

ASF Surveillance and diagnosis (Prevention of Human-Mediated Transmission)

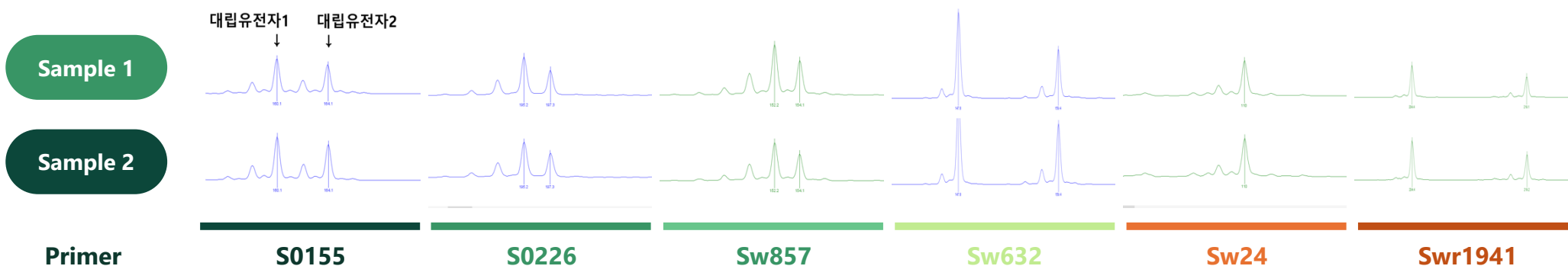
1 Kinship Analysis

Purpose : To identify individual wild boars using genetic profiling and detect fraudulent activities (e.g., duplicate reporting), thereby minimizing administrative inefficiency and budget waste.

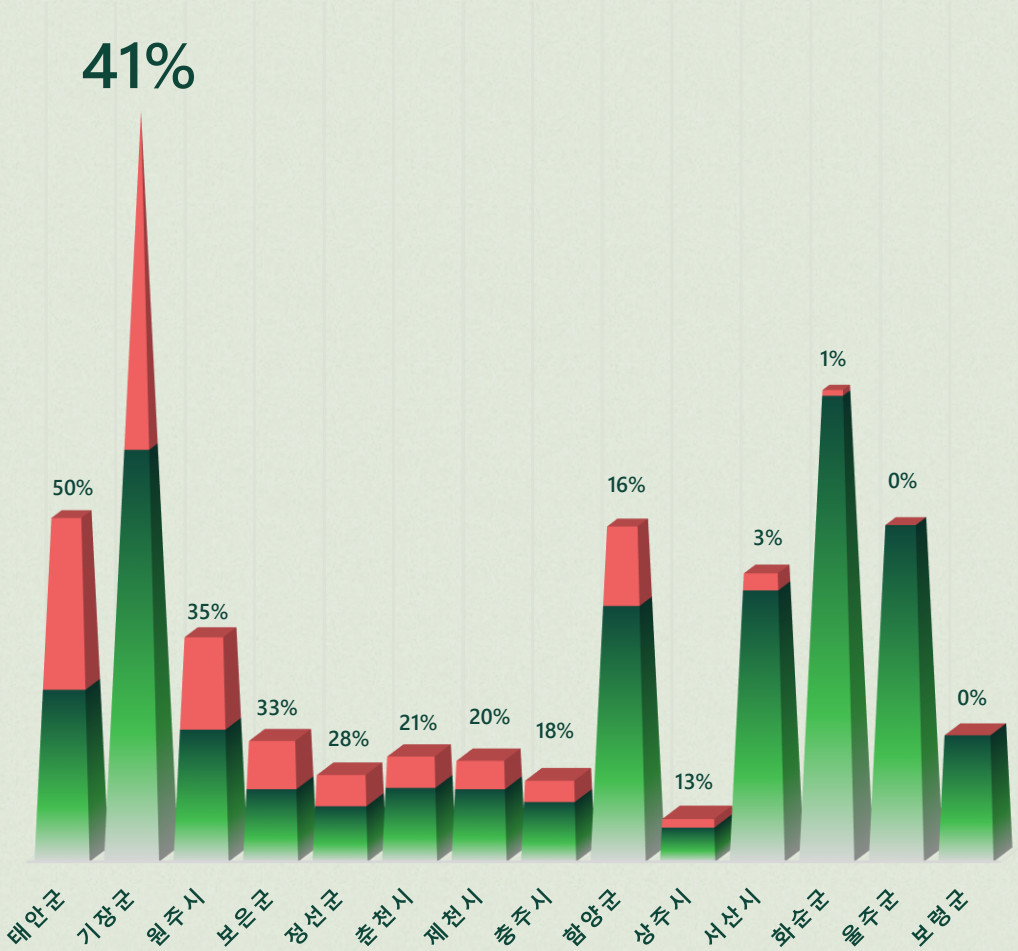
Method: Genotype information is obtained using 16 pairs of STR primers specific to wild boars.

- Detection of identical individuals through genetic comparison analysis.
- Results are shared with relevant authorities (local governments, regional environmental offices) for follow-up action.

※ Sixteen genetic markers developed for wild boars are applied using a forensic method similar to that used in human identification, with reliability exceeding 99.99%.



