EVALUATION OF MASS SYSTEMATIC VACCINATION AGAINST FOOT-AND-MOUTH DISEASE IN ARGENTINA.

Preliminary results

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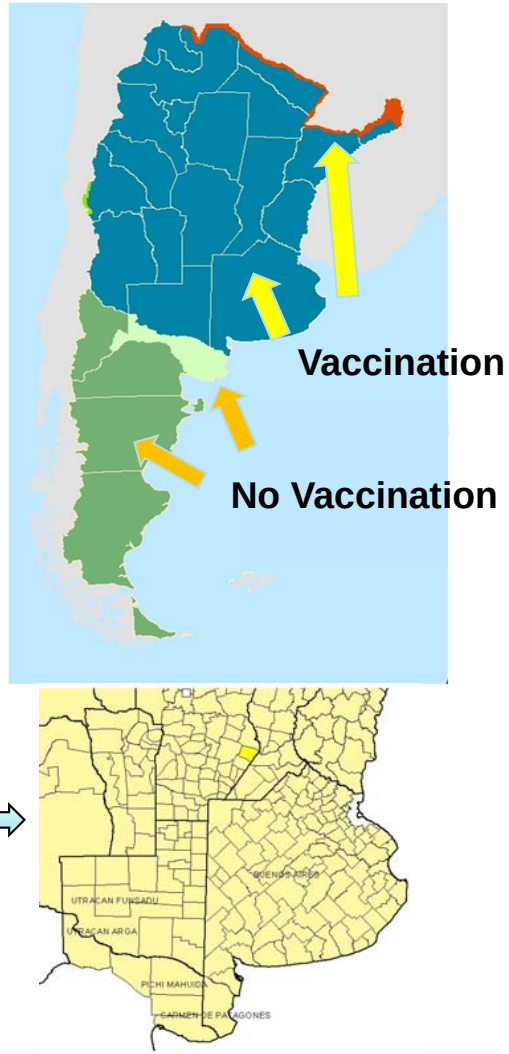
Background

- Whole country is free from FMD: zones where vaccination is practiced and zones where it is not.
- National FMD program set up in 2001
- Systematic and mandatory mass vaccination of cattle:
  - Main productive areas
  - Two vaccination campaigns.
  - Oil-adjuvant vaccine: types A argentina2001, A24 Cruzeiro, O1 Campos & C3 Indaial. (85,000,000 doses p.a.)
  - Regulated by the National VS
  - The territory is organized in 410 jurisdictions, called **Local Vaccination Plans**.
  - Execution by 300 nonprofit organizations with the participation of producers.



Methodology

- **Objective:** Official Post vaccination monitoring of routine vaccination against foot-and-mouth disease in cattle .

- **Target population:** Local Vaccination Plans that conduct **two annual vaccination campaigns** (≤ 2 year-old twice/year & > 2 year-old once/year) (n=355). Results presented correspond to **75 % of samples**.

- **Methodology**: determination of antibody titers against FMDV capsid proteins by **liquid phase ELISA for type A24 and O1 viruses**.

- **Design**: 2 stage random sampling to estimate the proportion of protected cattle at **each Local Vaccination Plan, for two groups**:

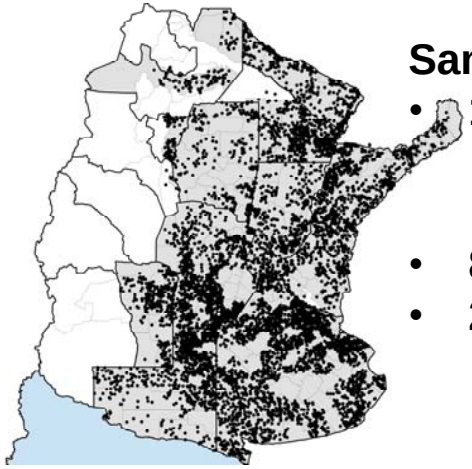
6 to 12 month-old

- Expected prevalence: 65% of protected cattle
- Acceptable error of 8.7 %
- 95% confidence level
- 33 establishment per plan & 10 samples per establishment
- homogeneity rate of 0.2

