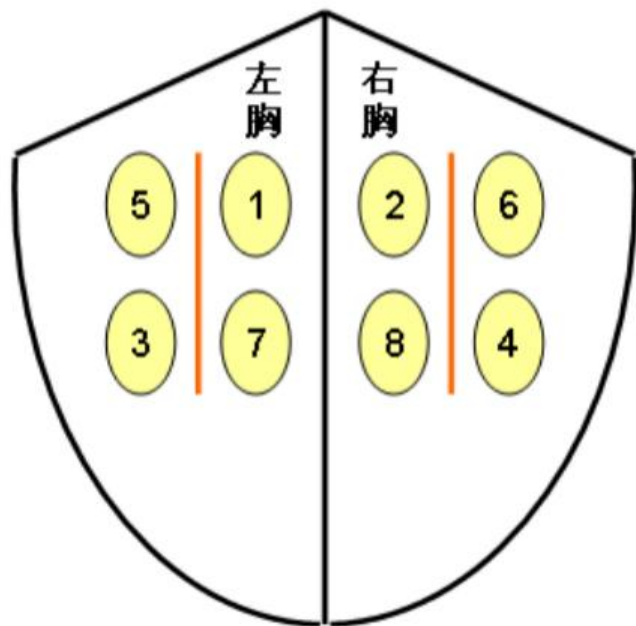
- ◆ **Vaccines should be kept away from light.**
- ◆ **Pre-warming:** It must be pre-warmed to room temperature before use, and in winter, it must be pre-warmed to close to the body temperature of the chicken (37-40°C) before injection.
- ◆ **Shake thoroughly:** Shake every 15 minutes during injection to prevent vaccine precipitation and uneven antigen.
- ◆ **Calibration of syringe:** Correction before vaccination, calibration is performed once for every 500 pigeons inoculated during vaccination.
- ◆ **Replace the needle:** Needle replacement every 500 birds.
- ◆ **Change chicken position:** Avoid missed vaccination.

Case

Irregular operations: Needle horizontally inserted into chest and vaccine injected into the epidermis lead to vaccines leakage or vaccine kits in the chest of hen.



Legend of inoculation site



So each inoculation should be fixed and inoculated in different areas.

Alternate vaccination site before and after, up and down, and left and right.

03

Vaccination record and efficacy checking

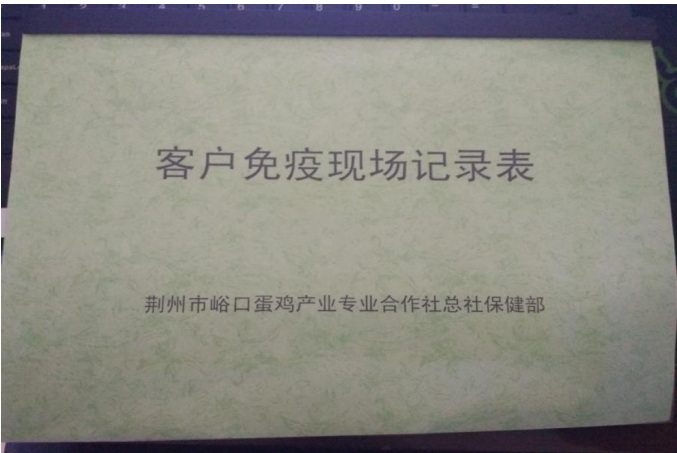
Fill in vaccination record

Vaccination information:

Chicken house number, date, number of chickens, age of _x0008_vaccination, vaccine name, manufacturer, batch number, expiry date, Vaccination method and dose.

Personnel information:

Signature of vaccination Team Leader, Client and Major Vaccination Personnel.



Check the effect

Checking methods for nose drops and eye drops



Check during inoculation

1. Close eyes, blink, eyes without vaccine
2. Swallowing movement in the mouth

Check after inoculation

Oral staining with diluent

Check the effect

Checking methods for Wing-web vaccination



Check during inoculation

The inoculated chickens have the blue liquid medicine



Check after inoculation

5 to 7 days after inoculation, the site of the prickle was scab like, indicating that the inoculation was successful

Check the effect

Checking methods for injection vaccination



Check during inoculation

1. Depth of injection
2. Immune site
3. Vaccine spillover
4. Needle replacement per 500 hens
5. Standard operation



Check after inoculation

1. Vaccine leakage
2. Broken leg /broken wing
3. Hemorrhage in injection site
4. Missed vaccination

04

Inoculation equipment maintenance

Cleaning



After vaccination, the equipment needs to be cleaned, usually with 100 °C water or sterile normal saline or boiling water with detergent added for several times.

