Livestock Farming

Handout 16

Poultry Product Guide and Treatment MSD

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THE SCIENCE OF HEALTHIER ANIMALS






POULTRY
PRODUCT GUIDE

MSD
Animal Health

MSD Animal Health, is one of the world's leading animal health companies. The company is dedicated to the research and development, production and marketing of innovative, high quality animal health products.

The company's product range includes vaccines, anti-parasitics, anti-infectives, endocrine products for regulation and improvement of breeding performance and productivity enhancers for ruminants, companion animals, pigs and poultry.

MSD Animal Health has always been a research driven company and is proud to have the only South African company-owned research unit in South Africa. This fully accredited Research Unit, based in Malalane, is responsible for both local and international research and product development.

The Malalane Research Unit is situated in the beautiful Kaalrug Valley of the Mpumalanga Lowveld, 26 km from the southern border of the famous Kruger National Park. The main activities taking place at the research unit are the development and testing of new ecto- and endoparasitic drugs. The pastures are naturally infested with ticks and the resident cattle herd is the ideal model for testing the activity and safety of these drugs. Ticks are also tested for resistance to the various ectoparasiticides and farmers are advised on which compounds to use.

A tick management system has been developed to provide advice to farmers. Our research unit provides a rapid and free dip wash analysis service to South African farmers. Users of **MSD Animal Health**'s compounds are advised whether their dips are at the correct strength and, if not, what adjustments should be made. The unit is also at the forefront when it comes to the testing of worms for resistance against endoparasiticides. Faecal egg count reduction tests are done to advise farmers which endoparasitic drugs to use. Information days are held to inform farmers and other interested groups on the latest developments in disease control.

Our sales team is strongly supported by our Marketing Department and highly qualified veterinarians. They provide expertise in their respective fields, such as beef, dairy, small livestock, companion animals, pigs and poultry.

MSD Animal Health's goal is to be entirely service focused and provide South African farmers with optimal solutions to all their animal health needs.

THE SCIENCE OF HEALTHIER ANIMALS

MSD Animal Health, is 'n internasionale leier in dieregesondheid. Die maatskappy fokus op navorsing, ontwikkeling en die bemarking van innoverende en hoë kwaliteit dieregesondheidsprodukte.

Die produkreeks bestaan uit entstowwe, antiparasitiese, antimikrobiese en hormonale middels vir estrus sinkronisering en die bevordering van teelprestasie sowel as groeibevorderaars vir herkouers, geselskapsdiere, varke en pluimvee.

MSD Animal Health was nog altyd 'n navorsingsgedrewe maatskappy en is die trotse eienaar van die enigste Suid-Afrikaanse maatskappy met 'n eie navorsingseenheid. Die navorsingseenheid te Malalane is ten volle geakkrediteer en is verantwoordelik vir beide plaaslike asook internasionale navorsing en produkontwikkeling.

Die Malalane Navorsingseenheid is in die skilderagtige Kaalrugvallei van die Mpumalanga Laeveld geleë – 26 km vanaf die suidelike grens van die Nasionale Kruger Wildtuin. Die primêre aktiwiteite by die navorsingseenheid is die ontwikkeling en evaluering van nuwe inwendige- en uitwendige parasietmiddels. Die weidings is natuurlik met bosluise besmet en die plaaslike beeskudde is die ideale model om die effektiwiteit en veiligheid van die middels te toets. Bosluise word ook vir weerstand teen die verskillende uitwendige parasietmiddels getoets en boere word geadviseer oor watter middels om te gebruik.

'n Bosluisbestuurstelsel is ontwikkel om boere van raad te bedien. Ons navorsingseenheid waar dipmonsters ontleed word, verskaf 'n vinnige en gratis diens aan Suid-Afrikaanse boere. Verbruikers van **MSD Animal Health** se middels word oor die sterkte van die dippe wat gebruik word geadviseer en indien nodig, watter aanpassings gemaak moet word. Hierdie eenheid is in die voorste linie wanneer dit by die toetsing van wurms vir weerstand teen inwendige parasietmiddels kom. Miseiertellings word gedoen om boere te adviseer oor watter inwendige parasietmiddels gebruik kan word. Inligtingsdae word gereeld gehou om boere en ander belangegroepe oor die nuutste ontwikkelinge in siektebeheer in te lig.

Ons verkoopspan word deur die Bemarkingsafdeling en hoogs gekwalifiseerde veeartse bygestaan. Hierdie individue voorsien kundigheid in hul onderskeie velde vir herkouers, melkerye, kleinvee, geselskapsdiere, varke en pluimvee.

MSD Animal Health se doelwit is om diensgedrewe te wees en om Suid-Afrikaanse boere van optimale oplossings vir al hul dieregesondheidsbehoeftes te voorsien.

MSD
Animal Health

CONTENTS

LIVE VACCINES

CONTENTS

CONTENTS

OTHER

12 VACCINATION TECHNIQUES

01

NEWCASTLE DISEASE

LIVE VACCINES

NOBILIS® ND C2

REG NO G2872 (Act 36/1947)

NAMIBIA REG NO V05/24.3/455

ZIMBABWE REG NO 2012/80.23.17/9680

INDICATIONS

NOBILIS® ND C2, a live freeze-dried vaccine, is indicated for the primary vaccination of fowls at one day of age against Newcastle Disease (NCD).

COMPOSITION

Each dose of vaccine contains at least 6,0 $\log_{10}$ EID_{50} of live, attenuated Newcastle Disease Virus (NDV) strain C2. The virus is propagated in specific pathogen free eggs.

WARNINGS

- DO NOT VACCINATE WITHIN 21 DAYS OF SLAUGHTER.
- Immunisation with this vaccine alone will not provide sufficient protection against virulent Newcastle Disease. The vaccine should be used as a primary vaccination in day-old chicks to reduce the severity of reactions experienced when more virulent Newcastle Disease vaccine strains are subsequently used.
- It is advisable to vaccinate all susceptible fowls on the farm at the same time. If this is not feasible, strict separation of vaccinated and unvaccinated fowls should be done, to prevent the spread of the vaccine virus to the unvaccinated fowls.
- Do not freeze.

DOSAGE AND DIRECTIONS FOR USE

Use only as directed in package insert.

ADMINISTRATION

The vaccine may be administered by spray or eyedrop application.

VACCINATION PROGRAMME

The vaccine is safe for use as a primary vaccination from 1 day of age onwards.

The optimum time and method of the first administration and revaccination with a secondary vaccine depends largely upon the local situation. Therefore, the advice of a veterinary surgeon should be sought.

IMMUNITY

Duration and intensity of the immune reaction and the establishment of a solid immunity are dependent on the possible presence of maternal antibodies and in general on the health and condition of the fowls. Hygiene and management are also important in the post vaccination period.

PRESENTATION

Vials containing 1000, 2500, or 10 000 doses.

NOBILIS® ND CLONE 30

REG NO G2466 (Act 36/1947)

NAMIBIA REG NO V98/24.3/672

ZIMBABWE REG NO 94/80.23.10/9363

INDICATIONS

NOBILIS® ND CLONE 30, a live freeze-dried vaccine, is indicated for the immunisation of fowls against Newcastle Disease (NCD).

COMPOSITION

Each dose of vaccine contains at least 6,0 $\log_{10}$ EID_{50} of the Newcastle Disease vaccine virus strain Clone 30. The vaccine pellet contains stabilizers and gentamycin.

WARNINGS

- DO NOT VACCINATE WITHIN 21 DAYS OF SLAUGHTER.
- Do not administer the vaccine simultaneously with or within 7 days after the vaccination with any other live vaccine.
- It is advisable to vaccinate all the susceptible fowls on the farm at the same time. If this is not feasible, strict separation of vaccinated and unvaccinated fowls should be done to prevent the spread of the vaccine virus to the unvaccinated fowls.
- Do not freeze.

DOSAGE AND DIRECTIONS FOR USE

Use only as directed in package insert.

ADMINISTRATION

The vaccine may be administered by coarse spray or eye drop instillation. (For eye drop instillation the Oculo-Nasal Diluent may be used).

PRESENTATION

Vials containing either 1000, 2500 or 5000 doses.

NOBILIS® ND LASOTA

REG NO G1629 (Act 36/1947)

NAMIBIA REG NO V97/24.3/870

ZIMBABWE REG NO 94/80.23.10/9361

INDICATIONS

NOBILIS® ND LASOTA, a live freeze-dried vaccine, is indicated for the immunisation of fowls against Newcastle Disease (NCD).

COMPOSITION

Each dose of vaccine contains at least 6,0 $\log_{10}$ EID_{50} of live Newcastle Disease virus strain Lasota.The vaccine is propagated on embryonated fowl eggs and (the pellet) contains stabilisers and gentamycin sulphate.

WARNINGS

- DO NOT VACCINATE WITHIN 21 DAYS OF SLAUGHTER.
- It is advisable to vaccinate all susceptible fowls on the farm at the same time. If this is not feasible, strict separation of vaccinated and unvaccinated fowls should be done, to prevent the spread of the vaccine virus to the unvaccinated fowls.
- Do not freeze.

DOSAGE AND DIRECTIONS FOR USE

Use only as directed in package insert.

ADMINISTRATION

The vaccine may be administered by spray, drinking water application or intranasal/ intraocular application.

Calculation of dosage rate for simple drinking troughs and fountains:

Number of Fowls	Age	Quantity of Water
1000	14 days	14 litres maximum
1000	21 days	21 litres maximum
1000	30 days	30 litres maximum
1000	40 days and over	40 litres maximum

PRESENTATION

Vials containing 1 000, 2 500 or 5 000 doses.

NOTES

NOTES

NOTES

02

INFECTIOUS BRONCHITIS DISEASE

LIVE VACCINES

NOBILIS® IB H120

REG NO G1626 (Act 36/1947)

NAMIBIA REG NO V97/24.3/867

ZIMBABWE REG NO 94/80.23.10/9369

INDICATIONS

NOBILIS® IB H120, a live freeze-dried vaccine, is indicated for use as a primary vaccination of fowls against Infectious Bronchitis (IB), normal and emergency vaccination of broilers, future layers, breeding stock and emergency vaccination of laying fowls.

