

## ESCUELAGRO

- Looking forward to connect the agro-industrial sector with our rural education institutions, we created meeting points at different locations in our country.
- We seek to create networks among students, teachers, farmers, company owners and local governments.
- As a first meeting point we get to know each region, detecting the basic educational needs.

- The EscuelAgro team works with host schools and different local government agents to design encounters according to specific interests.
- We take action by connecting key actors at one specific place and on a specific date and take advantage of the situation showing students and teachers our agro-industrial sector.
- After the encounter, the EscuelAgro team elaborates a report based on the opinions of participants. Those results are used to list new goals and actions, promoting territorial development.
- The EscuelAgro team will supervise and cooperate with outgoing processes.



## ACCESS TO WATER

- Objective: to promote agriculture under irrigation to achieve local supply of fresh products.
- Actions: water perforations, crop sowing, supply of irrigation equipment, and supply of materials to extension agents.

- 192 families from the community with high vulnerability conditions (economic and social).
- Subsistence farmers related to hunting and fishing.
- Outcomes:
  - ▶ Winter crops such as corn, anpal squash and pumpkin under drip irrigation.
  - ▶ More than 40 intensive crops sown and harvested.
  - ▶ Crop farming in more than 12 communities.
  - ▶ Diversification and intensification of new crops.



## PUBLIC PURCHASING

- To expand the markets to which family farmers have access, guaranteeing diverse sources of income and greater continuity in them.
- To shorten commercialization chains, generating higher incomes for farmers and lower costs for consumers.
- To guarantee the quality of the products marketed by family farmers by making information available to consumers.

- The local Family Agriculture teams technically assist in the development and application of quality protocols in all the links of the production chain.
- National Family Farming teams articulate with national agencies that make public purchases of products produced by the sector, promote and sign relevant agreements, and supervise their application.
- Producer organizations produce and process products according to quality protocols, comply with the requirements established by the national agencies that make the purchases, and subscribe the relevant agreements.
- Main productions involved: sugar, yerba, tropical fruits, heavy vegetables.



## NATIONAL AGRICULTURAL CENSUS (CNA 2018)

- It is a survey that was conducted on all farms in the country - estimating a scope of about 190 million hectares and more than 300 thousand agricultural holdings.
- Purpose: to obtain data on the basic characteristics of agricultural, livestock, forestry and bio-industrial activities.
- The data provided by the census will contribute to develop sectoral public policies, at national and regional levels.

- Responsible body: National Institute of Statistics and Censuses of the Argentine Republic (INDEC).



- Detail: the innovations for collecting data are the digital tablets and a mobile application to integrate all the information. Thanks to these innovations, the data obtained was updated instantly, and the final result will be published more quickly.

- Outcome: the data provided to the census is strictly confidential and protected by statistical secrecy, in accordance with the provisions of Law No. 17,622. The information will only be compiled for statistical purposes.

<https://cna2018.indec.gov.ar/index.html>



## NATIONAL OBSERVATORY OF AGRICULTURAL SOILS (ONSA)

- It was created to integrate dispersed initiatives and intensify the collection and availability of data and information on agricultural soils.
- It will allow to monitor the state and health of soils and generate alerts to prioritize actions. It was created at the request of the provinces assembled in the Federal Agricultural Council (CFA).

- Responsible body: Under-Secretariat of Agriculture of the State Secretariat of Agro-Industry.

- Detail: created by Resolution 169-E/2017

- Background: the priority issues for Argentine agricultural soils are water and wind erosion, and the imbalances and depletion of nutrients (derived from the lack of replacement through fertilization), among others.

<http://servicios.infoleg.gov.ar/infolegInternet/anexos/275000-279999/276780/norma.htm>

## NATIONAL PLAN OF AGRICULTURAL SOILS (PNSA)

- It seeks to advance the sustainable management of agricultural soils, through good practices for sustainable management, soil conservation and restoration; information systems; research and extension in soils; awareness, education and policies; and capacity building and strengthening in national and provincial institutions.
- The **National Observatory of Agricultural Soils** is included in this Plan.

