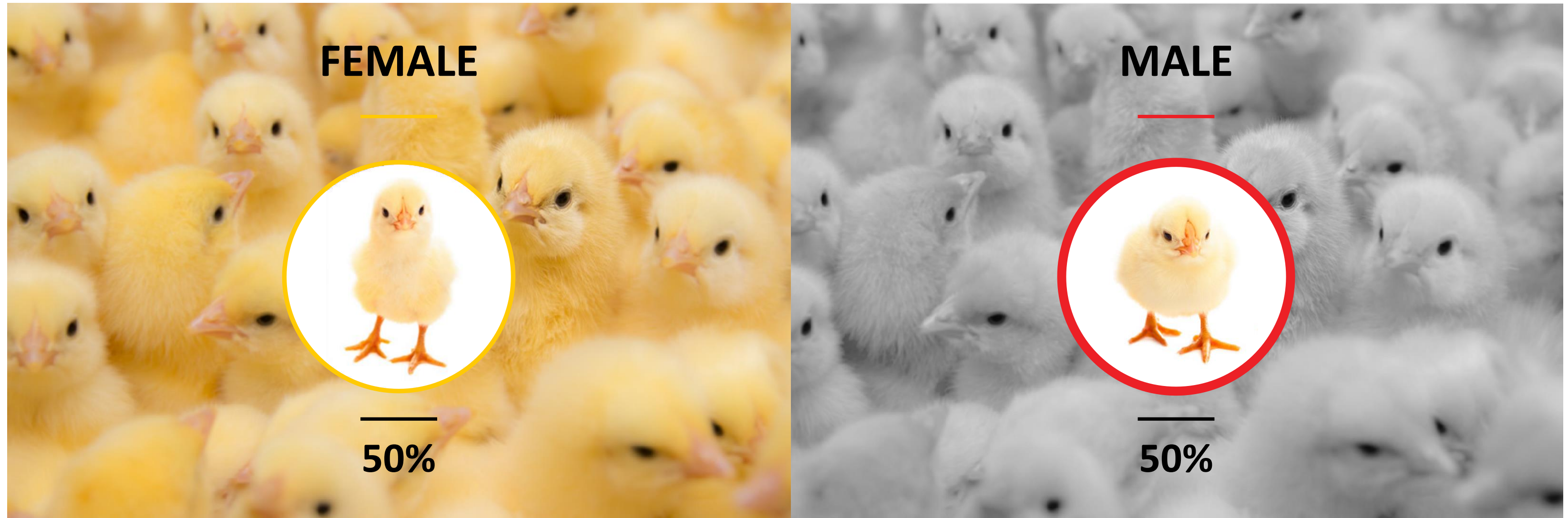


SOOS
EGG SEX REVERSAL



SOOS
TECHNOLOGY
INTRODUCTION

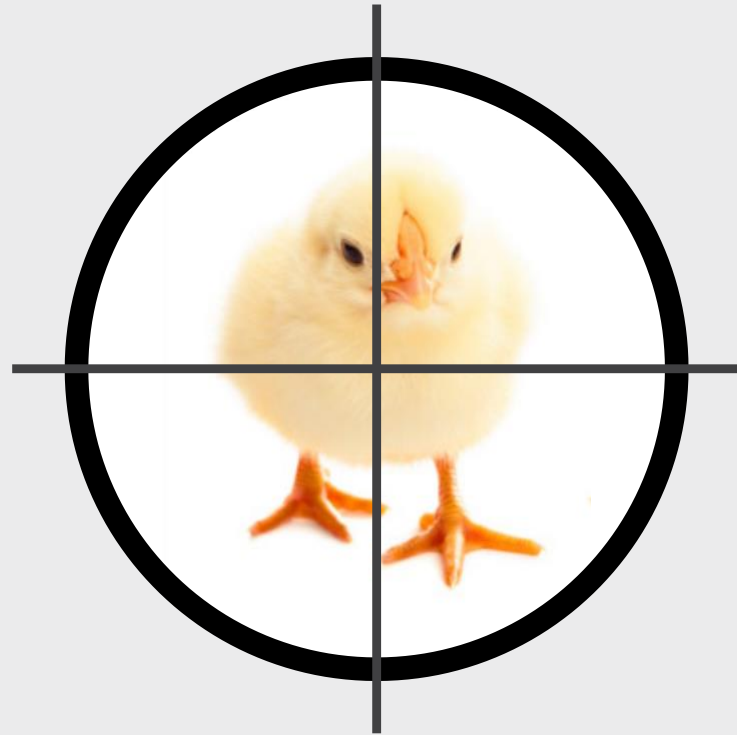
SAVING MALE CHICKS!