12 to 24 month-old

- expected prevalence of 80% of protected cattle
- Acceptable error of 9.4%
- 95% confidence level
- 33 establishment per plan & 3 samples per establishment
- homogeneity rate of 0.2

Results - general

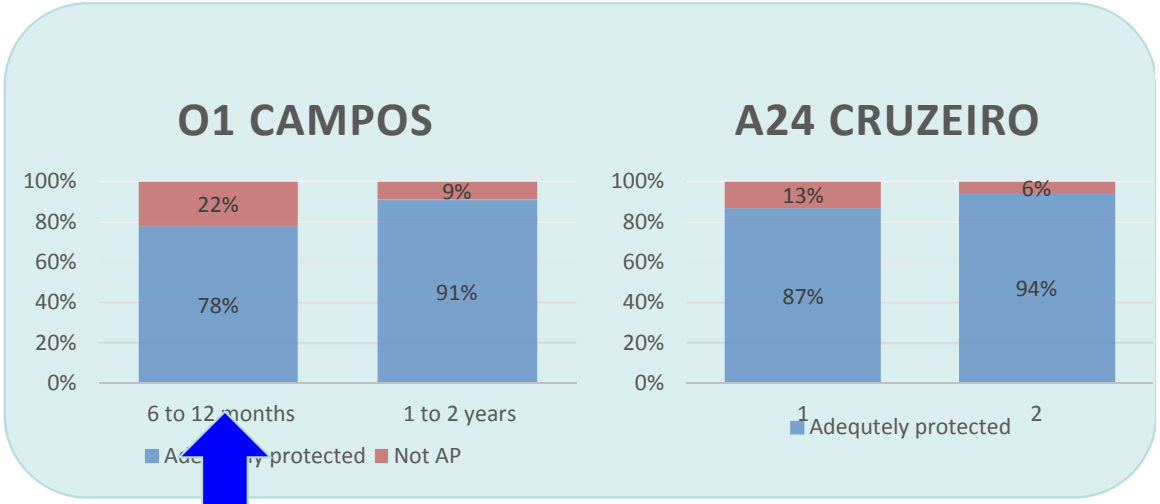


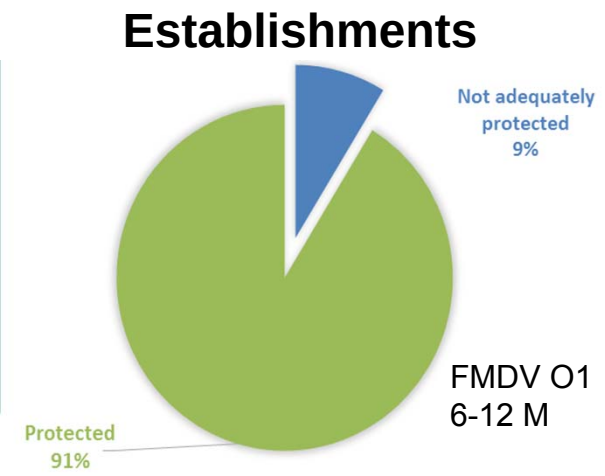
Sample

- **107.080** Cattle:
  - **82.434** 6-12 m
  - **24.646** 1 to 2 y
- **8258** Establishments
- **262** Local vaccination Plans

