









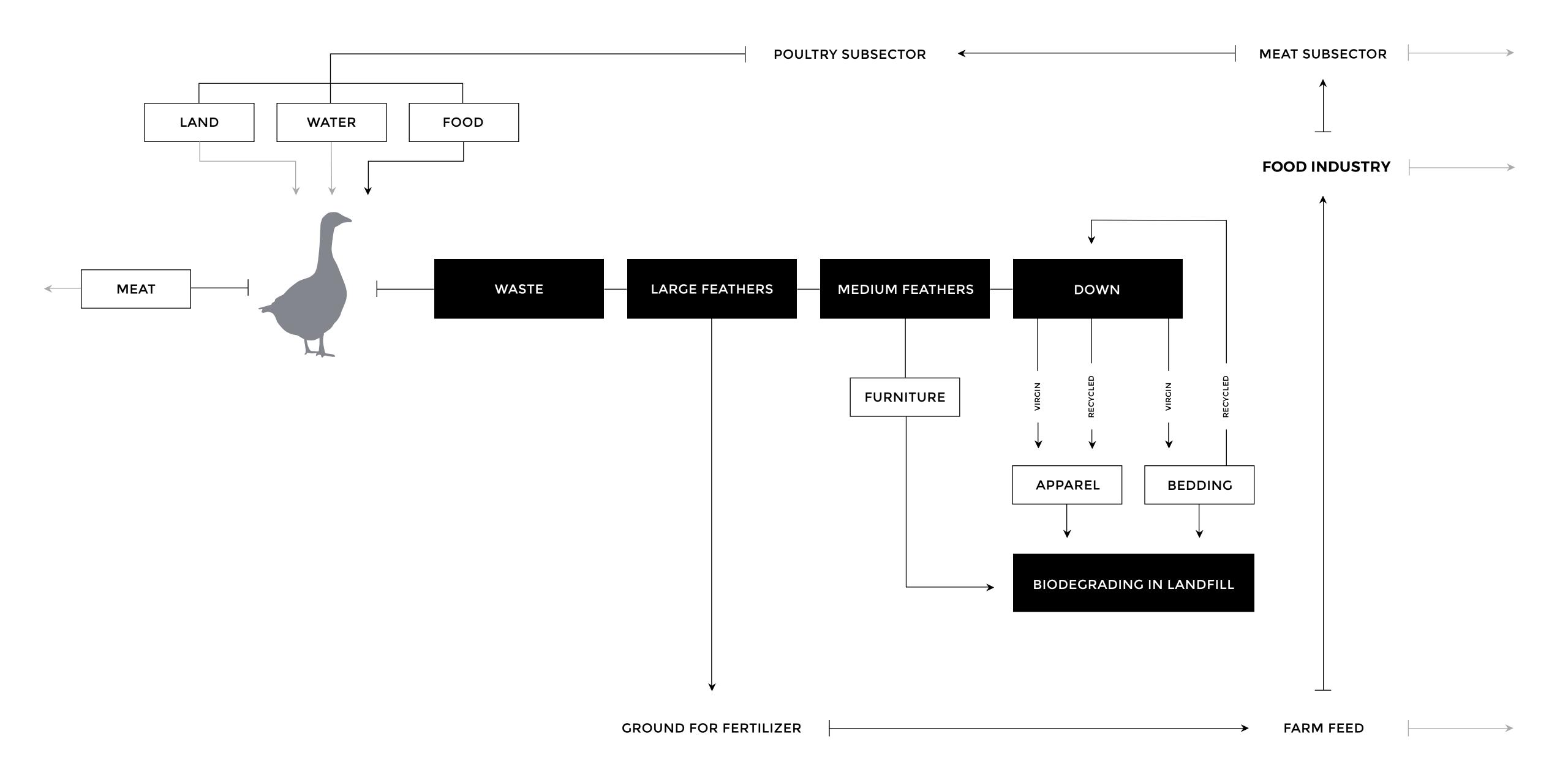


"For a process to be completely closed it has to have all of its inputs come from and all of its outputs go to other parts of the economy, i.e., not waste. However, some parts of an economy can be closed loops within a larger system. It is important to note the degree of 'circularity;' no economies are purely closed-loop or linear."