- Sent for growing and laying
- Lays 280-300 eggs/year

- Sent to extermination
- Can't lay eggs

GLOBAL IMPLICATIONS



**7.5 Billion
males exterminated**



**Regulatory pressure prohibiting
male culling in EU starting 2022**



**50% capacity loss
(\$220B Market)**

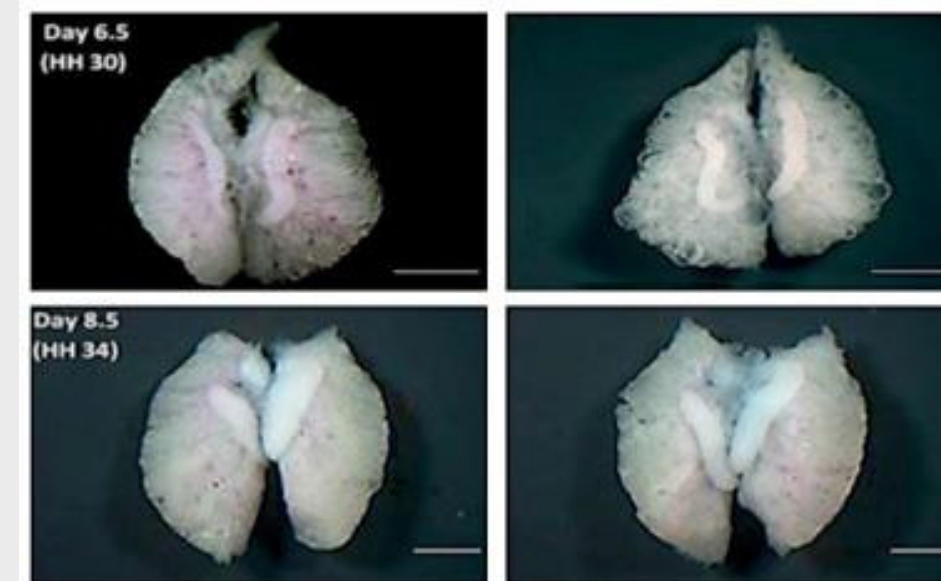
SEX DETERMINATION IN BIRDS

- › Common in nature
- › 17 genes directly affect sexual development in avian embryos
- › **Technology reassigns males to function as females and lay eggs**

Phenotypical sex determination

Ovary

Testicles



Z W
FEMALE

Z Z
MALE

THIS IS HOW WE SCALE IT UP

Producing more females with the same resources



Our Solution Includes:



Sound Vibration



Humidity



Temperature

SMART TRAY & DATA COLLECTION SYSTEM

- › Smart trays contain the core control and transmission technology and a sensor system to collect incubation data at scale
- › Our smart tray allows frictionless installation in customer site, without affecting the standard incubation process
- › Each tray contains 30 sensors sampling signal data every minute, and moving it to our cloud Soository system