- Responsible body: Under-Secretariat of Agriculture of the State Secretariat of Agro-Industry.

- Detail: created by Resolution 232/2018

- Background: the priority issues for Argentine agricultural soils are water and wind erosion, and the imbalances and depletion of nutrients (derived from the lack of replacement through fertilization), among others.

<http://servicios.infoleg.gov.ar/infolegInternet/anexos/310000-314999/313033/norma.htm>

## SUSTAINABILITY AND GOOD PRACTICES

- The State Secretariat of Agro-Industry focuses on the adoption of good practices in general, and in particular, crop rotation and good practices for the application of pesticides.

- Responsible body: Under-Secretariat of Agriculture, State Secretariat of Agro-Industry.

- Detail: crop rotation has benefits regarding productive diversification, soil structure and health, maintenance of ecosystem services and mitigation effects in relation to climate change.

- Argentina is evaluating the increase of the area cultivated with cereal grasses and the decrease of the area occupied with oilseeds, with respect to the proportion of crops of the 2011 crop year.

- We are analyzing new mitigation measures so as to include them in the National Action Plan on Climate Change, under elaboration and not yet approved.

- Another measure under consideration is related to good fertilization practices.

- Outcome: rotations went from 67%-33% (oilseeds/cereals) in 2014/2015 to 59%-41% in 2018/19, which implied a more sustainable scheme. The 2030 goal is to improve this ratio.

## GOOD AGRICULTURAL PRACTICES (GAP) NETWORK

- Objective: to achieve the massive adoption of GAPs, through a process of continuous improvement, as well as to promote the responsible use of agricultural inputs, taking care of human and animal health, the environment and workers.

- Background: it was created by the Buenos Aires Grain Exchange (BCBA) and the former Ministry of Agriculture, Livestock and Fisheries (MAGyP), and established between MAGyP, INTA, SENASA, AACREA, AAPRESID, ARGENBIO, FERTILIZAR AC, CASAFE, SRA, CONINAGRO, CPIA, BCBA and the University of Buenos Aires' School of Agronomy, along with other institutions, totaled 30 member entities, in April 2014.
- Outcomes: to date, it has four documents: "Document on GAPs - Basic Guidelines", "Recommendations for Regulations of Departments, Municipalities and Parties Regulating the Application of Phytosanitary Products", "Good Agricultural Practices: Guidelines and Requirements for Extensive Crops", and "Good Agricultural Practices: Directives and Requirements for Intensive Crops". It has also sponsored documents such as "Guidelines on the Application of Phytosanitary Products in Peri-urban Areas" (by the former MAGyP) and the "Manual on Good Fertilization Practices" (FERTILIZAR AC, IPNI).

<http://www.redbpa.org.ar/>

## OTHER GOOD PRACTICES EXPERIENCES

- The Under-Secretariat of Agriculture of the State Secretariat of Agro-Industry has the Coordinating Unit on Good Agricultural Practices, which organized, in collaboration with different stakeholders, 35 field days on the topic of pesticide applications, direct work on the territory with the collaboration of municipalities.
- The former Ministry of Agro-Industry and the former Ministry of Environment and Sustainable Development signed the Joint Resolution 1/2018, which establishes that the application of plant protection products for agriculture in the agricultural activity in general, and especially in buffer zones, shall be carried out in accordance with good agricultural practices and subject to adequate control and monitoring systems. It also creates the Inter-Ministerial Working Group on Good Practices in the Application of Plant Protection Products, which aims to develop principles that will govern public policies on plant protection applications in agriculture and food, to formulate recommendations to improve the adoption of good practices and to strengthen control and monitoring systems for application activities. The Group presented its conclusions within ninety days of being formally integrated.

## NATIONAL PROGRAM TO REDUCE FOOD LOSS AND WASTE

- The National Program to Reduce Food Loss and Waste aims to coordinate, suggest and implement public policies in order to understand the causes and the effects of food losses and waste.
- It proposes an agreement to find better strategies with stakeholders of public and private sector, academia and the community.

