

Poultry breeding

- Sri Lanka holds a rich genetic pool of chicken
 - One of the wild ancestors known as *Gallus Lafayettii* (Ceylon jungle fowl)



Ceylon Jungle fowl (*Gallus lafayettii*) male (left) female (right).
(source: Nigel Pavitt, AWL image collection and Hafiz Issadeen, <http://flickr.com/photos/25902645@N08>)

➤ Locally adopted breeds



(i) Naked neck



(ii) Long Legged



(iii) Rumpless chicken



(iv) Frizzle feathered chicken



(v) Crested chicken



(vi) Common chicken

Fig. 5. main indigenous chicken ecotypes in Sri Lanka (from (i) to (vi)) identified through GEF-UNEPILRI-FAnGR Asia project (Silva et al., 2010)

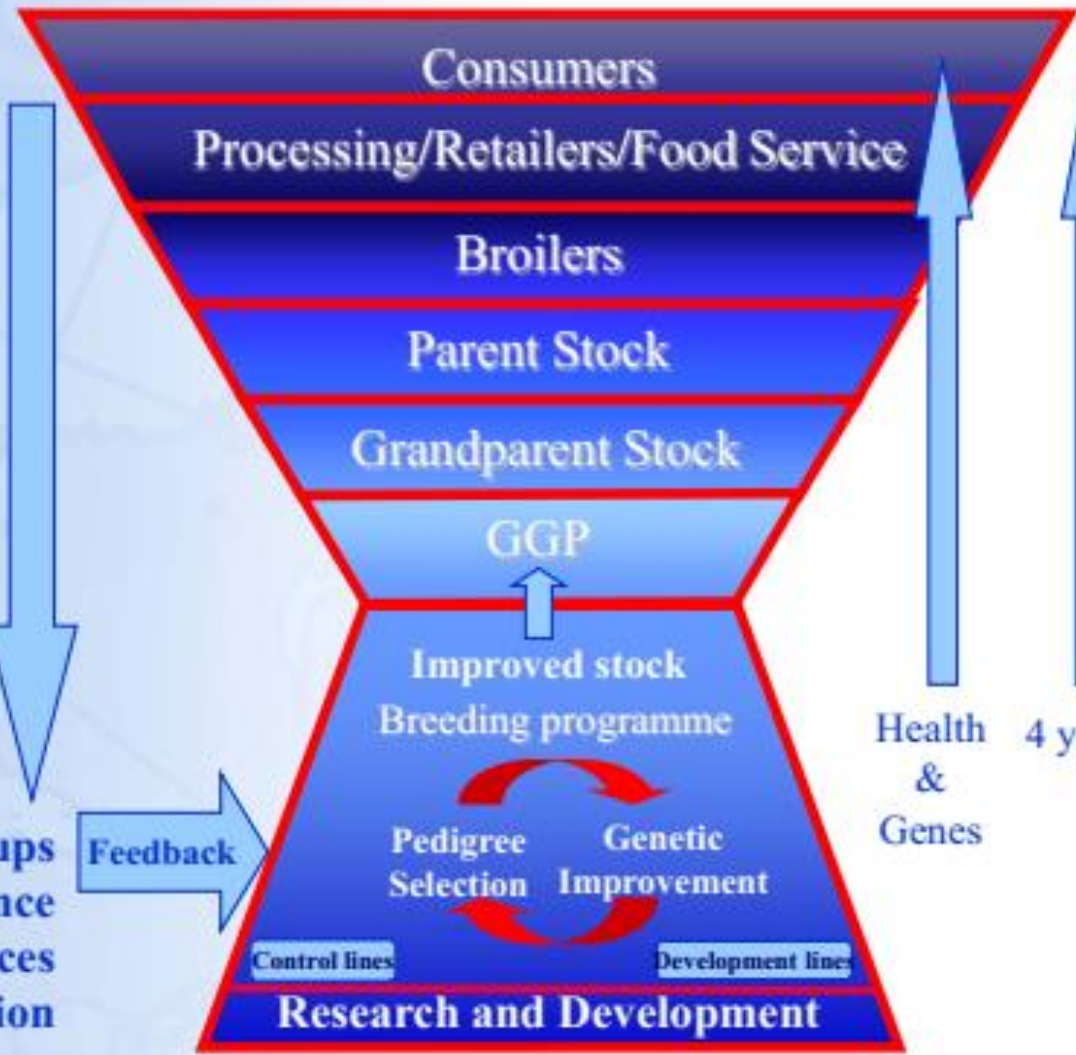
- Since colonial times, back-yard system has been an integral part of the crop-livestock integrated farming system in the all part of Sri Lanka
- The “Central poultry research station (CPRS) Karadagolla”, was established in 1954 to provide quality genetic material for production, technical extension services, research and development.
- Subsequently, in 1960s parent birds were imported.