Egg trolley with the company's trays @ Amadori Italy



Smart tray prototype system loaded with eggs

SOOSITORY SOFTWARE PLATFORM

SoositOry

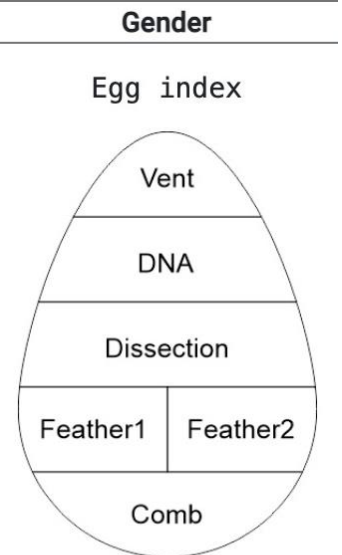
Sign out

Floor 1 - 0	Floor 1 - 1
Floor 2 - 0	Floor 2 - 1
Floor 3 - 0 (Tr: 2) 52.78% 5 / 47.22% 1	Floor 3 - 1 (Tr: 4) 57.89% 7 / 42.11% 1
Floor 4 - 0 60.00% 3 / 40.00% 1	Floor 4 - 1 59.84% 13 / 40.16% 0
Floor 5 - 0	Floor 5 - 1
Floor 6 - 0 (Tr: 4) 50.00% 5 / 50.00% 2	Floor 6 - 1 (Tr: 1) 62.61% 11 / 37.39% 2
Floor 7 - 0 52.50% 6 / 47.50% 0	Floor 7 - 1 58.26% 7 / 41.74% 1
Floor 8 - 0	Floor 8 - 1
Floor 9 - 0 (Tr: 1) 52.63% 4 / 47.37% 0	Floor 9 - 1 (Tr: 1) 55.36% 8 / 44.64% 1
Floor 10 - 0 53.21% 5 / 46.79% 1	Floor 10 - 1 56.25% 3 / 43.75% 0
Floor 11 - 0	Floor 11 - 1
Floor 12 - 0	Floor 12 - 1
Floor 13 - 0	Floor 13 - 1
Floor 14 - 0	Floor 14 - 1
Floor 15 - 0	Floor 15 - 1
Floor 16 - 0	Floor 16 - 1

This tray

Total Eggs:	Total Females:	Total Males:	M to F:	F to M:	Didn't hatch:	Unfertilized:	Early died:	Late died:	Died:
146	72 62.61%	43 37.39%	11	2	7 4.67%	19 12.67%	2 1.33%	1 0.67%	2 1.33%

	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
765	764	763	762	761	760	759	758	757	756	755	754	753	752	751	1	
		UF					UF									
780	779	778	777	776	775	774	773	772	771	770	769	768	767	766	2	
					D	UF								DH		
795	794	793	792	791	790	789	788	787	786	785	784	783	782	781	3	
							UF		UF				UF			
810	809	808	807	806	805	804	803	802	801	800	799	798	797	796	4	
	ED	UF	UF			UF			UF			U				



Layout Legend

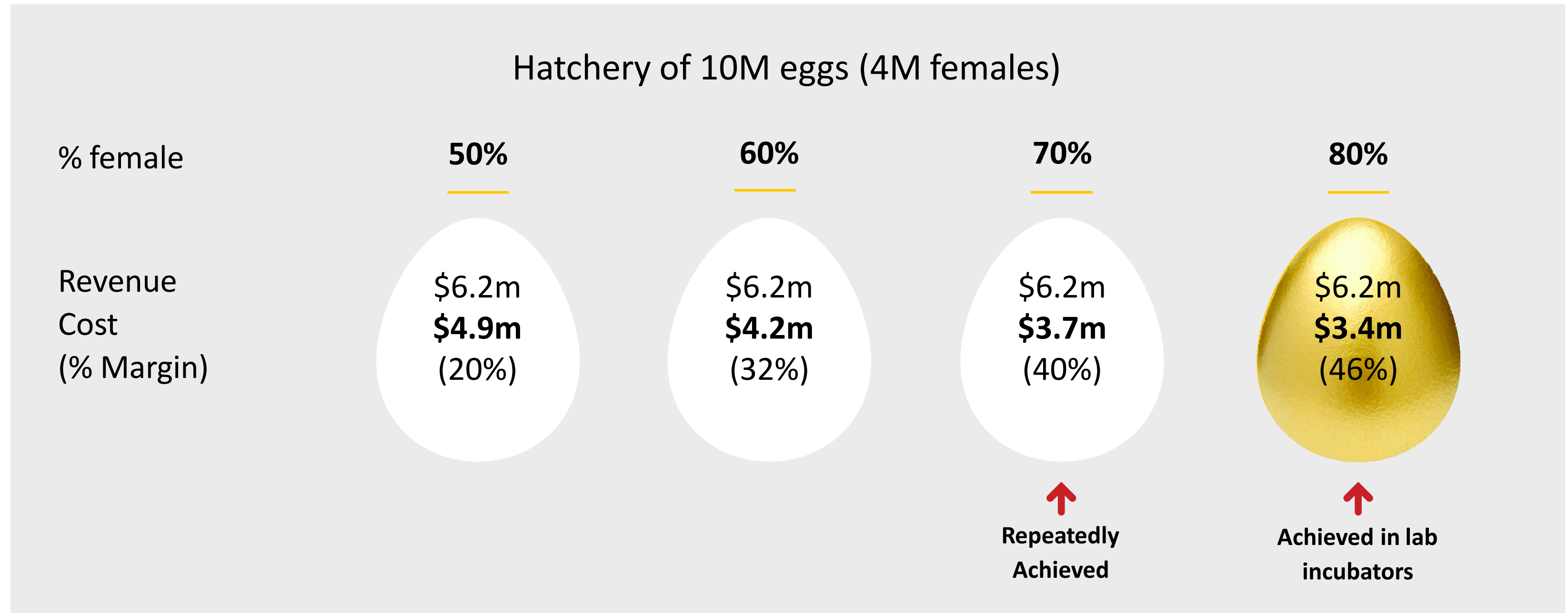
There are 5 eger sections for 5 types of classification: Male/Female/Unknown