- The legal framework within the National Program is in the National Resolution No. 392/2015.
- Responsible body: State Secretariat of Agro-Industry.
- The program includes:
  - ▶ A calling for partners to subscribe a Commitment Letter joining the Program.
  - ▶ National Law 25,989 about food donation - the State Secretariat of Agro-Industry and the Argentine Food Banking Network worked together to upgrade National Law 25,989 about food donation (Good Samaritan Food Donation). This proposal was approved in October 2018.
  - ▶ Bill to establish September 29th as the "National Day to Reduce Food Loss and Waste" to raise awareness about FLW at least once a year.
- Comprehensive Guide for local governments "What can Argentine cities do to reduce food loss and waste?" , developed with the World Bank Group.
- Workshop on Agri-Food Chain Evaluation Methodology. The Secretariat, with the Inter-American Institute for Cooperation on Agriculture and FAO provided to 30 people training on "Agri-Food Chain Evaluation Methodology: a first step to reduce food loss".
- Organization of many training activities to spread the challenge of reducing food loss and waste and to build a sustainable food system.
- Research on losses in the supply chain of grains and oilseeds – wheat, corn, soy, and sunflower – carried out by Cargill Foundation and the civil association Solidagro.
- "Solutions to Reduce Food Losses in the Argentine Horticultural Chain" contest, with the IDB, to identify solutions that have a high social impact in terms of technology, financing or processes.
- A campaign called "Valoremos los alimentos" ( "Food Value Boosting" ) is exhibited in congresses, festivals and consumer events. It received important media coverage. Also, a logo represents the campaign, so every partner committed to the National Program can use the material.



[www.alimentosargentinos.gob.ar](http://www.alimentosargentinos.gob.ar)

## SIO GRAINS

- Unified Compulsory Information System of the grain purchase operations that make up the Physical Market.
- All the buyers of grains are required to upload all the information regarding the operation before midnight. This information is instantly uploaded to a public website, in which all operators in the trade chain can see all operations in real time.

- Detail: products reached - soybean, sunflower, sorghum, barley, wheat, corn and rice.
- The system has been developed by the Buenos Aires Grain Exchange.

[https://www.siogranos.com.ar/Consulta\\_publica/#popup1/](https://www.siogranos.com.ar/Consulta_publica/#popup1/)  
<http://monitorsiogranos.magyp.gob.ar/monitorsiogranos.html>



## SIO MEAT

- Information system of purchased live cattle in Argentina.
- The system was developed by the Under-Secretariat of Agricultural Markets and the IT Department of the State Secretariat of Agro-Industry, with the collaboration of AFIP, SENASA and the Under-Secretariat of Livestock of the State Secretariat of Agro-Industry, in order to provide more transparency and statistical data to the Argentine market.

- It is a unified system of information on purchase operations of livestock intended for slaughter that derives from the data obtained from the electronic settlements submitted from AFIP(Federal Administration of Public Revenue).
- Detail: it is based on information provided by AFIP through the electronic bills of purchase of livestock for slaughter, issued by the Ministry of Finance, slaughtering establishments or users and producers. The information is identified according to the origin and destination areas, through the transportation documents. Thus, the prices operated by origin and destination are known. The destination is divided into zones with the purpose of grouping marketing sectors, safeguarding the identity of slaughtering establishments and the trade secret. Operations are updated on a daily basis.

## SIO WINE

- Real Time Information System on Wines.
- Online platform in which all sales operations of wine products are settled.

- Detail: it is a tool to which producers and operators can refer to know the prices of operations as well as the other conditions under which they were made.