Commercial strains

- In early 1970's, Sri Lanka has imported some commercial strains for development of the industry.
- A Hybrid of Cornish and Plymouth Rock for broiler production has been introduced by department of agriculture under the open economic policy
- Commercial layer and broiler industry totally depend on the imported Grandparent (GP) and parent (P) stocks for breeding.
- Commercial broiler strains - cobb-500, Arbor acres, Hy-line, Indian-River
- Commercial layer strains - shaver, Indian River, Hy-lines

- Few private companies hold the sole power of commercial broiler and layer breeding in Sri Lanka.
- Currently, there are three grandparents breeding farm producing the large-scale parent's birds of Hubbard Classic, Cobb 500 and Indian River Strain
- More than 91% of parent bird requirement is fulfilled by these three main GP farms.
- 33-parent farms buy parent birds from grandparent farms and produce day old broiler chicks for country use.

**The
Production
Process**



**Interest groups
Science
Resources
Regulation**

Feedback

Health &
Genes

4 years



HOW MEAT CHICKENS ARE BRED IN AUSTRALIA

IMPORTED FERTILE EGGS

MOST MEAT CHICKENS GROWN IN AUSTRALIA COME FROM **TWO IMPORTED STRAINS - COBB & ROSS**. NEW GENETIC STOCK CAN ONLY BE IMPORTED AS FERTILE HATCHING EGGS, WHICH ARE PRODUCED FROM NUCLEUS BREEDING FLOCKS OVERSEAS. THESE FERTILE EGGS COME IN THROUGH STRICTLY MANAGED QUARANTINE FACILITIES IN AUSTRALIA, WHERE EGGS ARE INCUBATED AND HATCHED.



1st
GEN

THESE CHICKENS BECOME THE NEW COMMERCIAL CHICKEN LINE CALLED THE

GREAT GRANDPARENTS (GGPs)

USED FOR **BREEDING ONLY**, NOT FOR HUMAN CONSUMPTION. AFTER RELEASE FROM QUARANTINE AT 9 WEEKS OF AGE THE GGP'S ARE MOVED TO BREEDER FARMS, REARED AND MATED TO PRODUCE FERTILE EGGS.



THE CHICKENS THAT HATCH FROM THESE EGGS ARE THE....

2nd
GEN

GRANDPARENTS (GPs)

GENETICALLY DIFFERENT MALE AND FEMALE LINES ARE CROSSED...



PRODUCING THE NEXT GENERATION OF BIRDS...

3rd
GEN

PARENT BREEDERS

FROM THE PARENT BREEDERS' FERTILE EGGS...



THE FINAL GENERATION IS HATCHED...