Gender
Egg index

Log and Comments

CLIENT BENEFIT

Increase profit margin from 20% to 46%



SOOS
EGG SEX REVERSAL



**EXPERIMENTAL
TRACTION**

DISSECTED SEXUALLY REVERSED FEMALE EXAMPLE FROM APRIL '21 EXPERIMENT



Feather: **Female**

Vent: **Female**

DNA: **Male** (tested 3 times)

COMB: **Female**

Dissection: **Female**

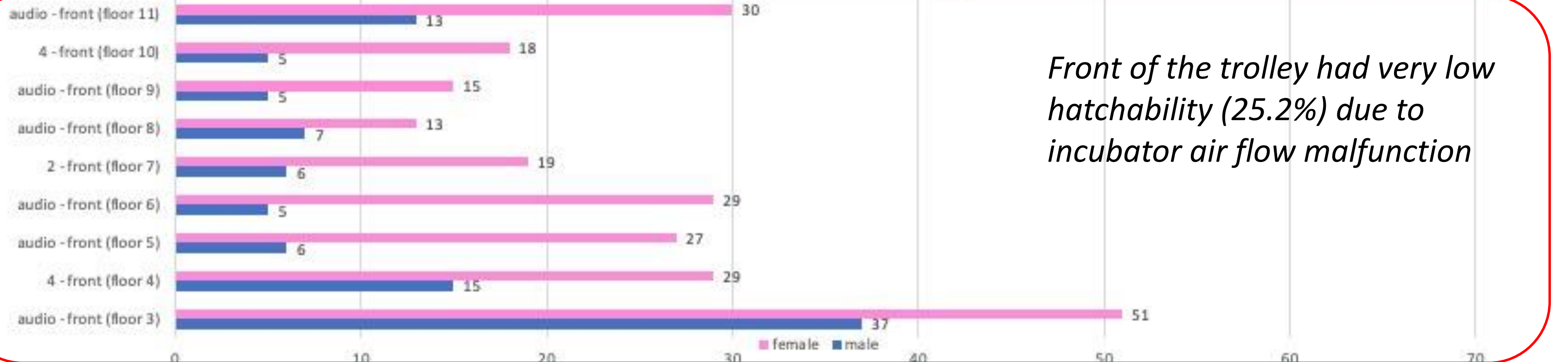
Female age: 120 days

EXPERIMENTAL TRACTION DURING 2022

Location: Israel; Live chicks 1,227 (Female 65%, hatchability:46%, with UF 24%)