The screenshot shows the SIO-VINOS web interface. At the top, there is a search bar with 'Fecha Desde: 10/01/2019' and 'Fecha Hasta: 11/02/2019'. Below this, there is a table titled 'Operaciones 10/01/2019-11/02/2019'. The table has columns for 'Localización del Producto' (Provincia, Departamento, Producto, Variedad), 'volumen (litros)', 'Fecha', 'Precio', 'Forma de Pago', and 'Condición'. The data rows are as follows:

Provincia	Departamento	Producto	Variedad	volumen (litros)	Fecha	Precio	Forma de Pago	Condición
CORDOBA	RIO SEGUNDO	VINO TINTO	---	30990	2019-02-04	8.00	CONTADO	GRANEL
CORDOBA	RIO SEGUNDO	VINO ROSADO	---	58649	2019-02-01	7.85	CONTADO	GRANEL
CORDOBA	RIO SEGUNDO	VINO BLANCO	---	19600	2019-02-01	6.70	CONTADO	GRANEL
CORDOBA	RIO SEGUNDO	VINO BLANCO	---	30990	2019-01-21	7.80	CONTADO	GRANEL
LA RIOJA	CHELECO	VINO TINTO	---	19308	2019-02-06	7.37	CONTADO	GRANEL

# SPR WOOL

- Indicative price calculator.

- Continuing with the process of implementing the Reference Price System (SPR) of Wool and from the existence of the agreement between the Under-Secretariat of Markets with INTA, and the publication of the indicative prices of the Price and Market Information Service (SIPyM) of the Prolana program, a theoretical model was developed to obtain the future reference prices of wool for national producers, according to the quotation periods in the Australian market.
- This model is based on information about future prices in that market, as Australia is the world's largest exporter of wool and has a system of daily future values which is unique in the world. Based on these prices, a program was carried out to transform them into future reference values for Argentina, expressed as "final price when sweeping in estancia (farm)".

# HONEY TRACEABILITY COMPUTER SYSTEM

- Computer application.
- The objective is to promote traceability schemes that allow to provide greater guarantees to all our markets and to decrease costs and paperwork for producers and exporters.
- Developed by the State Secretariat of Agro-Industry, together with the National Agri-Food Health and Quality Service (SENASA) and the Secretariat of Modernization.
- Detail: each empty drum must be labeled with a barcode that will be the basis of the new traceability system to provide traceability along the distribution chain. In order to ensure the full traceability of honey, all those parts of the production chain must report the events in the software (date, process carried out, movement, etc.) until export.