Regular inspection



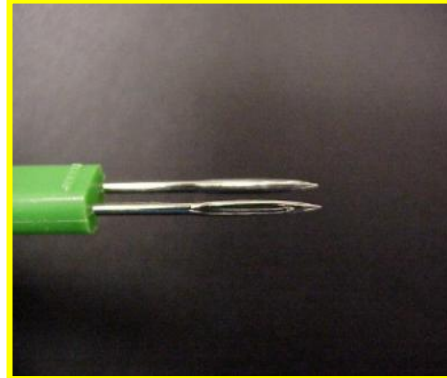
Check the equipment, such as aprons, springs, hoses, etc., and replace them in time if they are found to be damaged.

Dose calibration



The equipment must be calibrated before use to ensure that the dose is accurate during vaccination.

Disinfection/Boil disinfection



Boil at high temperature for disinfection.

Suitable for some equipment that can not carry out too high temperature.

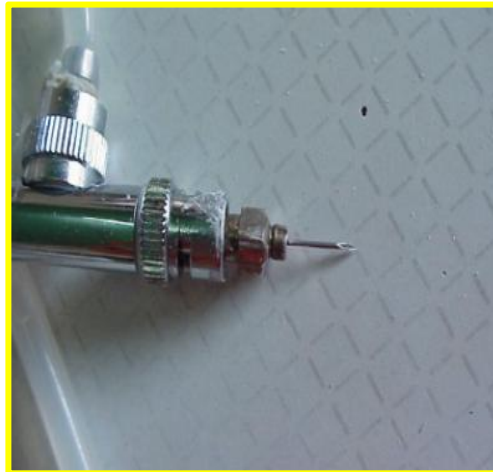
Disinfection/Alcohol disinfection



Alcohol disinfection

It can soak and wipe the surface of equipment to achieve the purpose of disinfection

Disinfection/High pressure sterilization



High pressure sterilization

Mainly used for high temperature resistant instruments.

Save



Equipment should be stored in clean packaging

05

Waste treatment

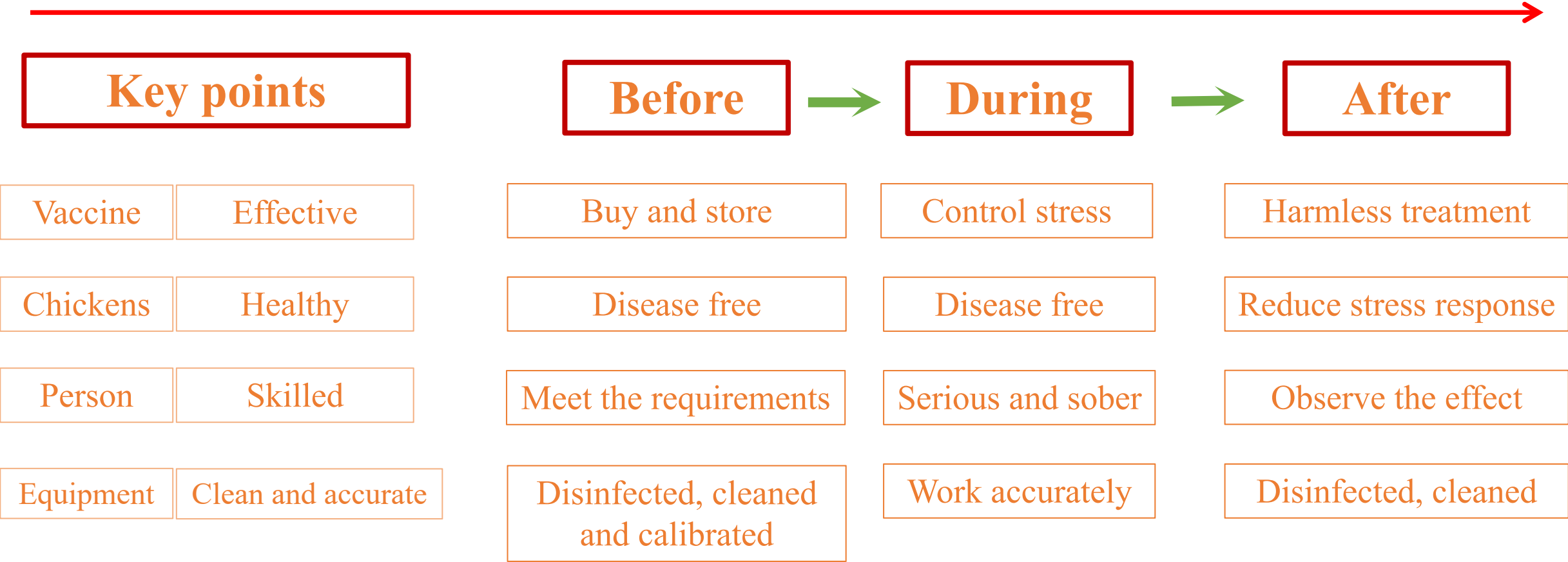
Waste disposal



Avoid diluents and vaccine bottles left in the henhouse, high temperature or disinfectant disinfection after all packed into bags, waiting for the relevant departments for recycling.

Summary

Inoculate effective vaccines into chickens No environmental pollution



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感谢聆听！