COMPOSITION

Each dose of vaccine contains at least 3,0 $\log_{10}$ EID_{50} of live Infectious Bronchitis virus strain H120 type Massachusetts grown on embryonated eggs. The freeze-dried vaccine pellet contains stabilizers and gentamycin.

WARNINGS

- Do not freeze.
- It is advisable to vaccinate all the susceptible fowls on the farm at the same time. If this is not feasible, strict separation of vaccinated and unvaccinated fowls should be done to prevent the spread of the vaccine virus to the unvaccinated fowls.

DOSAGE AND DIRECTIONS FOR USE

Use only as directed in package insert.

VACCINATION PROGRAMME

The vaccine is safe for use from 1 day of age onwards.

The optimum time and method of the first administration and revaccination depends largely upon the local situation. Therefore, the advice of a veterinary surgeon should be sought.

PRESENTATION

Vials containing 1 000, 2 500 or 5 000 doses.

NOBILIS® IB MA5

REG NO G2300 (Act 36/1947)

NAMIBIA REG NO V97/24.3/822

INDICATIONS

NOBILIS® IB MA5, a live attenuated vaccine is indicated for immunisation against Infectious Bronchitis (IB) (Massachusetts type) in fowls, via eyedrop or spray administration.

COMPOSITION

Each dose of vaccine contains at least 3,5 $\log_{10}$ EID_{50} Infectious Bronchitis virus strain MA5 (serotype Massachusetts). The vaccine pellet contains stabilizers and gentamycin.

WARNINGS

- DO NOT VACCINATE WITHIN 21 DAYS OF SLAUGHTER.
- Do not freeze.
- It is advisable to vaccinate all the susceptible fowls on the farm at the same time. If this is not feasible, strict separation of vaccinated and unvaccinated fowls should be done to prevent the spread of the vaccine virus to the unvaccinated fowls.
- The vaccine is safe for use from day 1 of age onwards. After the first vaccination an adequate immunity against Massachusetts type IB will last approximately 6 weeks, provided the vaccine is properly administered.
- Emergency vaccination during the laying period may be accompanied by a transient drop in egg production.

DOSAGE AND DIRECTIONS FOR USE

Use only as directed in package insert.

VACCINATION PROGRAMME

The optimum time and method of administration depends largely upon local situation. The advice of a veterinary surgeon should be sought. The vaccine is safe to use from 1 day of age onwards.

Guidelines

Broilers: Vaccination at day old by coarse spray or eye drop route.

Layers and Breeders: Vaccination at day old by coarse spray or eye drop route.

Revaccination: At approximately 6 weeks of age by coarse spray or the eye drop methods.

PRESENTATION

Vials containing 1 000 or 2 500 doses.

NOBILIS® IB 4-91

REG NO G4031 (Act 36/1947)

INDICATIONS

NOBILIS® IB 4-91, a live attenuated, freeze-dried vaccine, is indicated for immunisation against Infectious Bronchitis Virus serotype 4-91 or serologically related types for administration to healthy 1-day-old chicks and older chickens.

COMPOSITION

Each dose contains at least 3,6 $\log_{10}$ EID_{50} Infectious Bronchitis Virus strain 4-91 in stabilizer.

WARNINGS

- DO NOT VACCINATE WITHIN 21 DAYS OF SLAUGHTER.
- The vaccine virus can be spread to non-vaccinated birds. Infection of non-vaccinated chickens with vaccine virus released from vaccinated birds does not induce disease in the contact animals. Thus, virus spread to non-vaccinated chickens can be considered safe.
- **NOBILIS® IB 4-91** is intended to protect chickens against IBV serotype 4-91 and related types only. Chickens should be vaccinated against other prevalent IBV serotypes according to the local IB vaccination program.
- **NOBILIS® IB 4-91** given at day-old may adversely affect the efficacy of Turkey Rhinotracheitis (TRT) vaccine when given within 7 days; thus, TRT should not be used within 14 days of **NOBILIS® IB 4-91**.
- Do not freeze.

DOSAGE AND DIRECTIONS FOR USE

Use only as directed in package insert.

Reconstituted vaccine should be used within 2 hours after reconstitution.

VACCINATION PROGRAM

The vaccine can be administered to 1-day-old chicks and older chickens by coarse spray or by intranasal / ocular route of administration. The vaccine can be administered to 7-day and older chicks by drinking water. For prolonged immunity chickens should be revaccinated 6 weeks after the initial administration.

Vaccination with **NOBILIS® IB 4-91** may induce a mild respiratory reaction for a few days and is dependent on the health and condition of the birds.

PRESENTATION

Vials containing 1 000, 2 500 or 5 000 doses.

NOTES

NOTES

NOTES

03

NEWCASTLE (ND) AND INFECTIOUS BRONCHITIS (IB) COMBINATIONS

LIVE VACCINES

NOBILIS® MA5 + CLONE 30

REG NO G2301 (Act 36/1947)

NAMIBIA REG V97/24.3/829

INDICATIONS

NOBILIS® MA5 + CLONE30, a live attenuated freeze-dried vaccine, is indicated for immunisation of fowls against the Massachusetts type of serologically related types of Infectious Bronchitis and against Newcastle Disease.

COMPOSITION

Each dose contains at least 3,0 $\log_{10}$ EID_{50} Infectious Bronchitis virus strain MA5 (serotype Massachusetts) and 6,0 $\log_{10}$ EID_{50} of the Newcastle Disease strain Clone 30. As gentamycin is used during the production process, traces may be present in the final product.

WARNINGS

- DO NOT VACCINATE WITHIN 21 DAYS OF SLAUGHTER.
- The duration and intensity of vaccine reaction (sneezing) and the establishment of solid immunity are generally dependant on the health and condition of the fowls.
- Adequate immunity against Newcastle Disease and the Massachusetts type of Infectious Bronchitis will last for approximately 6 weeks provided that the vaccine is properly administered.
- In areas where Newcastle Disease is endemic, a second vaccination with **NOBILIS® ND CLONE 30** should be given at approximately 4 weeks.
- Emergency vaccination during the laying period may be accompanied by a transient drop in egg production.
- Do not freeze.

DOSAGE AND DIRECTIONS FOR USE

Use only as directed in package insert.

ADMINISTRATION

Vaccine must be administered by coarse spray or eye drop route for the best response. These should be the methods of choice, especially when vaccinating young fowls.

VACCINATION PROGRAMME

The optimum time and method of administration depends largely upon local situation. The advice of a veterinary surgeon should be sought. The vaccine is safe to use from 1 day of age onwards.

PRESENTATION

Vials containing 1 000 or 2 500 doses.

NOBILIS® ND + IB C2M

REG NO G3921 (Act 36/1947)

INDICATION

NOBILIS® ND+IBC2M, a live freeze-dried vaccine, is indicated for the primary vaccination of healthy chicks, one day of age or older, for protection against Newcastle Disease and Infectious Bronchitis of the Massachusetts serotype.

COMPOSITION

Each dose contains at least 5,5 $\log_{10}$ EID_{50} of the Newcastle Disease virus vaccine strain C2 and 2,8 $\log_{10}$ EID_{50} of the Infectious Bronchitis virus vaccine strain B48 per dose.

The vaccine contains traces of gentamycin.

WARNINGS

- DO NOT VACCINATE WITHIN 21 DAYS OF SLAUGHTER.
- Not to be used for birds in lay or within 3 weeks before the onset of the laying period.
- All susceptible fowls on the same premises should be vaccinated at the same time.
- Efforts should be taken to reduce stress conditions at the time of vaccination.
- Do not freeze.

DOSAGE AND DIRECTIONS FOR USE

Use only as directed in package insert.

Reconstituted vaccine should be used within 3 hours.

VACCINATION PROGRAM

NOBILIS® ND+IBC2M can be given from 1 day of age onwards. Because the immunity which is induced by vaccination with **NOBILIS® ND+IBC2M** is not long lasting, an extended vaccination program should be followed. To maintain a required level of immunity, chicks should receive a secondary vaccination 2-3 weeks after administration of this vaccine, with a live vaccine containing the more invasive Newcastle Disease and Infectious Bronchitis strains.

Presentation

Vials containing 10 000 doses.

04

INFECTIOUS BURSAL DISEASE / GUMBORO DISEASE

LIVE VACCINES

NOBILIS® GUMBORO 228E

REG NO G2423 (Act 36/1947)

NAMIBIA REG NO N-SR0717

INDICATIONS

NOBILIS® GUMBORO 228E, a live vaccine, is indicated for the active immunisation of fowls against Infectious Bursal Disease (IBD) (Gumboro).

COMPOSITION

Each dose contains at least 2,0 $\log_{10}$ EID_{50} live Gumboro Disease virus strain 228E in stabilizer. The vaccine pellet contains gentamycin.

WARNINGS

- DO NOT VACCINATE WITHIN 21 DAYS BEFORE SLAUGHTER.
- It is advisable to vaccinate all the susceptible fowls on the farm at the same time. If this is not feasible, strict separation of vaccinated and unvaccinated fowls should be done to prevent the spread of the vaccine virus to the unvaccinated fowls.
- Do not freeze.

DOSAGE AND DIRECTIONS FOR USE

- Use only as directed in package insert.

VACCINATION PROGRAMME

The vaccine virus strain 228E is a less attenuated intermediate IBD virus strain. As a result of this, the virus is capable of breaking through the maternal immunity at an earlier stage and will spread better through the vaccinated flock.

ADMINISTRATION

The vaccine is administered through the drinking water at one dose per fowl.

The vaccine should be dissolved in an amount of water which will be consumed by the fowls within 2 hours.

The optimum time and method of administration depends largely upon the local situation. Therefore the advice of a veterinary surgeon should be sought.

PRESENTATION

Vials containing 1 000, 2 500 and 5 000 doses.

NOBILIS® GUMBORO D78

REG NO G2483 (Act 36/1947)

NAMIBIA REG NO V98/24.3/667

INDICATIONS

NOBILIS® GUMBORO D78, a live freeze-dried vaccine, is indicated for the immunisation of fowls against Infectious Bursal Disease (Gumboro).

COMPOSITION

Each dose contains at least 4,0 $\log_{10}$ $TCID_{50}$ of live Infectious Bursal Disease virus strain D78. The freeze-dried vaccine pellet contains stabilizers and gentamycin.