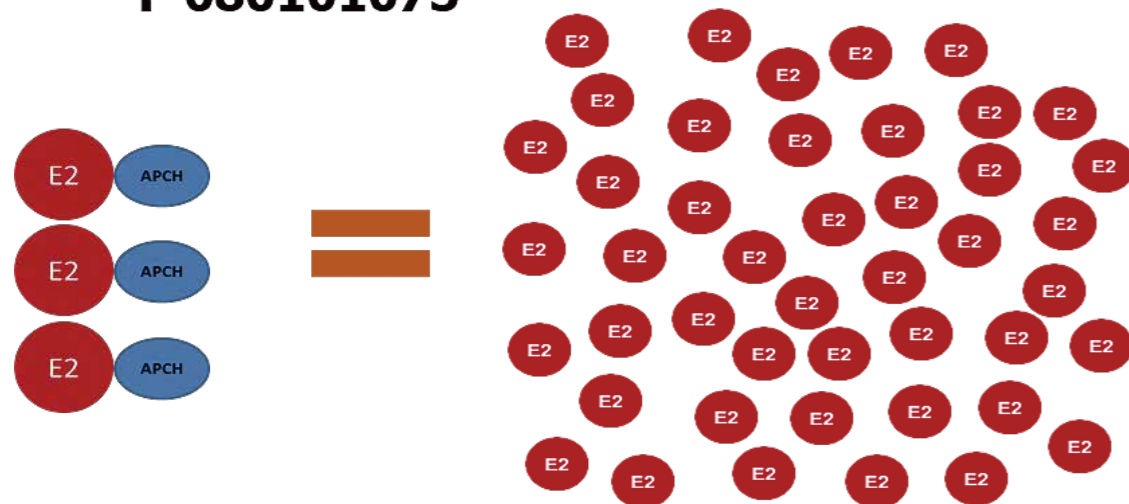
# VEDEVAX: FIRST RECOMBINANT TARGETED VACCINE FOR BOVINE VIRAL DIARRHEA VIRUS

## ■ APCH1 PLATFORM

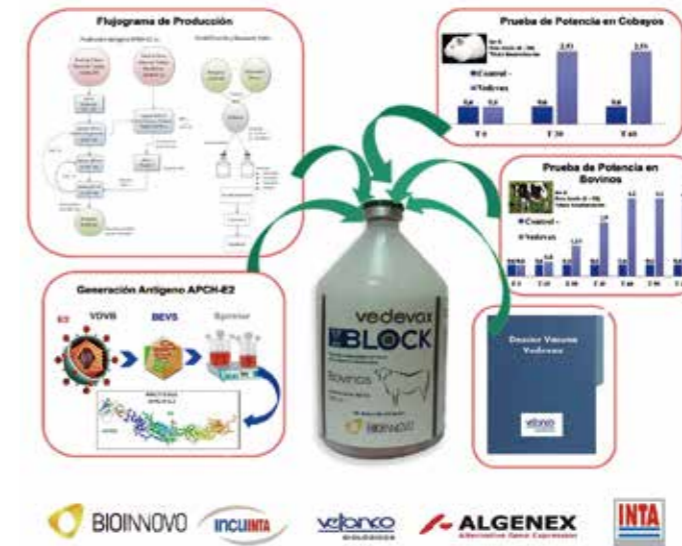
- Unlike standard vaccines, in which the immune system finds the vaccine antigen, recognizes it as foreign, and then triggers an immune response, the **APCH1 platform** allows presenting the antigen directly to the immune cells.
- The APCH1 platform is based on the use of a single-chain antibody that recognizes the preserved site of the MHC type II molecule, on the surface of antigen-presenting cells, to which proteins of different pathogens can be fused.
- The first subunit recombinant vaccine licensed against the bovine viral diarrhea virus
- **Vedevax** is the first subunit recombinant vaccine in the world licensed against the Bovine Viral Diarrhea virus (BVDV), a disease that affects many cattle herds. Unlike traditional vaccines, its production is based on the combination of viral E2 glycoprotein with the APCH antibody, which has affinity for the immune system. This mechanism greatly increases its effectiveness.



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**PRIMERA VACUNA A SUBUNIDAD RECOMBINANTE REGISTRADA CONTRA EL VIRUS DE LA DIARREA VIRAL BOVINA**



## POTENTIAL MARKET

- The vaccines will initially be commercialized in the Argentine market and then exported to those countries in Latin America with livestock production where the Vetanco distributor network has a proven record and commercialization capacity.
- In Argentina, the cattle population was calculated in 2015 at 51.4 million head of cattle, of which 22.4 million are cows.
- To estimate the percentage of the cattle that are vaccinated regularly, the approved average doses of the pathologies of respiratory diseases and reproductive syndromes were estimated. In this sense, it was calculated that 42.9% of the total herd vaccinated against respiratory diseases and that 47.7% of the cows were vaccinated against reproductive syndromes.
- Of the total number of cows that receive reproductive vaccination, 40% are in high-tech establishments, considering these as the potential total market for the monovalent VEDEVAX vaccine, since it would be a novelty in the market.
- The market for the combined VEDEVAX vaccine will be the same as the traditional respiratory (SR) and reproductive (ER) vaccines to which the exclusive strain will be added, generating a competitive and valuable bonus.
- Of the Latin American Market only the potential of Brazil, Colombia, Paraguay and Uruguay is considered, since they are the countries with an important livestock production in which Vetanco has distributors or subsidiaries with the capacity to register these vaccines and penetration within the term of 5 years included in this business plan.
- The livestock stock reported in those selected countries is 224.0 million heads, of which the amount of females is estimated at 97.5 million.