Exp 23 - male/female distribution - by feather

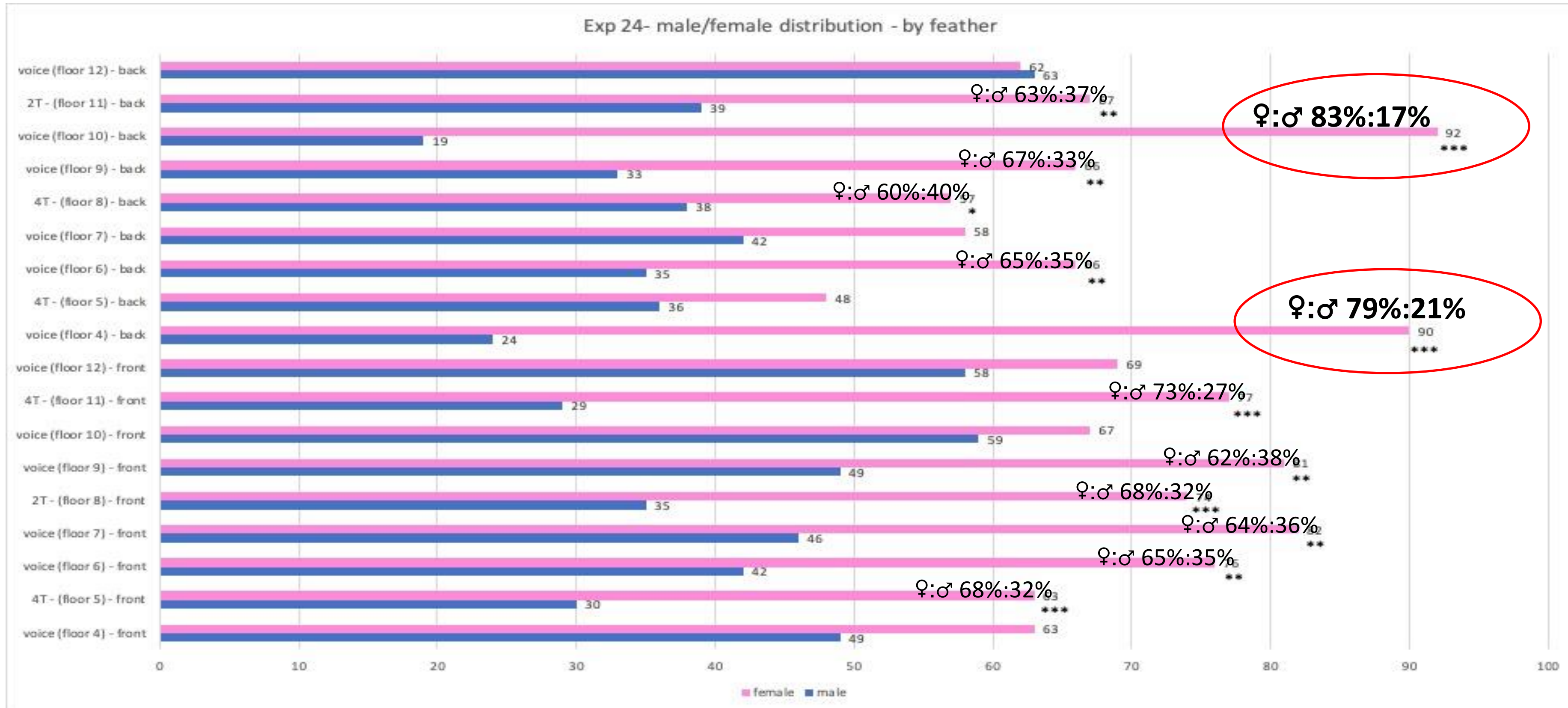
Back of the trolley had 68% hatchability with 22% unfertile eggs



Front of the trolley had very low hatchability (25.2%) due to incubator air flow malfunction

EXPERIMENTAL TRACTION DURING 2022

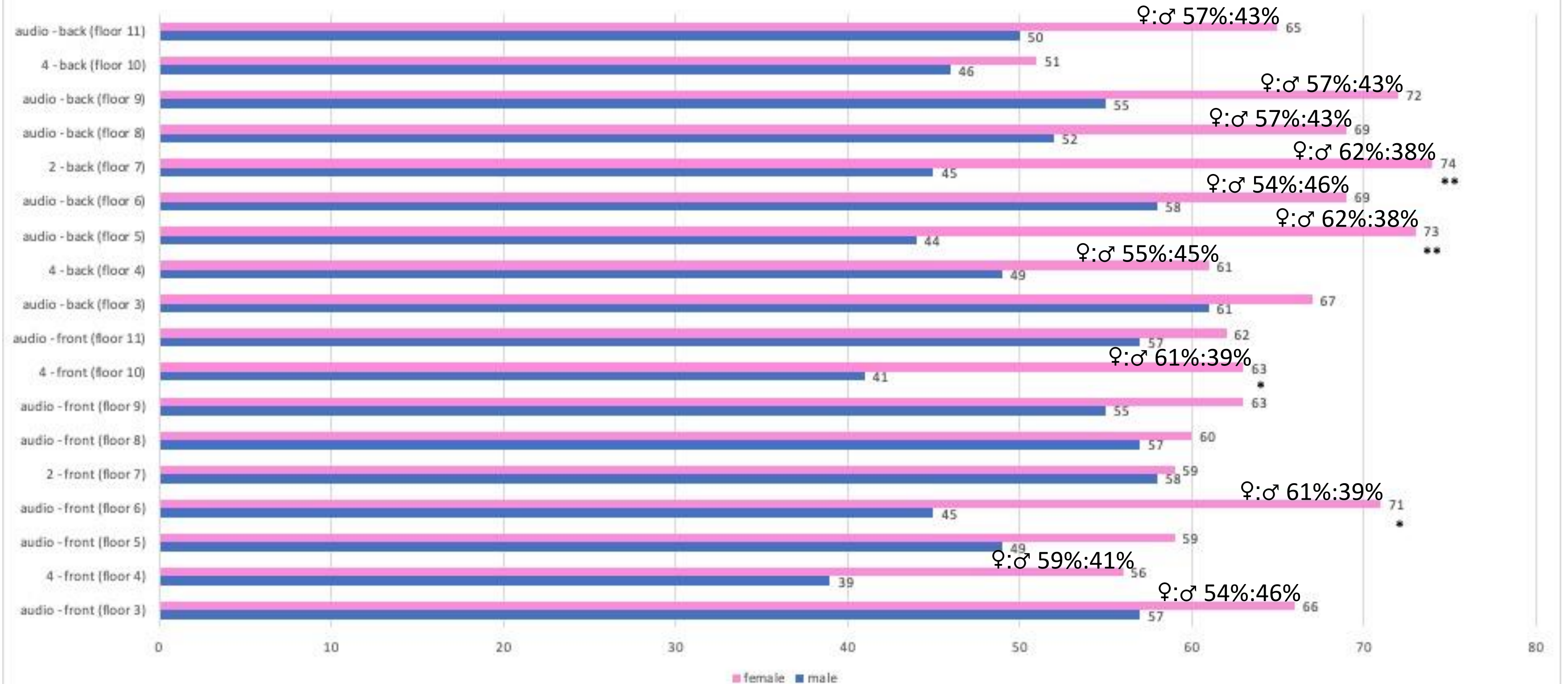
Location: Israel; Live chicks 1,984 (Female 63%, hatchability 75%)



