Controlling the quality of vaccination in the hatchery

The C.H.I.C.K. Program available for layer hatcheries

To ensure that all birds are well vaccinated before being sent to farms is the aim of the C.H.I.C.K. Program developed by Ceva Animal Health and implemented in hundreds of hatcheries around the world.

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Indeed, when applying any hatchery vaccine there are specific protocols available (Standard Operating Procedures or SOPs) that need to be applied to make sure that those vaccines are well stored, mixed and administered to day old broiler, breeder or commercial layer chicks.

As with broilers, in layer production there is more and more concentration on vaccinations happening in the hatchery. This is thanks to the availability of innovative layer vaccines that are applied only once in the life of the birds avoiding all negative constraints of farm vaccination. For example, vaccines such as the novel immunocomplex vaccine for layers against Gumboro disease, Novamune, provide the flexibility to administer Marek's vectored vaccines against Newcastle disease (such as Vectormune ND) or laryngotracheitis (Vectormune ILT) all combined with Rispens vaccines in one shot.

Having an effective vaccine administration will reduce the population susceptible to diseases, which increases profitability for the poultry producers. Therefore, in order to take the maximum advantage of this day-old vaccination, regular external audits are performed by qualified and dedicated professionals. The methodology is based on training, questionnaires and on site observations at all stages of the vaccination process during any type of vaccination.

During a hatchery vaccination audit, a system of points is implemented for each stage of the vaccination process: vaccine preparation, administration quality, equipment care, dosage accuracy, speed of vaccination, among others. All the scores are then combined for a final score up to 100% for quick interpretation by hatchery managers.

Getting real time indicators about the quality of the vaccination process is paramount to hatchery managers to make informed decisions. The faster the hatchery managers get results of an audit on the vaccination process, the faster the corrective actions will be implemented. All data is also processed in the C.H.I.C.K. central database to be used anonymously for industry-wide benchmarking. Examples of utilisation of this data are shown in Table 1.

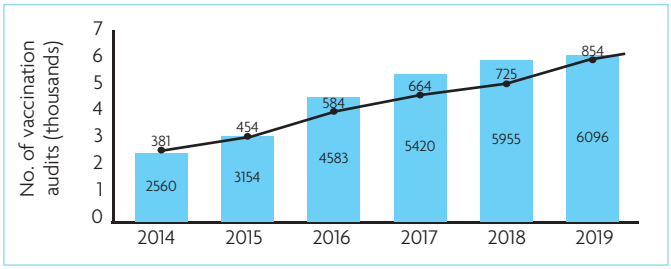


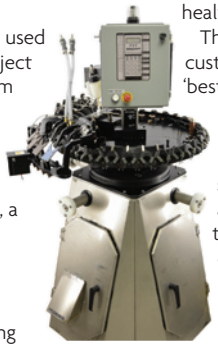
Fig. 1. Evolution of the number of vaccination audits per year and number of hatcheries serviced by the C.H.I.C.K. Program worldwide (2014-2019).

Table 1. Key indicators during hatchery vaccination audits and C.H.I.C.K. Program worldwide scores.

Key indicator	Vaccine/ vaccination type	Scores and worldwide average
1. Vaccine preparation - Vaccine storage, especially on liquid nitrogen. - Handling/preparation room/aseptic techniques evaluation	• Marek's cell associated frozen vaccines or multi-valance vectored vaccines based on Marek's HVT • Freeze dried	• Freeze dried vaccine: 95.954% • Frozen vaccine: 94.69% • vaccine: 93.96% • inactivated vaccine: 97.50%
2. Administration quality and dosing accuracy:	• Subcutaneous Injection • Spray vaccination	• Spray: 96.84% • Injection :98.54%
3. Operational control/ equipment care	• Subcutaneous injection devices • In line sprayers or cabinet	• SQ injection:96.35% • spray:95.53%
4. Training of operators	• Operators dedicated to any vaccination process	• Regular reporting of training topics and results • Number of trainings in one year (2019): 344 for 1362 hatchery operators

A Ceva and Nova-Tech Engineering collaboration

As mentioned, the vaccination equipment used in the hatcheries is subject to the C.H.I.C.K. Program evaluation process. Because of that, Ceva have announced a collaboration with Nova-Tech Engineering, a leader in vaccination equipment for layer hatcheries, that will warrant top level local servicing and monitoring of the subcutaneous vaccination process through Ceva's C.H.I.C.K. Program on Nova-Tech Engineering's Poultry Services Processor (PSP) devices.



Thanks to both companies' global technical teams that are currently being cross-trained through a recognised, extensive training programme, this collaboration will create a more efficient and effective vaccine delivery and, as a result, healthier layer flocks.

The PSP is a comprehensive and customisable robot that delivers 'best for the bird' treatments and services on day old chicks at the hatchery. Among other capabilities, the injection system offers incremental adjustment features, allows the optimisation of needle orientation, needle insertion, and injection site placement to allow for precise treatment ■

Table 2. Ceva and Nova-Tech Engineering collaboration objectives.

Country-based technical support	Monitoring subcutaneous vaccination
• Local Ceva Vaccination Services & Equipment (VSE) specialist.	• Regular hatchery visits according to the C.H.I.C.K. Program Quality Code of Practice standards.
• Trained and Certified by Nova-Tech Engineering Technical support team.	• Monitoring of the subcutaneous vaccination process of the PSP according to the C.H.I.C.K. Program
• Direct communication between Nova-Tech Engineering Technical support team and Ceva VSE specialist.	• Audit vaccination report integrated with Nova-tech Engineering recommendations.