## SOMOS FIBRA

### ■ CASE FRAMEWORK

- Sustainable design store **SOMOS FIBRA** is a brand of the National Institute of Agricultural Technology (INTA) that seeks to enhance craft entrepreneurship of family agriculture, farmers and native people placing value on local resources and promoting productive sustainability processes.
- **DESIGN AND TECHNOLOGY:** Through the contribution of contemporary design and the development of an online store, SOMOS FIBRA brings the ancestral culture and knowledge of rural artisans closer to the lifestyle of the urban consumer.



### ■ SOMOS FIBRA

- **OBJECTIVE :**  
This experience is oriented to the institutional objectives of technological innovation and generation of sustainable agribusinesses.
- **DEMAND :**  
Agriculture and livestock are the main productive activities of family agriculture, farmers and indigenous agriculture. In the economy of these families, craftsmanship is a complementary activity with a high cultural, symbolic and economic value. However, the geographical isolation and scarce investment capital of rural artisans limit their bargaining power with intermediaries who come to their territories to buy handicrafts for resale, who obtain the highest profitability in the chain.
- For this reason, within the framework of the technical territorial assistance provided by INTA to this productive sector, two specific responses emerge: design advice for the development of new products and development of trade strategies that contribute to energize this activity within the framework of the fair trade.
- SOMOSFIBRA emerges as a response to these two requirements present in all the participative diagnoses that the institution carries out with the groups of rural artisans from all over the country.
- **NATIONAL IDENTITY :** The federal scope of INTA extension system, with four hundred agencies that are distributed throughout the country, is the main strength of SOMOS FIBRA. Products that reflect the cultural and environmental diversity of Argentina are integrated into this proposal of contemporary artisan identity.



### ● TERRITORIAL WORKSHOPS:

The collections are developed in territorial collaborative design workshops that the INTA designers team carries out with each group of artisans. Production is carried out taking into account local resources, ancestral knowledge and the internal organization of each group.



### ■ RESULTS

- The project has three hundred families involved and one hundred families in the process of incorporation.
- The current stock of SOMOSFIBRA is composed of two clothing collections made of llama fiber, two collections of home products made with llama fiber and sheep wool and a collection of bags made of goat leather. Two new collections are under development: a line of tableware in smoked ceramics and a line of accessories made in basket weaving with carandillo palm.
- In its first six months, the brand sold 50% of the stock and plans to double it in the course of the year.
- The products are available in the online store [www.somosfibra.com.ar](http://www.somosfibra.com.ar) and in four important design stores in the city of Buenos Aires, located in art museums, the Hilton Hotel and the Ezeiza International Airport



■ PATH TO FOLLOW

- Bring the tools of design to new groups of artisans to enhance the economic development of artisan production throughout the country.
- Promote international sales through collaboration with the National Agency for Investment and International Trade and foreign diplomatic representations in our country.



SOMOS FIBRA





## INTA GUINEA PIG MODEL FOR POTENCY TESTING OF BOVINE VIRAL VACCINES

### ■ OUTLINE OF THE CASE

- INTA developed a lab animal model to evaluate the immunogenicity against the viral antigens included in combined vaccines apply in bovines
- The model is statistically validated to predict the immunogenicity of the vaccine in the target species



### ■ POINTS OF THE CASE

- The model is already validated to evaluate the quality of combined vaccines containing IBR, parainfluenza 3, bovine viral diarrhea virus, rotavirus and coronavirus.
- The model was adopted by the national animal health authorities for the official control of vaccine quality for rotavirus and IBR (Resol 598.12)
- INCUINTA produces and distributes the EISA methods associated to the model for vaccine quality control



## BIOINNOVO IgY DNT

### ■ IgY PLATFORM

- The IgY Technology consists in obtaining polyclonal antibodies by immunizing layers with the antigens of interest. Layers are able to concentrate IgY antibodies in their egg yolks. IgY production minimizes animal suffering because the antibodies are not obtained from the blood serum, but from the egg yolk of hyper immunized hens. In addition, significantly higher antibody levels can be obtained from hens than from mammals. This technology allows producing several tons of specific IgY against different antigens, supporting the design of profitable prophylactic and therapeutic products. Moreover, the production of antibodies using the IgY technology addresses animal welfare concerns by operating under the 3R principles (reduction, replacement, refinement) of animal research, avoiding or minimizing the use of laboratory animals for the production of biological reagents.