WARNINGS

- It is advisable to vaccinate all the susceptible fowls on the farm at the same time. If this is not feasible, strict separation of vaccinated and unvaccinated fowls should be done to prevent the spread of the vaccine virus to the unvaccinated fowls.
- Do not freeze.

DOSAGE AND DIRECTIONS FOR USE

Use only as directed in package insert.

VACCINATION PROGRAMME

NOBILIS® GUMBORO D78 may be administered to fowls at 7 – 28 days of age. Strain D78 is effective in the face of the maternally derived antibody level usually present in flocks at 7 – 28 days of age. The optimum time of vaccination depends on the height of the maternally derived antibody level. In case the antibody level is very variable it is advised to vaccinate the fowls twice with an interval of one week.

NOBILIS® GUMBORO D78 may be safely administered at one day of age to fowls with no or a low level of maternal antibodies.

The optimum time and method of administration depends largely upon the local situation. Therefore the advice of a veterinary surgeon should be sought.

PRESENTATION

Vials containing 1 000, 2 500 and 5 000 doses.

UNIVAX-BD

REG NO G3674 (Act 36/1947)

INDICATIONS

UNIVAX-BD, a live vaccine, is indicated for use as an aid in the prevention of Infectious Bursal Disease (IBD) in fowls.

COMPOSITION

Each dose contains a mild strain (ST-12) of Gumboro disease virus grown in tissue culture and combined with stabilising agents and gentamycin as preservative.

WARNINGS

- DO NOT VACCINATE WITHIN 21 DAYS OF SLAUGHTER.
- Use only healthy embryonated eggs for the in ovo route.
- Do not dilute the vaccine or otherwise stretch the dosage.
- Do not freeze.

VACCINATION PROGRAMME

- In ovo-route of administration.
- Sub-cutaneous route of administration at day 1 of age.
- Drinking water method from day 1.

PRESENTATION

Vials containing 5 000 doses.

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05

COCCIDIOSIS

LIVE VACCINES

PARACOX®

REG NO G1994 (Act 36/1947)

NAMIBIA REG NO V01/24.3/517

ZIMBABWE REG NO 94/80.23.17/9372

INDICATIONS

PARACOX®, a live attenuated oral coccidiosis vaccine, is indicated for the active immunisation of fowls against *Eimeria acervulina, E. brunetti, E. maxima, E. mitis, E. necatrix, E. praecox and E. tenella.*

COMPOSITION

A translucent, viscous suspension of oocysts derived from eight precocious lines of coccidia, presented as a live, attenuated, oral vaccine.

WARNINGS

- No withdrawal period is required.
- Only vaccinate healthy fowls.
- Freezing this vaccine will inactivate it.
- DO NOT UNDER ANY CIRCUMSTANCES USE THIS VACCINE IF IT HAS BEEN FROZEN.
- Food and water provided at any stage before and after vaccination must be free from all substances (including sulphonamides and some antibacterial agents) with anti-coccidial activity.
- For oral use only.

PRECAUTIONS

- DO NOT ADMINISTER THROUGH NIPPLE LINES.

DOSAGE AND DIRECTIONS FOR USE

Use only as directed in package insert.

The minimum dose of vaccine is 0,1 mℓ per fowl.

A single dose of **PARACOX®** should be administered to chicks in one of the following ways:

- By hatchery spray in conjunction with added red colouring agent.
- By drinking water from 5-9 days old. Do not administer to dry drinkers or header tanks. Do no administer through nipple lines.

The appropriate amount of vaccine for administration into each drinker is calculated as follows:

$$\frac{\text{Total number of fowls per house (or pen)}}{\text{Total number of drinkers per house (or pen)}} \times 0{,}1 = \text{Amount of vaccine (mℓ) per drinker}$$

PRESENTATION

Sachets containing 1 000 or 5 000 doses.

PARACOX®-5

REG NO G2817 (Act 36/1947)

INDICATIONS

PARACOX®-5, a live attenuated oral coccidiosis vaccine, is indicated for the active immunisation of broilers against *Eimeria acervulina, E. maxima, E. mitis, and E. tenella.*

COMPOSITION

A translucent, aqueous suspension of oocysts derived from five precocious lines of coccidia, presented as a live, attenuated oral vaccine.

WARNINGS

- TO BE USED FOR THE IMMUNISATION OF BROILERS ONLY.
- No withdrawal period is required.
- FREEZING THIS VACCINE WILL INACTIVATE IT, DO NOT UNDER ANY CIRCUMSTANCES USE THIS VACCINE IF IT HAS BEEN FROZEN.
- Food and water provided at any stage before or after vaccination must be free from anticoccidial agents including sulphonamides and antibacterial agents having anticoccidial activity (viz. oxytetracycline, chlortetracycline, furazolidone, nitrofurazone).
- For oral use only.

DOSAGE AND DIRECTIONS FOR USE

Use only as directed in package insert.

A single dose of **PARACOX®-5** should be administered to chicks in one of the following ways:

- By hatchery spray in conjunction with added red colouring agent.
- From one-day-old by spray on feed.
- At 5 - 9 days of age via drinking water.

PRESENTATION

Vials containing 1 000 or 5 000 doses.

06

MAREKS

LIVE VACCINES

NOBILIS® RISMAVAC

REG NO G2444 (Act 36/1947)

NAMIBIA REG NO V98/24.3/674

ZIMBABWE REG NO 94/80.23.10/9362

INDICATIONS

NOBILIS® RISMAVAC, a live vaccine, is indicated for the immunisation of healthy day-old chicks against Marek's Disease and is also indicated where virulent strains of Marek's Disease are prevalent.

COMPOSITION

Each dose contains at least 3,0 $\log_{10}$ $TCID_{50}$ serotype 1, strain CVI-988, in the cell associated form, as a suspension of virus-containing SPF chicken embryo fibroblasts. The vaccine contains stabilizers and antibiotics.

WARNINGS

- The entire contents of the bottle must be used within 2 hours of mixing.

DOSAGE AND DIRECTIONS FOR USE

Use only as directed in package insert.

The bottle of mixed vaccine should be kept on ice until used and swirled frequently.

METHOD OF VACCINATION

The vaccine is injected subcutaneously in the neck or intramuscularly in the leg. Inject 0,2 mℓ per chick. The bottle of vaccine should be kept in an ice bath and swirled frequently.

PREPARATION OF THE VACCINE

1. The contents of the ampoule are rapidly thawed by immersing in water at room temperature (20 °C to 25 °C). Do not thaw in hot or ice cold water. Dry the ampoule and gently rotate it to disperse the contents. Then break the ampoule at its neck and immediately proceed as below. (***Caution:*** Ampoules have been known to explode on sudden temperature changes).
2. Draw the contents of the ampoule into a sterile 5 or 10 mℓ syringe fitted with a 1 mm (18 gauge) needle.
3. Insert the needle through the stopper of the diluent bottle and dilute immediately by filling syringe slowly with a portion of the diluent. (***Note:*** The diluent should be at room temperature (20 °C to 25 °C) at the time of mixing).
4. The contents of the filled syringe are then added to the remaining diluent.

STORAGE

The vaccine containing ampoules are stored in liquid nitrogen (– 100 °C or below).

Only one ampoule should be removed at a time.

The contents of the removed ampoule should rapidly be thawed by immersing in water at room temperature (20 °C to 25 °C).

The diluent is stored at room temperature (20 °C to 25 °C).

PRESENTATION

Glass ampoules containing 1 000 or 2 000 doses of vaccine and 200 mℓ or 400 mℓ of sterile diluent.

NOBILIS® RISMAVAC + CA126

REG NO G2632 (Act 36/1947)

NAMIBIA REG NO V05/24.3/659

INDICATIONS

NOBILIS® RISMAVAC + CA126, a combined live, cell-associated Marek's Disease vaccine, is indicated for the immunisation of healthy chicks against Marek's Disease.

COMPOSITION

Each dose contains at least 3,0 $\log_{10}$ PFU of live Turkey Herpes Virus strain FC-126 (serotype 3) and at least 3,0 $\log_{10}$ PFU of live Fowl Herpes Virus strain CVI-988 (serotype 1) in the cell associated form, as a suspension of virus containing SPF chicken embryo fibroblasts.

WARNINGS

The entire contents of this bottle must be used within 2 hours of mixing.

DOSAGE AND DIRECTIONS FOR USE

Use only as directed in package insert.

The bottle of mixed vaccine should be kept on ice until used and swirled frequently.

METHOD OF VACCINATION

The vaccine is injected subcutaneously in the neck. Inject 0.2 mℓ per chick. The bottle of vaccine should be kept in an ice batch and swirled frequently.

PREPERATION OF VACCINE

1. The contents of the ampoule are rapidly thawed by immersing in water at room temperature (20°C to 25°C). Do not thaw in hot or ice cold water. Dry the ampoule and gently rotate it to disperse the contents. Then break the ampoule at its neck and immediately proceed as below. (***Caution:*** Ampoules have been known to explode on sudden temperature changes).
2. Draw the contents of the ampoule into a sterile 5 or 10 mℓ syringe fitted with a 1 mm (18 gauge) needle.
3. Insert the needle through the stopper of the diluent bottle and dilute immediately by filling the syringe slowly with a portion of the diluent. (***Note:*** The diluent should be at room temperature (20°C to 25°C) at the time of mixing).
4. The contents of the filled syringe are then added to the remaining diluent.

STORAGE

The vaccine containing ampoules (inserted into metal canes) are stored in liquid nitrogen (-100°C or below).

Only one ampoule should be removed at a time.

The contents of the removed ampoule should rapidly be thawed by immersing in water at room temperature (20°C to 25°C).

The diluent is stored at room temperature (20°C to 25°C).

PRESENTATION

Glass ampoules containing 1 000 doses of vaccine and 200 mℓ of sterile diluent.

07

MYCOPLASMA

LIVE VACCINES

NOBILIS® MG 6/85

REG NO G2598 (Act 36/1947)
NAMIBIA REG NO V05/24.3/191
ZIMBABWE REG NO 98/80.23.17/9476

INDICATIONS

NOBILIS® MG 6/85, a live attenuated vaccine, is indicated for the immunisation of healthy fowls for the protection against clinical signs associated with *Mycoplasma gallisepticum* (Mg) infection.