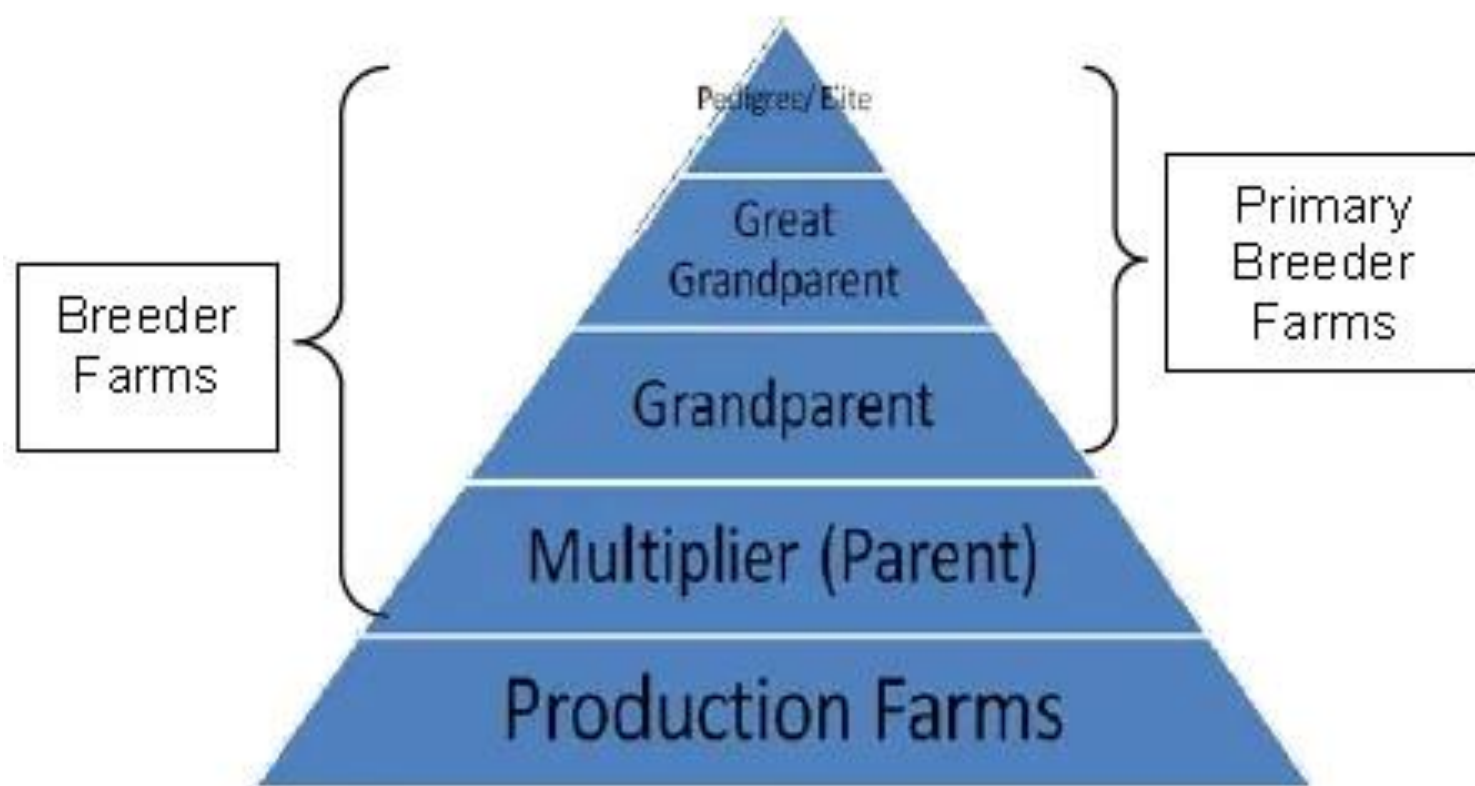
4th
GEN

MEAT CHICKENS

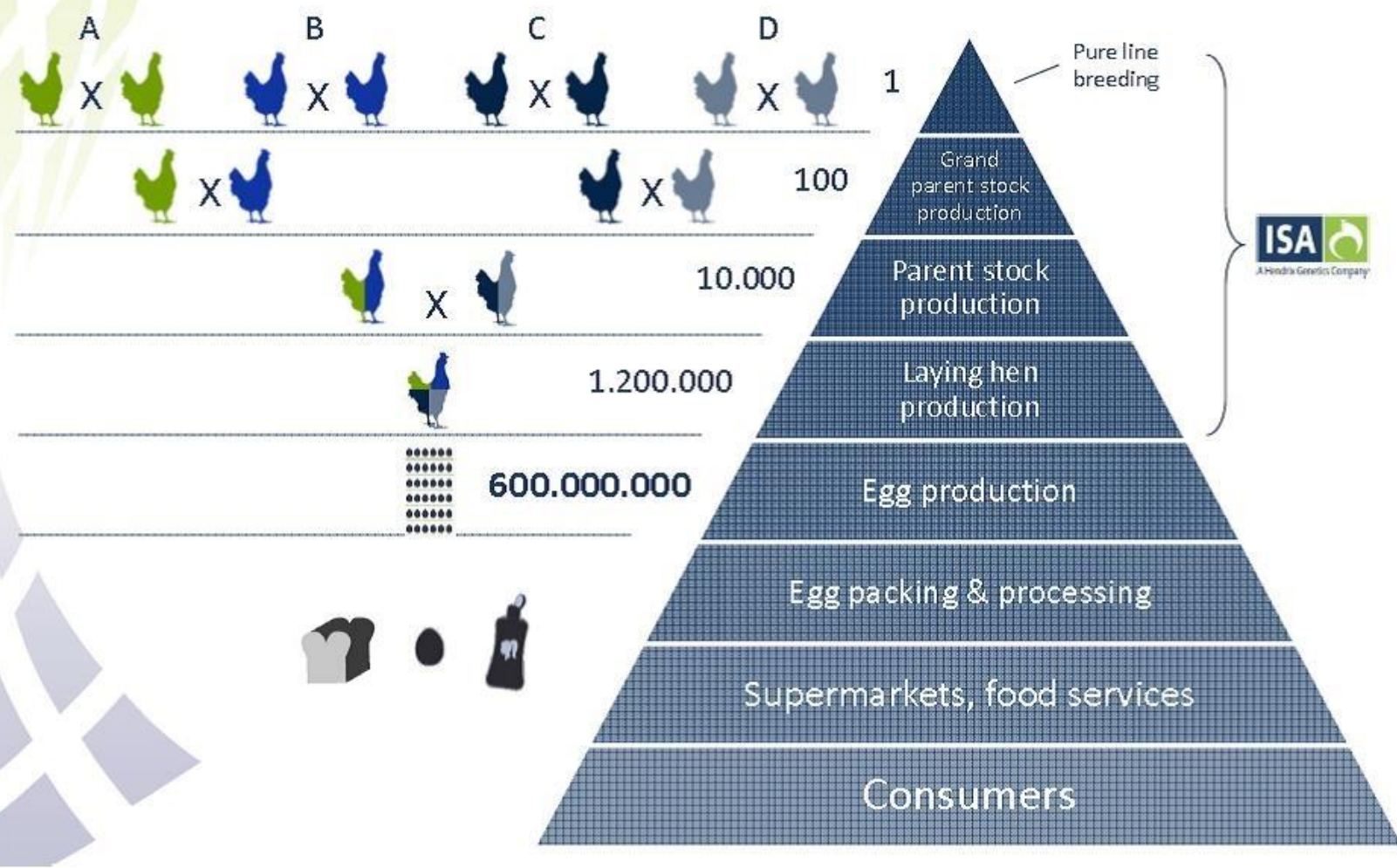
GROWN FOR EATING.