1 Kinship Analysis



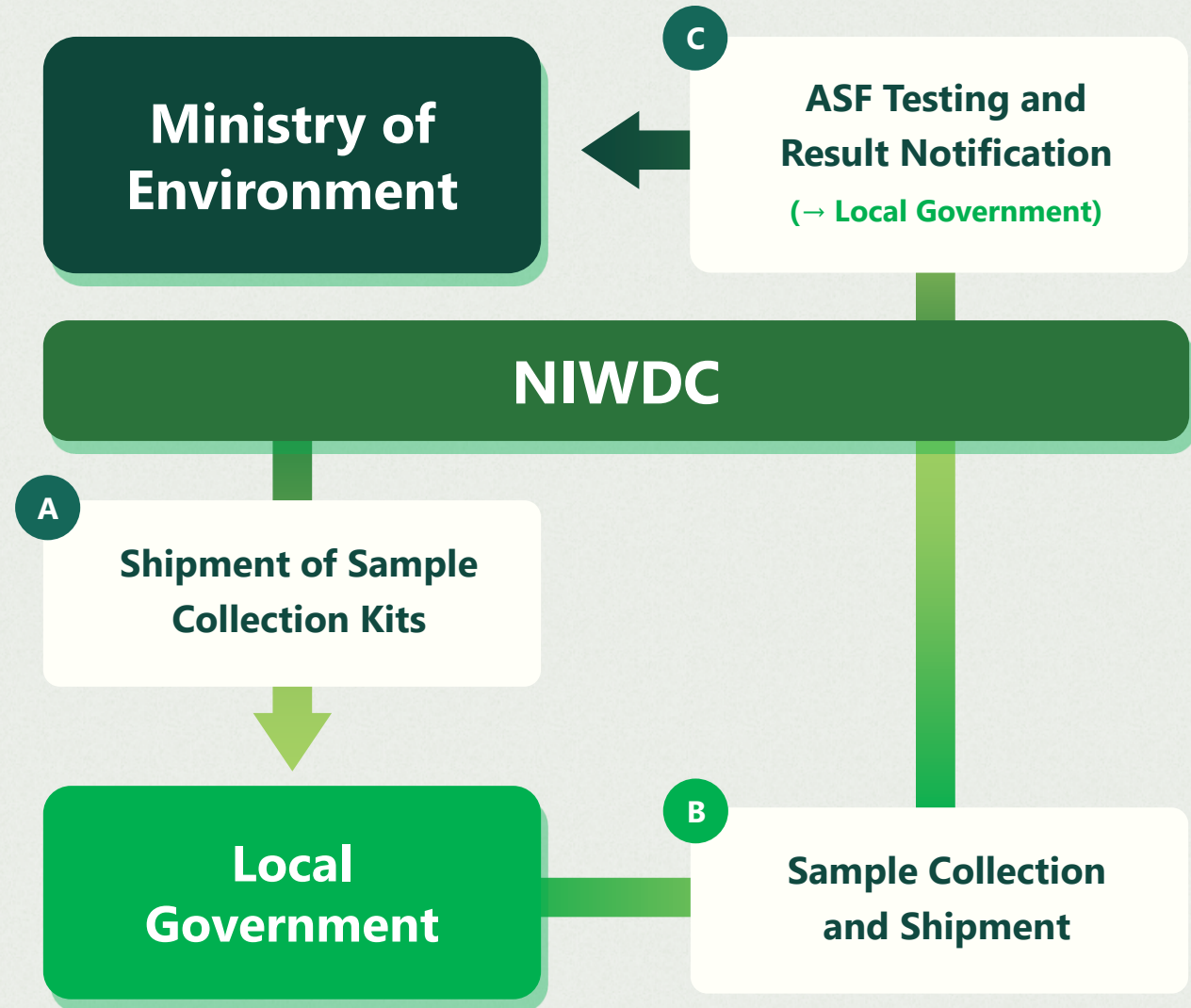
Year	Province	city	Samples Analyzed (Cases)	Number of Detected Groups	Number of Detected Individuals (Boars)
Total			2,228	140	528
2020	GangWon	Chuncheon	74	9	22
Subtotal			74	9	22
2021	Gangwon	Jeongseon	61	5	22
	Gyeonggi	Gwangju	2	-	-
Subtotal			63	5	22
2022	Chungbuk	Boeun	85	14	34
		Chungju	57	6	15
	Gyeongbuk	Sangju	30	3	6
Subtotal			172	23	55
2023	Chungbuk	Boryeong	89	-	-
	Gangwon	Wonju	158	23	65
	Chungbuk	Jecheon	71	8	20
	Gyeongnam	Hamyang	236	21	56
	Busan	Gijang	65	9*	34*
Subtotal			619	52	141
2024	Busan	Gijang	528	35	238
	Ulsan	Ulju	237	-	-
	Jeonnam	Hwasun	332	2	4
	Chungnam	Seosan	203	5	12
		Taeon	242	43	121

2 Biosecurity Inspection

Background

A comprehensive inspection was conducted in ASF-affected areas to assess potential human-mediated transmission risks
(e.g., hunters, hunting dog, equipments).

The goal was to evaluate the current state of biosecurity management and **raise awareness** of the importance of on-site disease control.



ASF Surveillance and diagnosis (Data Analysis and Research & Development)

ASF Spread Prediction Study in Wild Boars

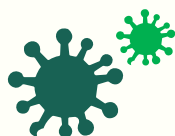
1 Purpose

To develop an applicable ASF spread prediction model by integrating ecological characteristics of wild boars, topography, land cover, and fencing status into the modeling framework.

2 Main Components



Compilation of domestic wild boar ecological, environmental, and management activity data



Analysis of ASF outbreak status in South Korea



Advancement of ASF risk prediction models for domestic spread



Visualization of ASF outbreaks and predicted risk areas, with improved data accessibility