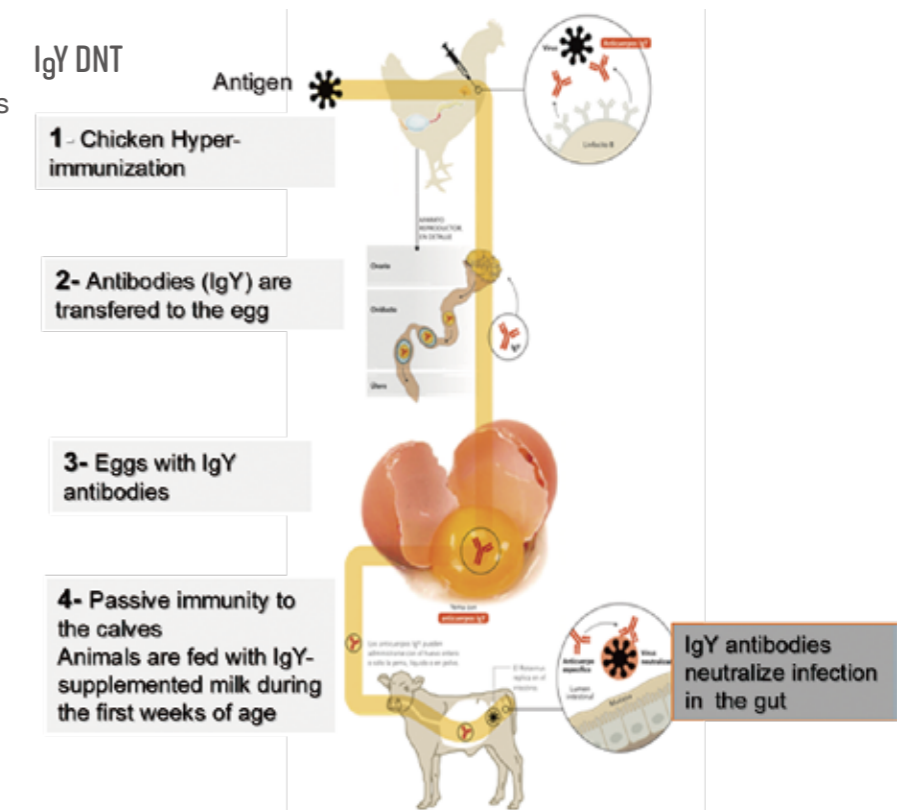
### ■ THE ALTERNATIVE TO CONTROL NEONATAL CALF DIARRHEA

- IgY DNT is the alternative to control neonatal calf diarrhea. It is based on specific avian IgY immunoglobulins against the main infectious agents that cause neonatal calf diarrhea. The administration of IgY DNT reduces the severity and duration of scours, minimizing weight loss and improving the performance of calves. It is also highly palatable, easy to administer, and complements vaccination and treatment schemes in cows and calves.

### ■ LESS ANTIBIOTICS AND HIGHER PROFITS

- IgY DNT controls not only diarrheas of viral origin, but also those caused by bacteria, reducing or even avoiding the use of antibiotics, thus benefitting herd health. In addition, by shortening the duration of diarrhea episodes, the shedding of infectious agents in the environment, which is the main source of infection for susceptible animals, is reduced. Its inclusion in the feed, as a complementary strategy, improves animal health, and significantly reduces losses due to disease and mortality.

- Innovative Reasoning
- First product to treat virus
- Field Tested
- Government Approved



## PREVENTIVE TREATMENT

- 20 grs/ twice a day/ 14 consecutive days