COMPOSITION

Each dose contains at least 10^7 CFU per dose of live *Mycoplasma gallisepticum* strain 6/85 and stabilizer.

WARNINGS

- DO NOT VACCINATE WITHIN 21 DAYS BEFORE SLAUGHTER.
- Vaccinate healthy fowls only.
- All susceptible fowls on the same premises should be vaccinated at the same time.
- Do not medicate fowls with antibacterial drugs, especially chlortetracycline, oxytetracycline and sulphonamides, 5 days prior or after vaccination.
- This vaccine should not be administered within 2 weeks of any live Newcastle Disease, Infectious Bronchitis, or Laryngotracheitis vaccination.
- Do not freeze.

DOSAGE AND DIRECTIONS FOR USE

- Use only as directed in package insert.
- The vaccine is recommended for the vaccination of healthy fowls 6 weeks of age or older via the spray method.
- Dissolve the freeze-dried pellet in clean, cool, non-chlorinated water, preferably distilled.
- Spray vaccination should be of fine spray or less than 20 microns.

VACCINATION PROGRAMME

To be fully effective, the vaccine must be administered properly to healthy, receptive fowls maintained in a proper environment under good management.

PRESENTATION

Vials containing 1 000 doses.

VAXSAFE® MS

REG NO G3497 (Act 36/1947)

INDICATIONS

VAXSAFE® MS is indicated as an aid in the control of airsacculitis and synovitis in broiler breeder and layer pullets caused by *Mycoplasma synoviae* (Ms).

COMPOSITION

Each dose contains a live attenuated *Mycoplasma synoviae*, strain MS-H Living 24 x 10^6 ccu / dose.

WARNINGS

- Correct storage and administration is essential for successful results, because this vaccine contains live organisms.
- Thaw only sufficient vaccine for immediate use (within three hours).
- Protect the thawed vaccine from direct sunlight, antiseptics and heat.
- Do not dilute the vaccine.
- Do not refreeze the vaccine after thawing.
- Dispose of any unused vaccine.
- Do no vaccinate pullets younger than 2 weeks of age.

DOSAGE AND DIRECTIONS FOR USE

Use only as directed in package insert.

Individual vaccination via the eye drop route:

- Gently flood the eye with one drop (about 30 µl) of vaccine.
- Allow the fluid to spread across the eye and for the fowl to swallow before releasing it.
- Vaccination needs only be done once.
- Vaccinate pullets between 6 – 14 weeks of age.

PRESENTATION

Eyedropper vials containing 1 000 doses.

08

OTHER LIVE VACCINES

NOBILIS® AE + POX

REG NO G2448 (Act 36/1947)

NAMIBIA REG NO V05/24.3/57

ZIMBABWE REG NO 94/80.23.10/9367

INDICATIONS

NOBILIS® AE + POX, a live attenuated vaccine, is indicated for the immunisation of layer pullets and breeder replacement pullets against Avian Encephalomyelitis (AE) and Fowl pox.

COMPOSITION

Each dose of vaccine contains at least 2,5 $\log_{10}$ EID_{50} Avian Encephalomyelitis (AE) virus, strain Calnek 1143 and 2,58 $\log_{10}$ EID_{50} fowl pox virus, strain Gibbs.

WARNINGS

- DO NOT VACCINATE WITHIN 21 DAYS OF SLAUGHTER.
- Do not vaccinate during lay or within 28 days before the beginning of the laying period.
- Do not vaccinate fowls younger than 8 weeks of age.
- Do not freeze.
- It is advisable to vaccinate all the susceptible fowls on the farm at the same time. If this is not feasible, strict separation of vaccinated and unvaccinated fowls should be done, to prevent the spread of the vaccine virus to the unvaccinated fowls.

DOSAGE AND DIRECTIONS FOR USE

- Use only as directed in package insert.
- Vaccination by the Wing-Web method.
- The vaccine is supplied with diluent and double needle.

VACCINATION PROGRAMME

- The vaccine is recommended for the active immunisation of layer and breeder replacement pullets.
- Vaccinate at the age of 8 to 16 weeks.
- Revaccinate during the moulting period.
- Vaccinate healthy fowls only.

PRESENTATION

Vial containing 1 000 doses supplied with diluent and wing-web needle.

LT-IVAX®

REG NO G3605 (Act 36/1947)

NAMIBIA REG NO V03/24.3/742

INDICATIONS

LT-IVAX®, a modified live vaccine, is indicated for use in fowls as an aid in the prevention of Infectious Laryngotracheitis (ILT).

COMPOSITION

Each dose contains 102.9 $TCID_{50}$ of fowl Laryngotracheitis virus from fowl tissue culture origin and contains gentamicin sulphate as preservative.

WARNINGS

- DO NOT VACCINATE WITHIN 21 DAYS BEFORE SLAUGHTER.
- Vaccinate only healthy fowls.
- An eye reaction may be noticed if fowls are incubating Coryza or other infectious organisms, or if there is excess ammonia or dust in the air of the housing facilities.
- Do not freeze.

DOSAGE AND DIRECTIONS FOR USE

- Use only as directed in package insert.
- Vaccinate by the eyedrop method according to the following schedule:
  Initial vaccination
  4 weeks of age.
  Revaccination
  10 weeks of age or older.
- As with all live virus vaccines, a mild transitory reaction may occur in a small portion of the flock, and with **LT-IVAX®**, this is generally limited to a mild, localized eye reaction of short duration.

CONTRAINDICATIONS

The application of Newcastle Disease or Bronchitis vaccine, either singly or in combination should be avoided for a three day period prior to and for three days after the application of a live attenuated vaccine.

PRESENTATION

Vials containing 1 000 doses with diluent.

NOBILIS® ILT

REG NO G2450 (Act 36/1947)
NAMIBIA REG NO V98/24.3/675
ZIMBABWE REG NO 95/80.23.10/9404

INDICATIONS

NOBILIS® ILT, a live attenuated vaccine for the prevention and emergency vaccination of fowls against Infectious Laryngotracheitis (ILT).

COMPOSITION

Each dose contains at least 2,5 $\log_{10}$ EID_{50} freeze dried fowl-embryo propagated culture of a modified strain of Infectious Laryngotracheitis virus Serva strain with stabilizers.

WARNINGS

- DO NOT VACCINATE WITHIN 21 DAYS BEFORE SLAUGHTER.
- Vaccinate healthy fowls only.
- Do not freeze.

DOSAGE AND DIRECTIONS FOR USE

- Use only as directed in package insert.
- The vaccine is administered by intra-ocular administration (or intra-nasal administration).
- Instil one drop into an eye of each fowl.
- Keep the dropper bottle inverted, in a vertical position, to ensure correct droplet size and to avoid loss of vaccine.
- Note: Once dissolved, the vaccine is very vulnerable. All the vaccine should be used within two hours of reconstitution.
- Allow the drop to spread across the surface of the eye. Do not release the fowl until a swallowing motion is noticed.

VACCINATION PROGRAMMES

It is recommended to vaccinate susceptible fowls at the age of 4 to 6 weeks and to revaccinate at 14 to 16 weeks of age.

In emergency cases, the fowls may be vaccinated earlier, but should then always be revaccinated one month before the start of the laying period, also by eye drop administration.

PRESENTATION

Vials containing 1 000 doses.

ENTEROVAX®

REG NO G 3615 (ACT 36/1947)
NAMIBIA REG NO V07/24.3/739

INDICATIONS

ENTEROVAX® a live attenuated vaccine, is indicated for use in healthy fowls as an aid in the control and prevention of Reovirus induced Tenosynovitis (viral arthritis).

COMPOSITION

Each dose contains a modified live avian reovirus 1133 TC/C6 strain in a freeze-dried preparation sealed under vacuum and preserved with gentamycin.

WARNINGS

- DO NOT VACCINATE WITHIN 21 DAYS BEFORE SLAUGHTER.
- Vaccinate healthy fowls only.
- DO NOT ADMINISTER THIS VACCINE TO BREEDERS 18 WEEKS OF AGE OR OLDER, AS THE VACCINE VIRUS WILL BE SHED IN THE EGGS.
- Do not dilute the vaccine or otherwise stretch the dosage.
- Do not freeze.

DOSAGE AND DIRECTIONS FOR USE

Spray method:
1 day of age

Water method:
1 week of age or older

PRECAUTIONS

- Do not administer this product by injection.
- Do not administer using an automatic eyedrop vaccinator to day-old chicks.
- Do not mix vaccine with other vaccines.

PRESENTATION

Vials containing 1 000 or 5 000 doses.

NOBILIS® SG 9R

REG NO G2523 (Act 36/1947)

NAMIBIA REG NO V05/24.3/454

ZIMBABWE REG NO 97/80.23.17/9456

INDICATIONS

NOBILIS® SG 9R, a live freeze-dried vaccine, is indicated for the active immunisation of healthy layers as an aid in the control of *Salmonella gallinarum* (Sg) (fowl typhoid).

COMPOSITION

Each dose contains at least 2 x 10^7 CFU of *Salmonella gallinarum* strain 9R.

WARNINGS

- Do not freeze.
- Vaccinate only healthy fowls.
- Initial vaccination should be carried out at 6 weeks of age.
- The use of antibiotics or other substances with a systematic action should be avoided from 7 days before vaccination to 14 days after vaccination.
- It is advisable to vaccinate all the susceptible fowls on the farm at the same time. If this is not feasible, strict separation of the vaccinated and the unvaccinated fowls should be done to prevent the spread of the vaccine organisms to the unvaccinated fowls.

DOSAGE AND DIRECTIONS FOR USE

- Use only as directed in package insert.
- Reconstitute the vaccine with MSD Animal Health's Diluent FD.
- Each fowl should be given 0,2 mℓ of the reconstituted vaccine subcutaneously into the lower part of the back of the neck.

VACCINATION SCHEME

Initial vaccination should be carried out at 6 weeks of age.

Revaccination at intervals of 12 weeks is recommended.

PRESENTATION

Vials containing 1 000 doses.