EXPERIMENTAL TRACTION DURING 2022

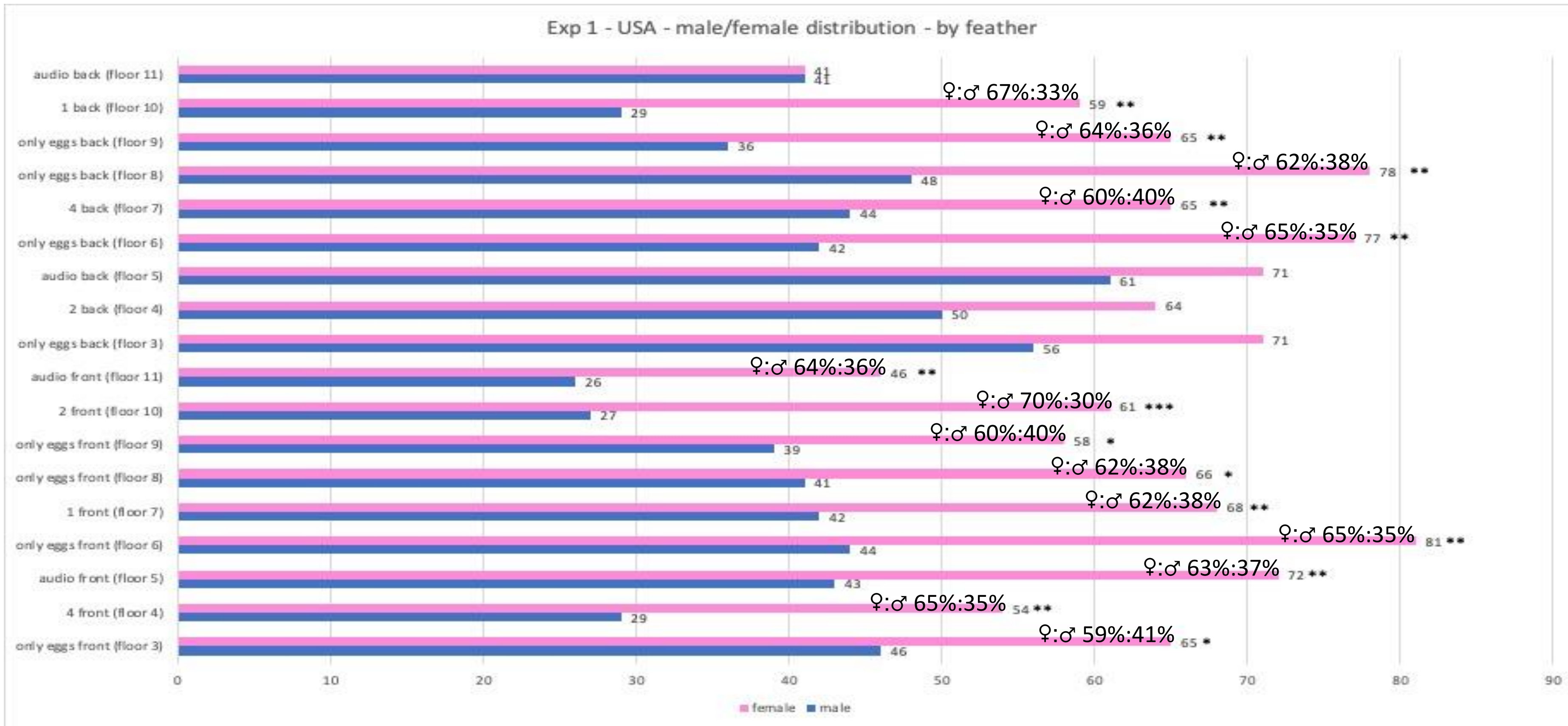
Location: Israel; Live chicks 2,078 (Female 56%, Hatchability 79%)