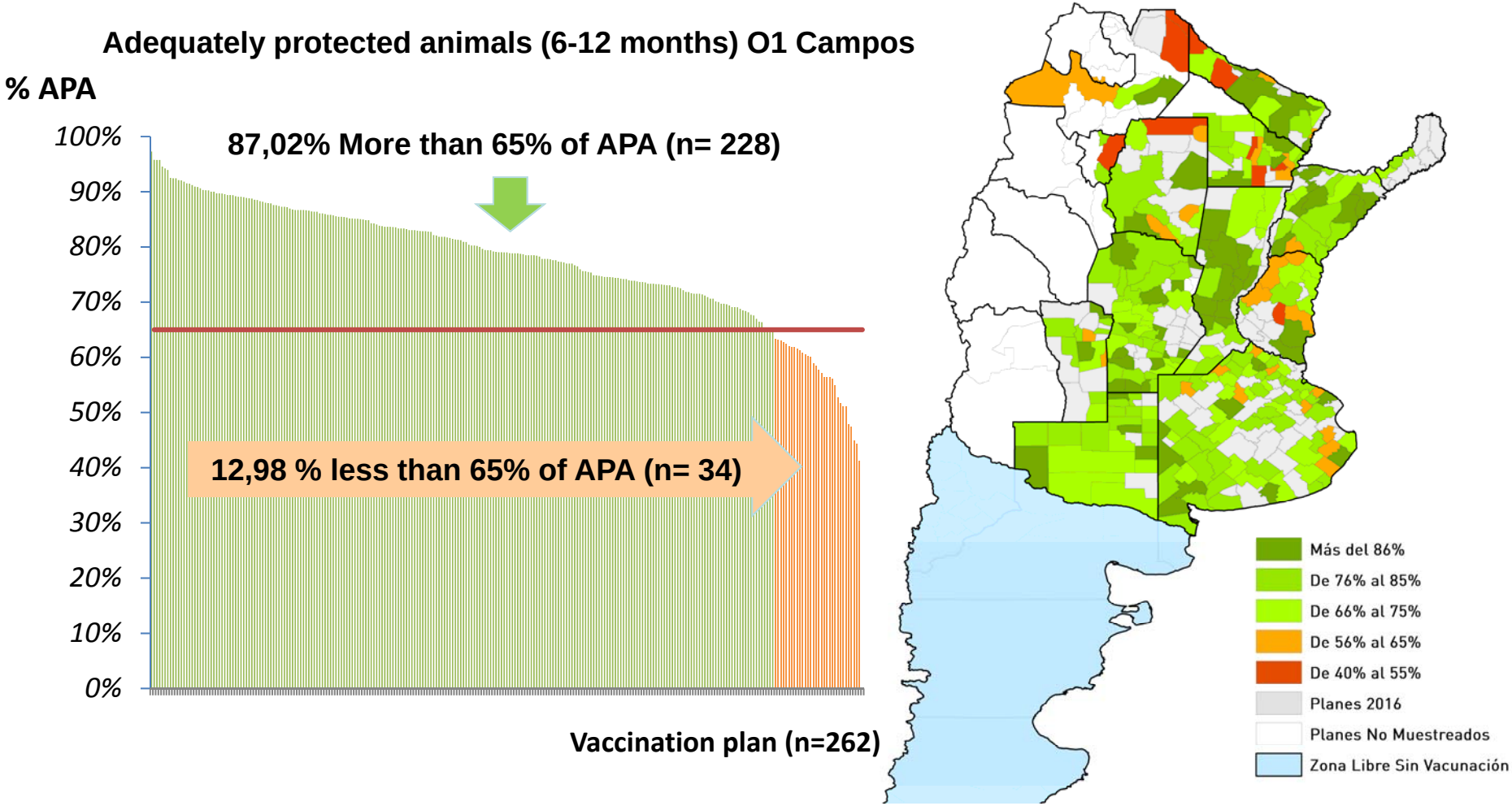
Definitions:

- Adequately protected **animals** (APA)= EPP ≥ 75%
- Low Immunity **Vaccination Plan** (LIVP) = <65% of APA (6 to 12 m)
- Not adequately protected **establishment** (NAPE)= <65% of APA (6 to 12 m) (3 or less APA)