NOTES / NOTAS

09

INACTIVATED VACCINES

NOBILIS® CORYZA

REG NO G2360 (Act 36/1947)

NAMIBIA REG NO V97/24.3/864

ZIMBABWE REG NO 94/80.23.10/9383

INDICATIONS

NOBILIS® CORYZA, a trivalent inactivated vaccine, is indicated for the protection of fowls from five weeks of age onwards against Infectious Coryza infection caused by *Avibacterium paragallinarum*.

COMPOSITION

Each dose of 0.5 mℓ contains at least 3 x 10^8 bacteria of the serotypes A, B and C of *Avibacterium paragallinarum*, inactivated with thiomersal and suspended in the aqueous phase of a water-in-oil emulsion.

WARNINGS

- DO NOT SLAUGHTER FOWLS FOR HUMAN CONSUMPTION WITHIN 6 WEEKS AFTER VACCINATION.
- Vaccinate healthy fowls only.
- Ensure that fowls marketed do not have swellings at the site of vaccine administration, as this may result in the condemnation of the fowls.
- Vaccination of fowls in production may lead to a slight drop in egg production.
- Do not freeze.
- The vaccine should be protected from direct sunlight.

DOSAGE AND DIRECTIONS FOR USE

- Use only as directed in package insert.
- Each fowl should be given 0.5 mℓ of the vaccine subcutaneously into the back of the neck.

RECOMMENDED VACCINATION PROGRAMME

NOBILIS® CORYZA should be given to fowls from five weeks of age onwards. To achieve a protection in layers and breeders up to 60 weeks of age, revaccination a few weeks before the onset of egg production is required.

VACCINATION REACTIONS

In healthy fowls, no clinical reaction to the vaccination will be observed. For some weeks after vaccination a slight swelling may be felt at the site of the vaccination. This does not constitute permanent damage of tissues provided that the vaccination has been carried out subcutaneously and aseptically.

PRESENTATION

Bottles containing 500 mℓ sufficient for 1 000 doses.

NOBILIS® CORVAC-4

REG NO G3491 (Act 36/1947)

NAMIBIA REG NO V05/24.3/50

ZIMBABWE REG NO 2012/80.23.17/9677

INDICATIONS

NOBILIS® CORVAC-4, a tetravalent, inactivated whole cell vaccine, is indicated for the active immunisation of fowls to reduce infection and clinical signs of Infectious Coryza caused by *Avibacterium paragallinarum*.

COMPOSITION

Each dose of 0.5 mℓ contains *A. paragallinarum*: strain 083 (serotype A) at least 1 CPD_{70}*, strain Spross (serotype B) at least 1 CPD_{70}*, strain H-18 (serotype C) at least 1 CPD_{70}* and strain 48 (serotype variant type B) at least 1 CPD_{70}*, incorporated in a water-in-oil emulsion.

(* 70 % chicken protective dose)

WARNINGS

- DO NOT SLAUGHTER FOWLS FOR HUMAN CONSUMPTION WITHIN 6 WEEKS AFTER VACCINATION.
- Vaccinate healthy fowls only.
- The product is not intended for use in hens in lay.
- **NOBILIS® CORVAC-4** can be used with **NOBILIS® IB+ND+EDS** and **NOBILIS® IB+ND** as part of a vaccination programme for fowls. It is however recommended that no other vaccine or other veterinary medical product be administered concurrently with the product.
- Do not freeze.

DOSAGE AND DIRECTIONS FOR USE

- Use only as directed in package insert.
- Each fowl should be given 0.5 mℓ of the vaccine, subcutaneously.

RECOMMENDED VACCINATION PROGRAM

NOBILIS® CORVAC-4 can be given to fowls from 3 weeks of age onwards with a revaccination before lay. The interval between the vaccinations should be at least 6 weeks.

PRESENTATION

Bottles containing 500 mℓ sufficient for 1 000 doses.

NOBILIS® EDS

REG NO G2578 (Act 36/1947)

ZIMBABWE REG NO 95/80.23.10/9396

INDICATIONS

NOBILIS® EDS, an inactivated vaccine, is indicated for the protection of layers and breeding fowls against Egg Drop Syndrome '76.

COMPOSITION

Each dose of 0.5 mℓ contains the inactivated EDS '76 virus (strain BC14) inducing 6,5 $\log_2$ HI units. The virus has been inactivated with formalin and subsequently suspended in the water phase of a water-in-oil emulsion.

WARNINGS

- DO NOT SLAUGHTER FOWLS FOR HUMAN CONSUMPTION WITHIN 6 WEEKS AFTER VACCINATION.
- Ensure that fowls marketed do not have swellings at the site of vaccine administration, as this may result in the condemnation of the fowls.
- Vaccinate healthy fowls only.
- Vaccination of fowls in production may lead to a slight drop in egg production.
- Do not freeze.

DOSAGE AND DIRECTIONS FOR USE

- Use only as directed in package insert.
- Each fowl should be given 0.5 mℓ of the vaccine intramuscularly into the breast muscle or subcutaneously in the lower part of the neck.

RECOMMENDED VACCINATION PROGRAMME

NOBILIS® EDS should be given to fowls around 16 to 20 weeks of age, but not less than 4 weeks before the expected onset of lay.

VACCINATION REACTIONS

In healthy fowls, no clinical reaction to the vaccination will be observed. For some weeks after vaccination a slight swelling may be felt at the site of the vaccination. This should not constitute permanent damage of the tissue provided that the vaccination has been carried out aseptically.

PRESENTATION

Bottles containing 500 mℓ sufficient for 1 000 doses.

NOBILIS® GUMBORO INAC

REG NO G2562 (Act 36/1947)

INDICATIONS

NOBILIS® GUMBORO INAC, an inactivated vaccine, is indicated for the booster vaccination of breeding stock against Infectious Bursal Disease in order to protect the offspring of vaccinated fowls against Gumboro disease.

COMPOSITION

Each dose of 0.5 mℓ contains Gumboro virus strain D78 inducing ≥ 14,5 $\log_2$ VN units. The virus was grown on Vero Cell cultures, was inactivated with formalin and subsequently suspended in the aqueous phase of an oil adjuvant emulsion.

WARNINGS

- DO NOT SLAUGHTER FOWLS FOR HUMAN CONSUMPTION WITHIN 6 WEEKS AFTER VACCINATION.
- Ensure that fowls marketed do not have swellings at the site of vaccine administration, as this may result in the condemnation of the fowls.
- Vaccinate healthy fowls only.
- Do not freeze.
- Vaccination of fowls in production may lead to a slight drop in egg production.

DOSAGE AND DIRECTIONS FOR USE

- Use only as directed in package insert.
- Each fowl should be given 0.5 mℓ of the vaccine intramuscularly into the thigh or breast muscle or subcutaneously into the neck.

RECOMMENDED VACCINATION PROGRAMME

NOBILIS® GUMBORO INAC should be given to fowls around 16 – 20 weeks of age, but not less than 4 weeks before the onset of lay.

VACCINATION REACTIONS

In healthy fowls, no clinical reaction to the vaccination will be observed. For some weeks after vaccination a slight swelling may be felt at the site of the vaccination. Local tissue reactions may occur.

PRESENTATION

Bottles containing 500 mℓ sufficient for 1 000 doses.

NOBILIS® MG INAC

REG NO G2695 (Act 36/1947)

NAMIBIA REG NO V05/24.3/58

ZIMBABWE REG NO 97/80.23.17/9446

INDICATIONS

NOBILIS® MG INAC, an inactivated vaccine, is indicated for the immunisation of fowls as an aid in the prevention of airsacculitis and egg production losses caused by *Mycoplasma gallisepticum* infection.

COMPOSITION

Each dose of 0.5 mℓ contains at least 0,23 O.D. units (one fowl effective dose) of *Mycoplasma gallisepticum* cells, strain 6/85, inactivated by thiomerosal and suspended in the aqueous phase of a water-in-oil emulsion in order to enhance the stimulation of immunity.

WARNINGS

- DO NOT SLAUGHTER FOWLS FOR HUMAN CONSUMPTION WITHIN 6 WEEKS AFTER VACCINATION.
- Vaccinate healthy fowls only.
- Ensure that fowls marketed do not have swellings at the site of vaccine administration, as this may result in the condemnation of the fowls.
- Vaccination of fowls in production may lead to a slight decrease in egg production.
- Do not freeze.

DOSAGE AND DIRECTIONS FOR USE

- Use only as directed in package insert.
- Shake the bottle prior to and at regular intervals during the vaccination process. Inject 0.5 mℓ per fowl subcutaneously into the lower part of the back of the neck. Inject all the fowls in the flock.

RECOMMENDED VACCINATION PROGRAMME

Fowls may be vaccinated from 3 weeks of age and older. Do not vaccinate within 14 days before the onset of lay or during lay.

PRESENTATION

Bottles containing 500 mℓ sufficient for 1 000 doses.

NOBILIS® ND BROILER

REG NO G2469 (Act 36/1947)

NAMIBIA REG NO V98/24.3/676

INDICATIONS

NOBILIS® ND BROILER, an inactivated vaccine, is indicated for the active immunisation of day-old broiler chickens against Newcastle Disease.

COMPOSITION

Each dose of 0.1 mℓ contains ≥ 20 PD_{50} units per dose of inactivated Newcastle Disease virus (or the Newcastle Disease virus antigen induces ≥ 4 $\log_2$ HI units per $^1/_{50}$ dose). The virus was inactivated with formalin and suspended in the aqueous phase of a water-in-oil emulsion.

WARNINGS

- DO NOT SLAUGHTER FOWLS FOR HUMAN CONSUMPTION WITHIN 6 WEEKS AFTER VACCINATION.
- Do not freeze or heat.
- Vaccinate healthy fowls only.
- Ensure that fowls marketed do not have swellings at the site of vaccine administration, as this may result in the condemnation of the fowls.
- Vaccination of fowls in production may lead to a slight drop in egg production.

DOSAGE AND DIRECTIONS FOR USE

- Use only as directed in package insert.
- Inject 0.1 mℓ per chicken intramuscularly into the thigh or subcutaneously into the back of the neck.

RECOMMENDED VACCINATION PROGRAMME

NOBILIS® ND BROILER is administered by injection to day-old fowl chickens in combination with live Newcastle Disease vaccine, administered according to the manufacturer's instructions.

PRESENTATION

Bottles containing 500 mℓ sufficient for 5 000 doses.