Exp 25 - male/female distribution - by feather



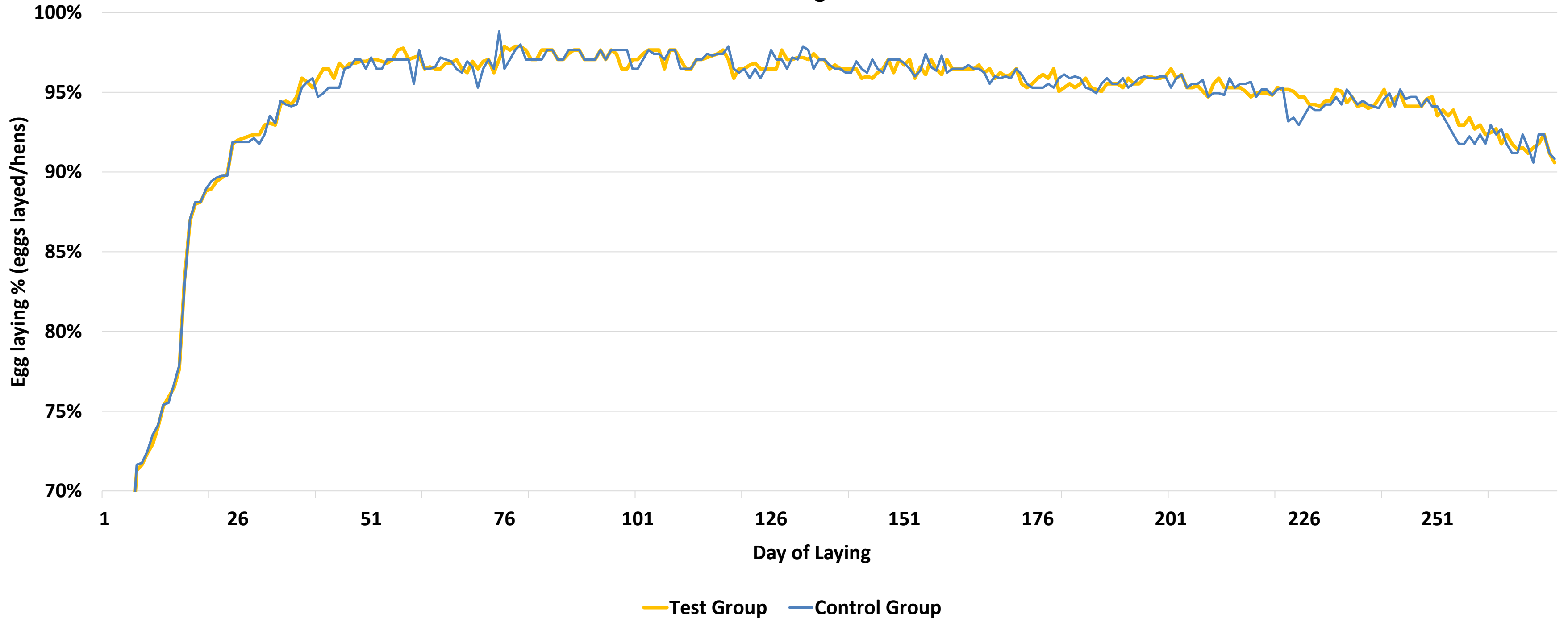
EXPERIMENTAL TRACTION DURING 2022

Location: USA; Live chicks 1,910 (Female 61%, Hatchability 73% vs. control w/ 72%)