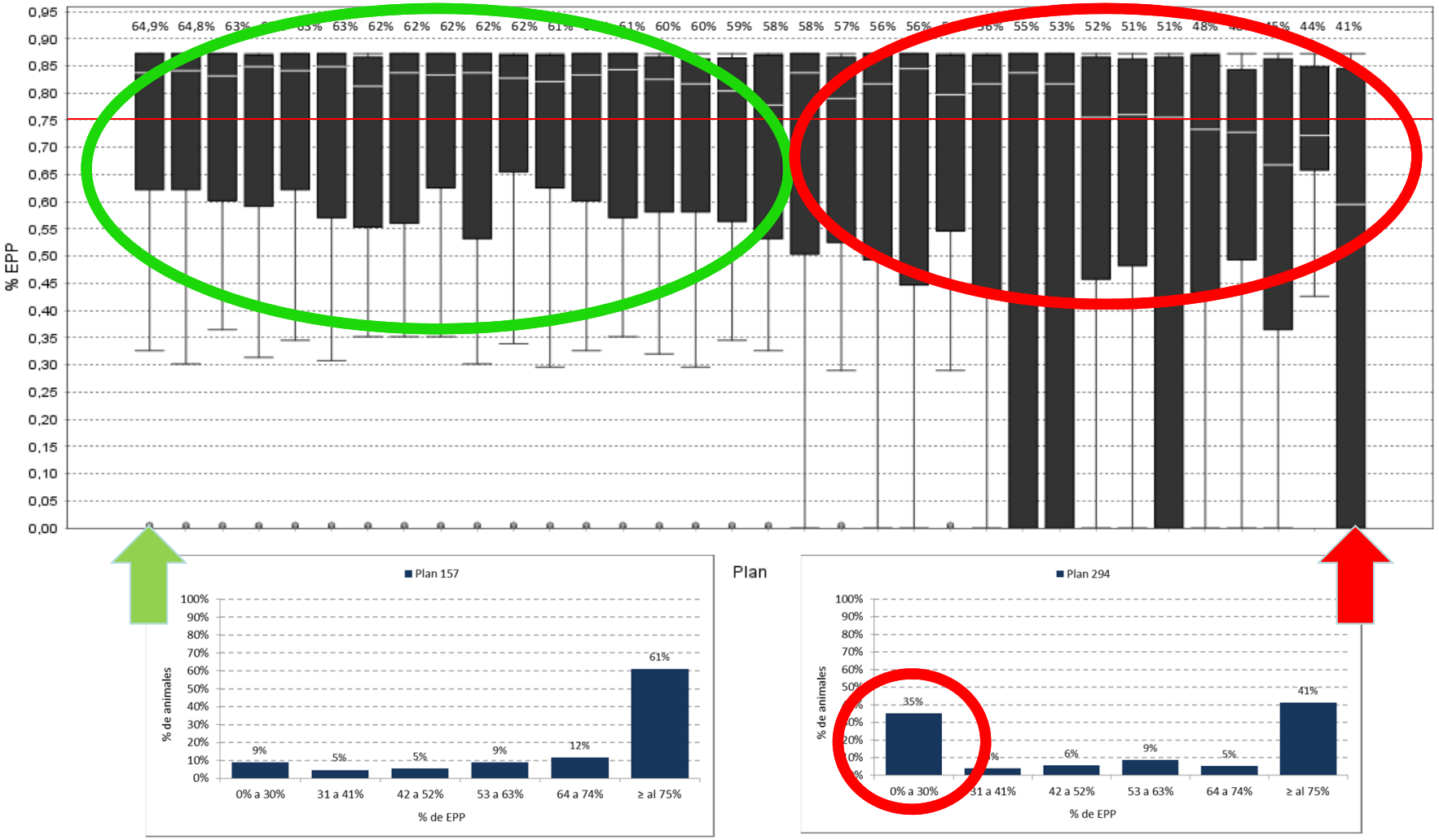




Results – per vaccination plan



Distribution of individual EPP per LIVP

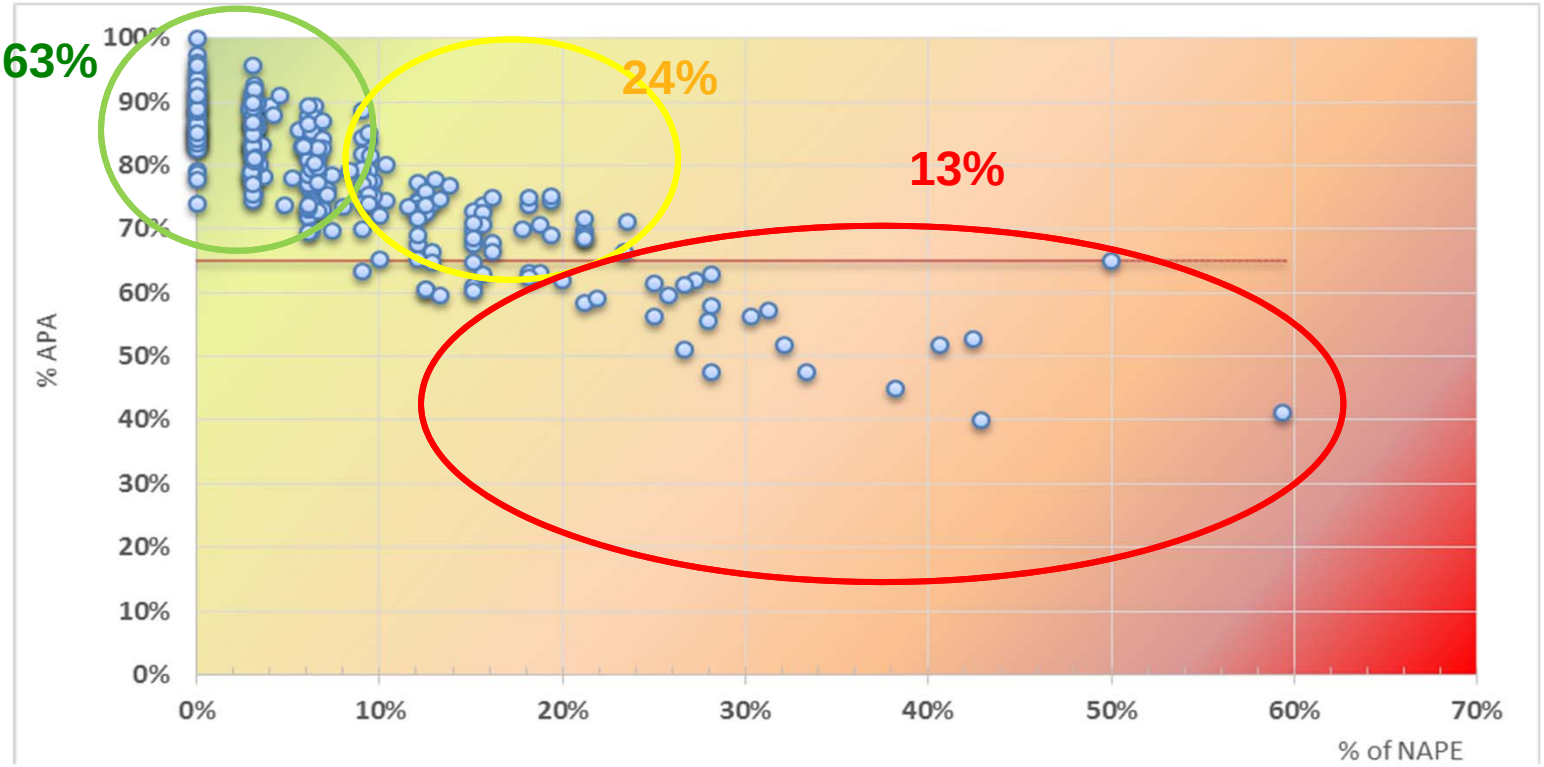


Distribution of Non-APA

Establishments	N°	%
Not adequately protected	**699**	**9%**
Other	7.314	91%
Total	8.013	100%

Average per plan = 8.93 NAPE

(Considering only establishments with 10 samples)



Conclusions

- Vaccination programme achieved satisfactory levels of herd immunity in most of the territory
- This study provided precise information to audit and review the work of vaccination plans
- Further analyses will be conducted to study possible factors conditioning the success of the vaccination programme
- This information is being used to conduct risk based surveillance for virus circulation (2017)
- Further geographical analysis will be conducted to better detect possible areas of concentration of not adequately protected animals (High risk areas for residual endemism)

Thank you!

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