NOBILIS® REO INAC

REG NO G2577 (ACT 36/1947)

NAMIBIA REG NO V05/24.3/187

ZIMBABWE REG NO 96/80.23.17/9436

INDICATIONS

NOBILIS® REO INAC, an inactivated vaccine, is indicated for the booster vaccination of primed breeding stock against Avian Reo virus in order to protect the offspring of the vaccinated fowls against Avian Reo virus infections.

COMPOSITION

Each dose of 0.5 mℓ contains Reo virus strain 1733 and 2408 inducing ≥ 5,0 $\log_2$ VN units. The viruses have been grown on CEF cell cultures and are inactivated with formalin and subsequently suspended in the aqueous phase of an oil adjuvant emulsion.

WARNINGS

- DO NOT SLAUGHTER FOWLS FOR HUMAN CONSUMPTION WITHIN 6 WEEKS AFTER VACCINATION.
- Ensure that fowls marketed do not have swellings at the site of vaccine administration, as this may result in the condemnation of the fowls.
- Vaccinate healthy fowls only.
- Vaccination of fowls in production may lead to a slight drop in egg production.
- Do not freeze.

DOSAGE AND DIRECTIONS FOR USE

- Use only as directed in package insert.
- Inject 0.5 mℓ per fowl subcutaneously into the lower part of the neck or intramuscularly into the thigh or chest muscle.
  Intramuscular injections into the chest muscle: The needle should be pointed in the direction of the fowl's head to prevent the needle from entering the body cavity.

RECOMMENDED VACCINATION PROGRAMME

NOBILIS® REO INAC should be given to fowls around 16 to 20 weeks of age, but not within 4 weeks prior to the onset of lay.

VACCINATION REACTIONS

In healthy fowls, no clinical reaction to the vaccination will be observed. For some weeks after vaccination a slight swelling may be felt at the site of the vaccination. Local tissue reactions may occur.

PRESENTATION

Bottles containing 500 mℓ sufficient for 1 000 doses.

NOBILIS® G+ND

REG NO G2707 (Act 36/1947)

NAMIBIA REG NO V05/24.3/658

INDICATIONS

NOBILIS® G+ND, a combined inactivated vaccine for primed fowls, is indicated for the protection of the progeny of breeders against Infectious Bursal Disease (Gumboro) during the first weeks of their life and for the booster vaccination of future breeders and layers against Newcastle Disease.

COMPOSITION

Each dose of 0.5 mℓ contains Infectious Bursal Disease (Gumboro) inducing ≥14,5 $\log_2$ VN units and Newcastle Disease virus Clone 30 ≥ 50 PD_{50}. The viruses were grown in embryonated eggs or Vero Cell cultures and were inactivated with formalin and subsequently suspended in the aqueous phase of an oil adjuvant emulsion.

WARNINGS

- DO NOT SLAUGHTER FOWLS FOR HUMAN CONSUMPTION WITHIN 6 WEEKS AFTER VACCINATION.
- Vaccinate healthy fowls only.
- Ensure that fowls marketed do not have swellings at the site of vaccine administration, as this may result in the condemnation of the fowls.
- Vaccination of fowls in production may lead to a slight decrease in egg production.
- Do not freeze.

DOSAGE AND DIRECTIONS FOR USE

- Use only as directed in package insert.
- Each fowl should be given 0.5 mℓ of the vaccine intramuscularly into the thigh or breast muscle or subcutaneously into the back of the neck.
  Intramuscular injection into the breast muscle: The needle should be pointed in the direction of the fowl's head, to prevent the needle from entering the body cavity.

RECOMMENDED VACCINATION PROGRAMME

NOBILIS® G+ND should be given to fowls around 16 to 20 weeks of age, but not less than 4 weeks before the onset of lay.

PRESENTATION

Bottles containing 500 mℓ sufficient for 1 000 doses.

NOBILIS® IB + ND

REG NO G2614 (Act 36/1947)

NAMIBIA REG NO V05/24.3/59

ZIMBABWE REG NO 94/80.23.10/9364

INDICATIONS

NOBILIS® IB+ND, a combined inactivated vaccine, is indicated for the protection of future breeding fowls against Infectious Bronchitis Virus (Massachusetts type) and Newcastle Disease Virus.

COMPOSITION

Each dose of 0.5 mℓ contains immunogenic strains of Infectious Bronchitis Virus (Massachusetts type) (inducing at greater than or equal to 6,0 $\log_2$ HI units) and Newcastle Disease Virus, (containing at least greater than or equal to 50 PD_{50} units). The viruses have been inactivated with formalin and subsequently suspended in the water phase of a water-in-oil emulsion.

WARNINGS

- DO NOT SLAUGHTER FOWLS FOR HUMAN CONSUMPTION WITHIN 6 WEEKS AFTER VACCINATION.
- Vaccinate healthy fowls only.
- Ensure that fowls marketed do not have swellings at the site of vaccine administration, as this may result in the condemnation of the fowls.
- Do not freeze.
- Vaccination of fowls in production may lead to a slight drop in egg production.

DOSAGE AND DIRECTIONS FOR USE

- Use only as directed in package insert.
- Each fowl should be given 0.5 mℓ of the vaccine intramuscularly in the breast muscle or subcutaneously in the back of the neck.
  Intramuscular injection into the breast muscle: The needle should be pointed in the direction of the fowl's head to prevent the needle from entering the body cavity.

RECOMMENDED VACCINATION PROGRAMME

- **NOBILIS® IB+ND** should be given to fowls around 16 to 20 weeks of age, but not less than 4 weeks before the expected onset of lay.
- For an optimal booster effect, the fowls must be primed with live vaccines of the separate component strains.
- The best results will be obtained if vaccination with an inactivated Infectious Bronchitis vaccine takes place 6 or more weeks after administering the live vaccine but under no circumstances should it be done earlier than 4 weeks after priming.

PRESENTATION

Bottles containing 500 mℓ sufficient for 1 000 doses.

NOBILIS® IB+G+ND

REG NO G2696 (Act 36/1947)

NAMIBIA REG NO V05/24.3/460

INDICATIONS

NOBILIS® IB+G+ND, a combined inactivated vaccine for primed fowls, is indicated for the protection of the progeny of primed breeders during the first week of life against Infectious Bursal Disease (Gumboro), and for the booster vaccination of future layers and breeders against Infectious Bronchitis Virus and Newcastle Disease.

COMPOSITION

Each dose of 0.5 mℓ contains inactivated Infectious Bronchitis Virus Massachusetts serotype strain M41 inducing ≥ 6,0 $\log_2$ HI units, inactivated Newcastle Disease Virus Clone 30 ≥ 50 PD_{50} units and inactivated Infectious Bursal Disease (Gumboro) inducing ≥ 14,5 $\log_2$ VN units. The viruses were grown in embryonated eggs or Vero cell cultures, inactivated with formalin and subsequently suspended in the aqueous phase of an oil adjuvant emulsion.

WARNINGS

- DO NOT SLAUGHTER FOWLS FOR HUMAN CONSUMPTION WITHIN 6 WEEKS AFTER VACCINATION.
- Vaccinate healthy fowls only.
- Do not freeze.
- The vaccine should be protected from exposure to direct sunlight.
- Ensure that fowls marketed do not have swellings at the site of vaccine administration, as this may result in the condemnation of the fowls.
- Vaccination of fowls in production may lead to a slight decrease in egg production.

DOSAGE AND DIRECTIONS FOR USE

- Use only as directed in package insert.
- Each fowl should be given 0.5 mℓ of the vaccine intramuscularly into the thigh or breast muscle or subcutaneously into the back of the neck.
  Intramuscular injection into the breast muscle: The needle should be pointed in the direction of the fowl's head, to prevent the needle from entering the body cavity.

RECOMMENDED VACCINATION PROGRAMME

NOBILIS® IB+G+ND should be given to fowls around 16 to 20 weeks of age, but not less than 4 weeks before the onset of lay.

PRESENTATION

Bottles containing 500 mℓ sufficient for 1 000 doses.

NOBILIS® IB+ND+EDS

REG NO G2613 (ACT 36/1947)

INDICATIONS

NOBILIS® IB+ND+EDS, a combined inactivated vaccine, is indicated for the protection of layers and breeders against Egg Drop Syndrome '76 and for the booster vaccination of breeding fowls against Newcastle Disease Virus and Massachusetts types of Infectious Bronchitis Virus.

COMPOSITION

Each dose of 0.5 mℓ contains immunogenic strains of Infectious Bronchitis Virus (Massachusetts) (inducing greater than or equal to 6,0 $\log_2$ HI units), Newcastle Disease Virus, (containing greater than or equal to 50 PD_{50} units), and BC strain 14 of Egg Drop Syndrome '76 virus (inducing greater than or equal to 6,5 $\log_2$ HI units). The viruses have been inactivated with formalin and subsequently suspended in the water phase of a water-in-oil emulsion.

WARNINGS

- DO NOT SLAUGHTER FOWLS FOR HUMAN CONSUMPTION WITHIN 6 WEEKS AFTER VACCINATION.
- Vaccinate healthy fowls only.
- Inject all fowls in the flock.
- Ensure that fowls marketed do not have swellings at the site of vaccine administration, as this may result in the condemnation of the fowls.
- Do not freeze.

DOSAGE AND DIRECTIONS FOR USE

- Use only as directed in package insert.
- Each fowl should be given 0.5 mℓ of the vaccine intramuscularly into the breast muscle or subcutaneously into the back of the neck. Intramuscular into the breast muscle: The needle should be pointed in the direction of the fowl's head to prevent the needle from entering the body cavity.

RECOMMENDED VACCINATION PROGRAMME

- **NOBILIS® IB+ND+EDS** should be given to fowls around 16 to 20 weeks of age, but not within 4 weeks prior to the onset of lay.
- For an optimal booster effect, the fowls must be primed with a live vaccine against Infectious Bronchitis and Newcastle Disease.
- The best results will be obtained if vaccination with an inactivated IB vaccine takes place 6 or more weeks after administering the live vaccine, but under no circumstances should it be done earlier than 4 weeks after priming.

PRESENTATION

Bottles containing 500 mℓ sufficient for 1 000 doses.