GROWING EXPERIMENT RESULTS

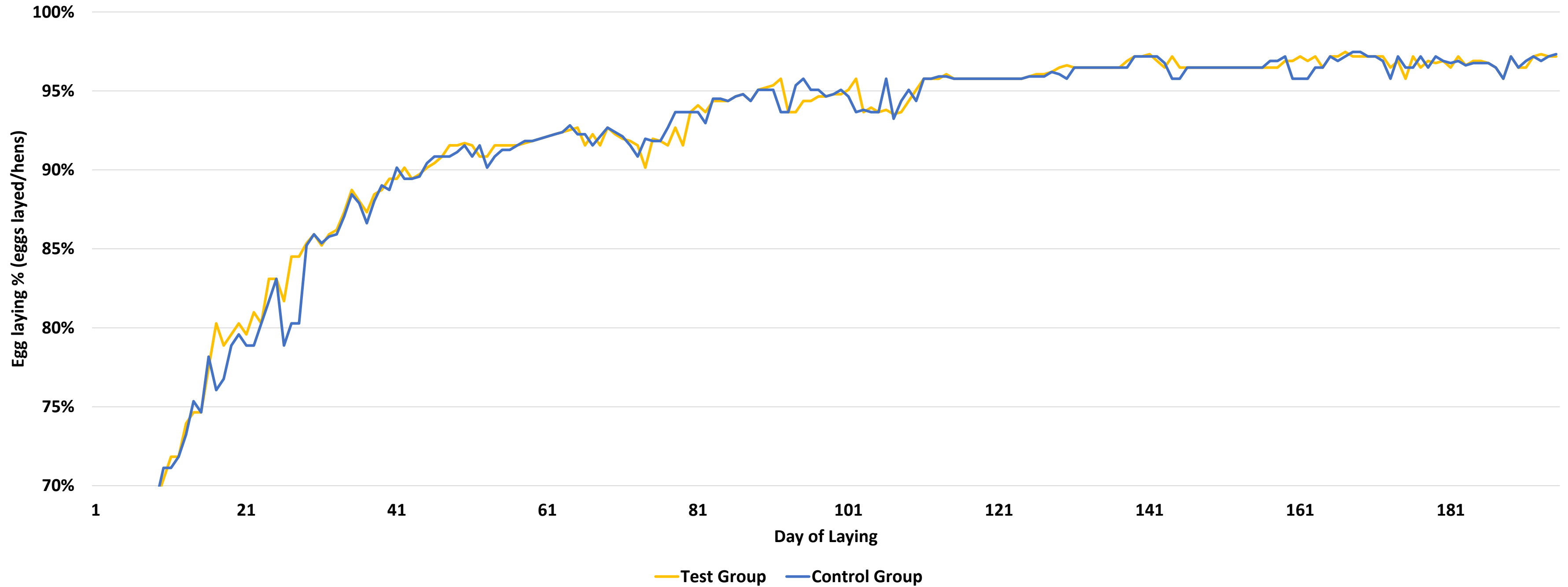
Egg-Laying Analysis of Affected Hens vs Control Group
Nov 2017 - August 2018



Identical laying performance between test group (n=850) and control group (n=20,000)

GROWING EXPERIMENT RESULTS

Egg-Laying Analysis of Affected Hens vs Control Group
March-September 2018



Identical laying performance between test group (n=710) and control group (n=20,000)

SOOS
EGG SEX REVERSAL



PILOT OVERVIEW

PILOT OVERVIEW

WHAT IT LOOKS LIKE



PILOT OVERVIEW

WHAT IT LOOKS LIKE



PILOT OVERVIEW

WHAT IT LOOKS LIKE



PILOT OVERVIEW AND PROJECT DESCRIPTION

Stage	Deliverable	Estimated timeline
Incubators manufacturing	Order & manufacture 2 (Two) 4,800-eggs and 2 (two) 9,600-eggs incubators with SOOS specifications (EMKA)	2 months
Incubator Delivery	From machine vendor Site to Pilot Partner's selected site (EMKA)	1-2 weeks
Incubator installation	<ul style="list-style-type: none"> • Incubator space specification definition (SOOS) • Basic Installation (EMKA) • Smart tray and voice sensor trays manufacturing & onsite installation (SOOS) • Site preparation & set-up team (Pilot Partner) 	1 month
Calibration and dry run	Incubator dry-run and smart tray testing to ensure all systems are functional	1 week
Hatching cycles	<ul style="list-style-type: none"> • 6 hatching cycles in single-stage incubation: 2,400-4,800 eggs in each cycle • Data collection: Sexing (Vent, Feather), DNA, dissection as needed, birds tagging 	6 months
Pullet growing stage	1-2 growing cycles of 1,500-2,000 females until sexual maturity and egg-laying. Data collection in pullet stage will be around: Mortality, diseases, weight	4 months

SOOS
EGG SEX REVERSAL



THANK YOU!