Figure 3. Structure of breeder farms in the United States



Egg Production Supply Chain in 2020 !



JUST HOW BIG ARE TODAY'S CHICKENS?

Average weight of chicken breeds at 56 days old



1957
905g

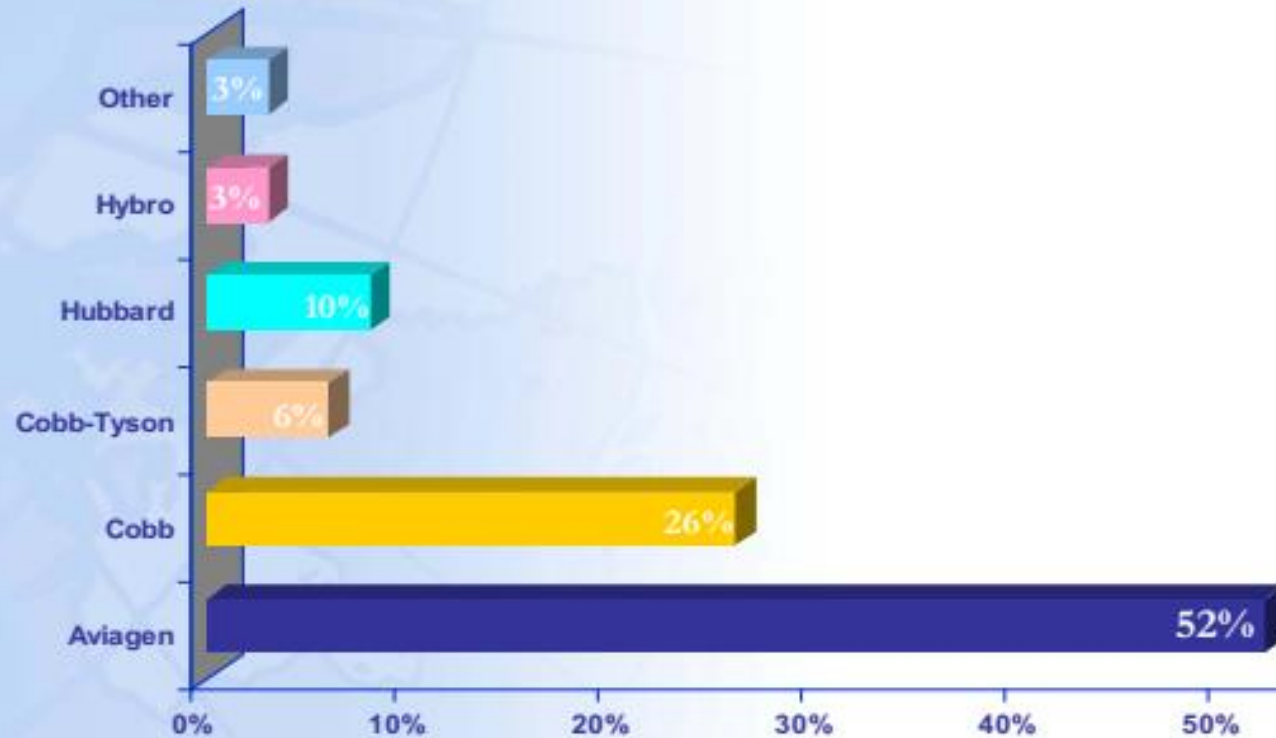


1978
1,808g



2005
4,202g

Current Global Market Shares



Total World PS Market- 379 million