NOBILIS® REO+IB+G+ND

REG NO G2564 (Act 36/1947)

NAMIBIA REG NO V05/24.3/47

ZIMBABWE REG NO 96/80.23.17/9437

INDICATIONS

NOBILIS® REO+IB+G+ND, a combined inactivated vaccine for fowls, is indicated for the booster vaccination of breeding stock for protection against Infectious Bronchitis Virus and Newcastle Disease and for the immunisation against Reo virus infection and Infectious Bursal Disease Virus so as to protect the offspring against Reo virus Infections and Gumboro Disease by maternal antibodies for at least the first week of life.

COMPOSITION

Each dose of 0.5 mℓ contains inactivated Infectious Bronchitis virus Massachusetts serotype strain 41 inducing ≥ 6,0 $\log_2$ HI units, Newcastle Disease Virus Clone 30 ≥ 50 PD_{50} units, Bursal Disease Virus strain D78 inducing ≥ 14,5 $\log_2$ VN units and Reo virus strains 1733 and 2408 inducing ≥ 5,0 $\log_2$ VN units. The viruses were grown in embryonated eggs or on CEF or Vero cell cultures, inactivated with formalin and subsequently suspended in the aqueous phase of an oil adjuvant emulsion.

WARNINGS

- DO NOT SLAUGHTER FOWLS FOR HUMAN CONSUMPTION WITHIN 6 WEEKS AFTER VACCINATION.
- Vaccinate healthy fowls only.
- Do not freeze.

DOSAGE AND DIRECTIONS FOR USE

- Use only as directed in package insert.
- Each fowl should be given 0.5 mℓ of the vaccine intramuscularly into the thigh or breast muscle or subcutaneously into the lower part of the neck. Intramuscular injection into the breast muscle. The needle should be pointed in the direction of the fowl's head, to prevent the needle from entering the body cavity.

RECOMMENDED VACCINATION PROGRAMME

- **NOBILIS® REO+IB+G+ND** should be given to fowls around 16 to 20 weeks of age, but not less than 4 weeks before the expected onset of lay.
- For an optimal booster effect, the fowls must be primed with a live vaccine against Infectious Bronchitis Virus, Newcastle Disease, Avian Reo Virus infection and Infectious Bursal Disease.
- The best results will be obtained if vaccination with inactivated vaccine takes place 6 or more weeks after administration of the live primer, but under no circumstances should it be done earlier than 4 weeks after priming.

PRESENTATION

Bottles containing 500 mℓ sufficient for 1 000 doses.

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NOTES

10

OTHER

AVIGUARD®

REG NO G2383 (Act 36/1947)

NAMIBIA REG NO V07/24.9/753

INDICATIONS

AVIGUARD® is a natural, live intestinal microflora derived from SPF chickens and manufactured by fermentation. The preparation is intended to establish, maintain or restore a balanced and normal gut flora.

COMPOSITION

A lyophilized powder soluble in water for use in chickens and turkeys.

WARNINGS

Although this remedy has been tested under a large variety of conditions, failure thereof may ensue as a result of a wide range of reasons. If this is suspected, seek veterinary advice and notify the registration holder.

DOSAGE AND DIRECTIONS FOR USE

Spray application

For day-old chicks and turkey poults immediately after hatch. Dissolve the entire contents of this packet in 0,5 to 1,0 litre of fresh water to obtain a spray volume of 250 – 500 mℓ / 1 000 birds. The ready-to-use solution is applied as a single spray over day old birds, using a manual or automatic sprayer device delivering coarse droplets.

Drinking water application

Dissolve the entire contents of this packet in an amount of water corresponding to the usual water consumption of 4 to 8 hours and give this amount as the only source of drinking water during an appropriate time of the day.

In order to avoid direct contact with the preparation of live bacteria, wear a mask and gloves when preparing the ready-to-use solution.

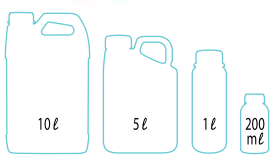
PRESENTATION

2 000 and 5 000 doses.

PANACUR® BS

REG NO G1481 (ACT 36/1947)

NAMIBIA REG NO V03/18.1.1/655



INDICATIONS

PANACUR® BS is indicated as an anthelmintic for ostriches.
A roundworm and lungworm remedy for ostriches.

COMPOSITION

Fenbendazole 5 % m/v.
(*Benzimidazole)

GROUP

(2)

WARNINGS

- DO NOT SLAUGHTER ANIMALS WITHIN 7 DAYS OF LAST TREATMENT FOR HUMAN CONSUMPTION.
- Do not mix or dilute with any unspecified substance.

DOSAGE AND DIRECTIONS FOR USE

Use only as directed in package insert.

Ostriches:
1,5 mℓ per 5 kg body mass

PRESENTATION

200 mℓ, 1 ℓ, 5 ℓ and 10 ℓ

VAC-SAFE™ TABLETS

INDICATIONS

VAC-SAFE™ is used to dechlorinate animal drinking water. It removes Chlorine and Chloramines completely. The product has a blue food colourant which allows to see its distribution in the water system and to monitor the vaccine administration.

COMPOSITION

Each tablet contains:
Dechlorinating Agent (min) 1.25 g
FD & Blue I Colourant (min) 1.50 g
Vehicle q.s.p 7.00 g.

WARNINGS

- The product may not be used of human consumption.
- Keep the individual packages well closed and in a dry and ventilated place, protected from moisture.
- If the product gets into your eyes, rinse them with abundant running water for at least 15 minutes.
- The product is effervescent and sensitive to the environment's relative humidity. After the sachet has been opened, add its contents immediately in order for the water to be dechlorinated.
- For animal use only.

DIRECTIONS FOR USE

Dissolve an effervescent tablet in 100 litres of water containing up to 5 ppm of chlorine.

After adding the tablet, allow 10 minutes for complete product dissolution and chlorine inactivation.

It is recommend to homogenize the water using an agitator.

PRESENTATION

Bucket containing 100 individually wrapped 7 g effervescent tablets.

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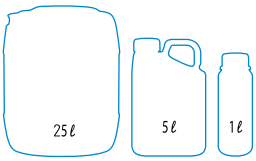
11

DETERGENTS AND DISINFECTANTS

OMNICLEAN™



INDICATIONS

OMNICLEAN™ is indicated for cleaning of animal housing, equipment, and utensils in the animal health and food processing industries, before terminal disinfection takes place.

COMPOSITION

- Quaternary Ammonium Compound (QAC)
- Non-ionic detergent

DILUTION

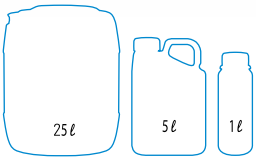
- Diluted at 1:160 or up to 1:320 dependant on the mount of surface debris.
- Can be applied manually or through pressure washers.

PRESENTATION

1 ℓ, 5 ℓ and 25 ℓ.

OMNICIDE™

Act 5 GNR 529/248580/110/0434



INDICATIONS

OMNICIDE™ is indicated for use in swine housing and the surrounding environment as a terminal disinfectant. It is effective against a wide range of bacteria, fungi and viruses including: Classical Swine Fever, Foot and Mouth disease, Swine Vesicular Disease, Ringworm, *Mycoplasma, E. coli, Staphylococcus* and *Salmonella* species.

COMPOSITION

- Quaternary ammonium compounds (QAC)
- Glutaraldehyde

DILUTION

- For floors and walls dilute 1:150, apply at 300mℓ per m^2 and allow to dry.
- For vehicles dilute 1:100 and spray or wash surfaces especially, wheels and wheel arches.
- For site bath ponds and foot dips dilute 1:100 and change when solution becomes heavily soiled.

PRESENTATION

1 ℓ, 5 ℓ and 25 ℓ.

12

VACCINATION TECHNIQUES

LIVE VACCINES – SPRAY VACCINATION

GENERAL GUIDELINES

SPRAY VACCINATION IS USED FOR LIVE VACCINES WHEN MASS APPLICATION IS REQUIRED

Diseases covered:

- Infectious Bronchitis (IB)
- Newcastle Disease (NCD)
- Turkey Rhinotracheitis (TRT)

With live vaccines the spray method allows for rapid and highly effective local immunity due to the effect on the respiratory mucous membranes.

There are four different techniques used to vaccinate day-old and older birds:

1. Automatic spray vaccination of day-old birds in the hatchery.
2. Knapsack spray vaccination of day-old birds on site.
3. Coarse spray vaccination using a knapsack sprayer for older birds (droplet size > 100 microns) – primer vaccination.
4. Aerosol equipment to spray vaccinate older birds with a very fine / mist spray (droplet size < 20 microns) – booster vaccination.

NB! Droplet size is very important to ensure accurate uptake of vaccine by the birds without causing severe vaccine reactions:

- The depth of the respiratory system that is penetrated depends on the droplet size.
- Aerosol sprays – droplets of vaccine penetrate very deeply into the system.
- In priming of day-old birds – aerosol vaccination will cause vaccine reactions therefore use must be made of a coarse spray.
- Booster vaccinations – deep penetration of the vaccine will result in better immunity.
- Droplet size is affected by the pressure and evaporation.
- Evaporation of vaccine droplets can play a role in the vaccine reactions.
- Evaporation causes coarse sprays to become aerosols.
- Pressure – a low pressure produces coarse sprays and a high pressure is used for fine sprays.
- First day spray vaccination – automatic spray cabinets used in the hatchery for mass application.
- Use a coarse spray for priming of NCD vaccines – when only the upper respiratory tract is to be reached.
- Spray vaccination is usually reserved for respiratory infections:
  - IB
  - NCD
  - TRT.
- Day-old farm vaccination with a knapsack sprayer.
  - Do not place crates under or near a heat source (remember effects of evaporation).
  - Hand sprayers not recommended – coarseness of spray is inconsistent because you cannot regulate the pressure.

Procedure for priming:

- For a 1 000 birds dissolve 1 000 doses of vaccine in 250 mℓ water at 15 – 20 °C.
- Use distilled water.
- Open vial under water – clean hands without soap / disinfectant residues on hand.
- Rinse vial 3x – get all the vaccine out the vial.
- Place vaccine solution in knapsack – clean but free of disinfectant or soap.
- Adjust spray pressure to give coarse spray (test against dark background).
- Hold the nozzle 40 cm above the birds, dampen chicks but do not wet them.
- Leave chicks to dry in box for 20 – 30 minutes.
- Use spray equipment only for vaccination and not for disinfecting.

Spray vaccination of older birds (coarse spray using knapsack sprayer):

- For a 1 000 birds: dissolve 1 000 doses vaccine in 500 – 1 000 mℓ distilled water at 15 – 20 °C.
- The ventilation system must be turned off during and for a short while after vaccination.
- Herd birds together.
- Create central path in full light.
- Dim lights while spraying.
- Lower the temperature by 1 – 2 °C.
- Hold the nozzle about 40 cm above the birds' head and move slowly right and left.
- Wear face mask while spraying.
- Open-sided houses – vaccinate at night or around dawn (birds are calm and resting). Close the curtains to make windproof.
- After vaccination – clean the vaccinating equipment inside and outside with hot water.

NB! DO NOT USE ANY SOAP OR DISINFECTANT

Spray vaccination of older birds (aerosol application):

- Aerosol spray from turbo-fogger or atom mister.
- Used to apply live mycoplasma vaccines e.g. **NOBILIS® MG 6/85**.
- To re-vaccinate (booster vaccinations) of older birds against IB or NCD – for deeper penetration of the respiratory tract.
- **NOTE:** Birds must be healthy.
- For a 1 000 birds: dissolve a 1 000 doses of vaccine in 400 mℓ water at 15 – 20 °C (use distilled water).
- Turn ventilators off while vaccinating and for 30 minutes after vaccination.
- Wear protective gear for eyes / nose / mouth.

LIVE VACCINES – ADMINISTRATION IN THE DRINKING WATER

GENERAL GUIDELINES

DRINKING WATER APPLICATION OF LIVE VACCINES IS THE LEAST LABOUR-INTENSIVE METHOD

Diseases that may be vaccinated by this method:

- Certain Infectious Bronchitis (IB) Vaccines
- Certain Newcastle Disease (NCD) Vaccines
- Avian Encephalomyelitis (AE)
- Salmonella
- Infectious Bursal Disease (IBD) (Gumboro)

General Precautions:

- Assess water quality regularly for pH level, chloride / heavy metal levels and bacterial contamination.
- Drinking equipment must be drained of water and birds must be thirsty before vaccination (allowing for sufficient vaccinated water uptake within the time limit).
- Duration of thirsting depends on the age of the birds and the weather. On average thirsting duration is 2 – 3 hours to allow for vaccinated water uptake within 2 – 2.5 hours.
- Vaccinating after feeding or when the birds wake-up (first light) will stimulate rapid water uptake.
- As rule of thumb birds under 14 days of age should not be vaccinated by drinking water method.

Trough System Instructions:

- Troughs must be cleaned and drained in advance.
- The system must be clean of disinfectant residues.
- Quantity of water in which vaccine is dissolved depends on the birds age: Rule of thumb: for each 1 000 birds dissolve 1 000 doses of vaccine in litres of water equivalent to age of birds i.e. 10 000 birds at 25 days of age > 10 x 25 = 250 litres of water.
- Birds older than 40 days: maximum of 40 litres per 1 000 birds.
- Addition of 2 g skimmed milk powder per litre – improves stability of vaccine if dechlorinating agent is not used.
- Dissolve vaccine in small quantity of water (open vial under water and rinse vial 3 times).
- Concentrated vaccine solution is added to pre-measured water quantity with skimmed milk (which was left for 30 minutes).
- Stir solution and place in troughs.

Nipple and Cup Drinker Instructions:

- Close the system
- Raise the lines and open the tap at the end of the system to drain lines.
- Dissolve vaccine in small quantity of water.
- Add skimmed milk (do not use skimmed milk powder in nipple drinkers as this blocks the system) – 1 litre skimmed milk to 50 litres of water.
- Open vial under water and rinse 3 times.
- Stir concentrated vaccine solution and add to pre-measured amount of water in the central water tank and stir again before opening the system.
- Put in water according to age as explained with trough systems.
- Only once all lines are filled with vaccinated water lower the lines.
- Especially for broilers and in hot weather when birds drink more water, it is advised to administer the vaccine in two batches.
- Half the vaccine is prepared and administered, when finished the second half is made and administered.
- pH stabilizer colour the vaccine water blue and can be used to check if all chicks have been vaccinated (dye colours the tongue, beak and crop blue) and allows you to check if the vaccine water has reached the end of the line.
- Rinse pipe lines out after vaccination to prevent skim milk causing bacterial growth.

LIVE VACCINES – INTRAOCULAR / INTRANASAL ROUTE

GENERAL GUIDELINES

OCULO / NASAL APPLICATION IS THE TECHNIQUE FOR VACCINES ADMINISTERED VIA MUCOUS MEMBRANE

Diseases covered:

- Infectious Bronchitis (IB)
- Newcastle Disease (NCD)
- Infectious Laryngotracheitis (ILT)
- Turkey Rhinotracheitis (TRT)

- Each bird receives an adequate amount of vaccine for immediate and uniform reaction.
- Labour intensive.
- Dissolve vaccine in appropriate sterile diluent using applicators.
- Blue dye added to the solvent is an easy way to check if the bird is vaccinated (blue tongue, even if given through the eye).
- One drop is administered to the eye or nostril.

NB: Do not touch eyeball with dropper (eye damage and eye infection may result)

- Nasal administration – keep one nostril closed so vaccine taken up more easily.
- Oculo / Nasal application – applied to birds of all ages.
- Hold dropper vertically so that the droplet size stays constant and less waste of vaccine occurs.

LIVE VACCINES – INJECTION METHOD

GENERAL GUIDELINES

Diseases covered:

- Marek Disease
- Salmonella

- To inject live vaccines a diluent is required.
- Ensure that there is no sediment in the diluent and no yellow discolouration which indicates contamination by bacteria or fungi.
- Handle vaccines in hygienic conditions.
- One should ideally have a separate room to store and handle vaccines.
- Transport and store the vaccine before use in a cooler box with ice packs.
- A sterile dye can be used to check that the vaccination technique is effective. Add 1 mℓ sterile dye to 1 000 mℓ solvent or 0.5 mℓ dye to 500 mℓ solvent.
- The vaccine must be administered within 2 hours of dissolving it in the solvent.
- Store and transport dissolved vaccine in cooler box with ice packs.

General rules when using Marek vaccines:

- Cell associated vaccines are stored and transported in liquid nitrogen (-196 °C).
- Wear safety equipment: gloves and goggles (ampoules may burst if brought to room temperature too rapidly).
- Thaw the ampoule by placing it in a water bath at 23 – 25 °C.
- Dry the ampoule to prevent contamination of vaccine when transferring it to the diluent.
- Use a large needle (18G) to transfer vaccine from ampoule to prevent damage to the carrier cells.
- Transfer to the right diluent (CA Diluent) which has been brought to room temperature.
- Once thawed the vaccine must be transferred to the diluent immediately.
- Once thawed the ampoule of vaccine cannot be transferred back to the liquid nitrogen – therefore remove number of ampoules required from the straw and return the rest immediately to the liquid nitrogen.

Day-old hatchery vaccination:

- Hatchery environment must be kept clean at all times.
- Vaccines administered subcutaneously in the neck or intramuscularly in the leg.
- Automatic vaccinators or hand held vaccinators may be used.
- Always check the equipment – ensure that it is clean and correctly calibrated.
- During vaccination, continuously mix the vaccine solution gently.
- Replace the needle frequently.
- Destroy all remaining vaccine (place in disinfectant).

LIVE VACCINES – WING WEB VACCINATION

GENERAL GUIDELINES

Diseases covered:

- Fowl Pox
- Avian Encephalomyelitis and Fowl Pox (AE+Pox)

- Dissolve vaccine in diluent supplied with the vaccine using applicators.
- Wing web method can be used in birds of all ages.
- Submerge needles in solution and then insert into wing web.
- Insert needles in underside of the wing and not through the feathers – causing loss of vaccine.
- Do not insert the needle in the muscle – vaccine may be washed away by bleeding.
- Take care when wiping needles against bottle – may wipe off vaccine and too little is then left in the needle reservoir.
- Birds younger than 2 weeks – remove one needle.

INACTIVATED VACCINATIONS

GENERAL GUIDELINES

KILLED VACCINES: WATER-IN-OIL EMULSION CONTAINING KILLED ANTIGEN (VIRUS OR BACTERIUM)

Inactivated vaccines can only be administered by injection.

Advantages of inactivated vaccines:

1. Long lasting, optimal and uniform immunity.
2. Fewer systemic reactions.
3. Fewer revaccinations in layers / breeders.
4. Reduce risk of interference (as may occur with combination live vaccines).
5. No risk of spreading.

INACTIVATED VACCINE APPLICATION

- In the hatchery vaccines like **NOBILIS® ND BROILER** are given subcutaneously in the neck.
- Inactivated vaccines used during the rearing phase of commercial layers and breeder flocks (older birds on farm) can be applied:
  - subcutaneously (in the neck) or
  - intramuscularly (in the breast or thigh).

Intramuscular vaccination

- In the breast – hold injector parallel to the breast bone and towards the head.
- In the thigh – do not vaccinate near the bone or joints. Hold the injector away from the hock joint on the outer side of the thigh (the inner side contains the blood vessels and nerves).

Subcutaneous Vaccination:

- Usually bacterial inactivated vaccines e.g. **NOBILIS® CORYZA**.
- Inject the vaccine in the lower part of neck away from the head.
- Vaccination too close to the head causes swelling and pain – the birds will not eat or drink due to the discomfort.

INACTIVATED VACCINE HANDLING

- Store vaccine in fridge at 4 – 8 ºC.
- Bring vaccine to room temperature before injecting.
- Shake vaccine bottle before and during use.
- Use sterile needles and change regularly (1 needle per 1 000 birds).
- Ensure that the syringe is correctly calibrated.
- Ensure that the vaccine goes into the bird and not on the feathers (no vaccine should leave the syringe before or after it is removed from the bird and ensure that the needle does not slide between the feathers and skin).
- Only vaccinate healthy birds.
- Do not store used vaccine bottles – discard.

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