Dave Zelinka, PhD, co-founder, CEO, director of research for Civitas Systems

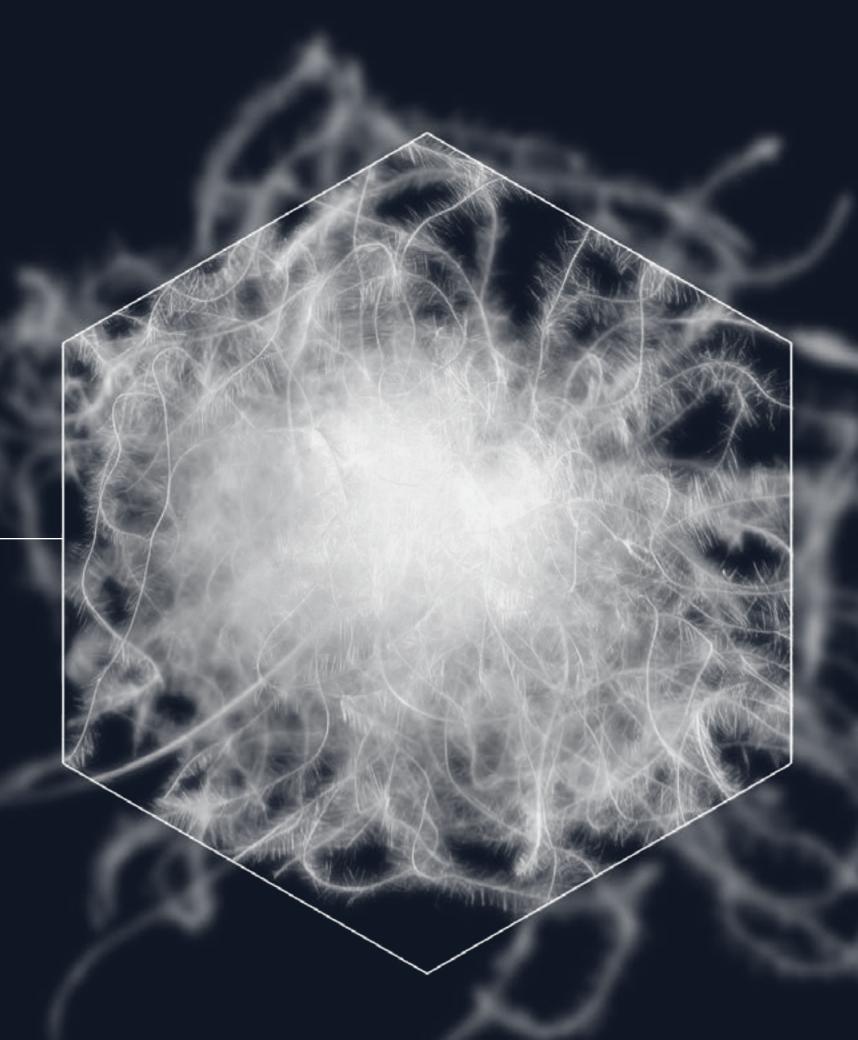
"Recycling reduces the quality of the materials and circular economy keep the value/ quality, and therefore simply 'recycling' or 'upcycling' into the system does not mean that it is a circular or 'closed-loop' system or economy."

Davidson Lewis, co-founder and co-owner of Ecologic Designs

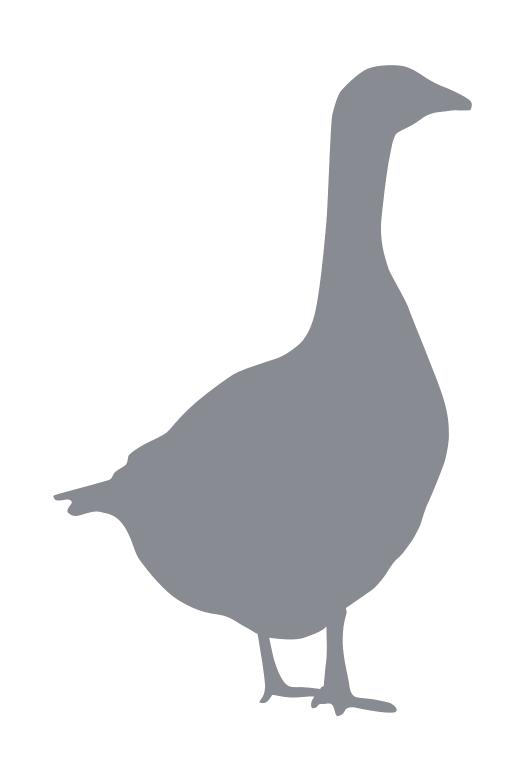


"Using down and feathers as a by-product from the meat industry to insulate jackets and sleeping bags improves the sustainability of the outdoor industry and brings us one step closer to realizing a truly circular economy."

Dave Zelinka, PhD, EIT, ENV SP



BY-PRODUCT



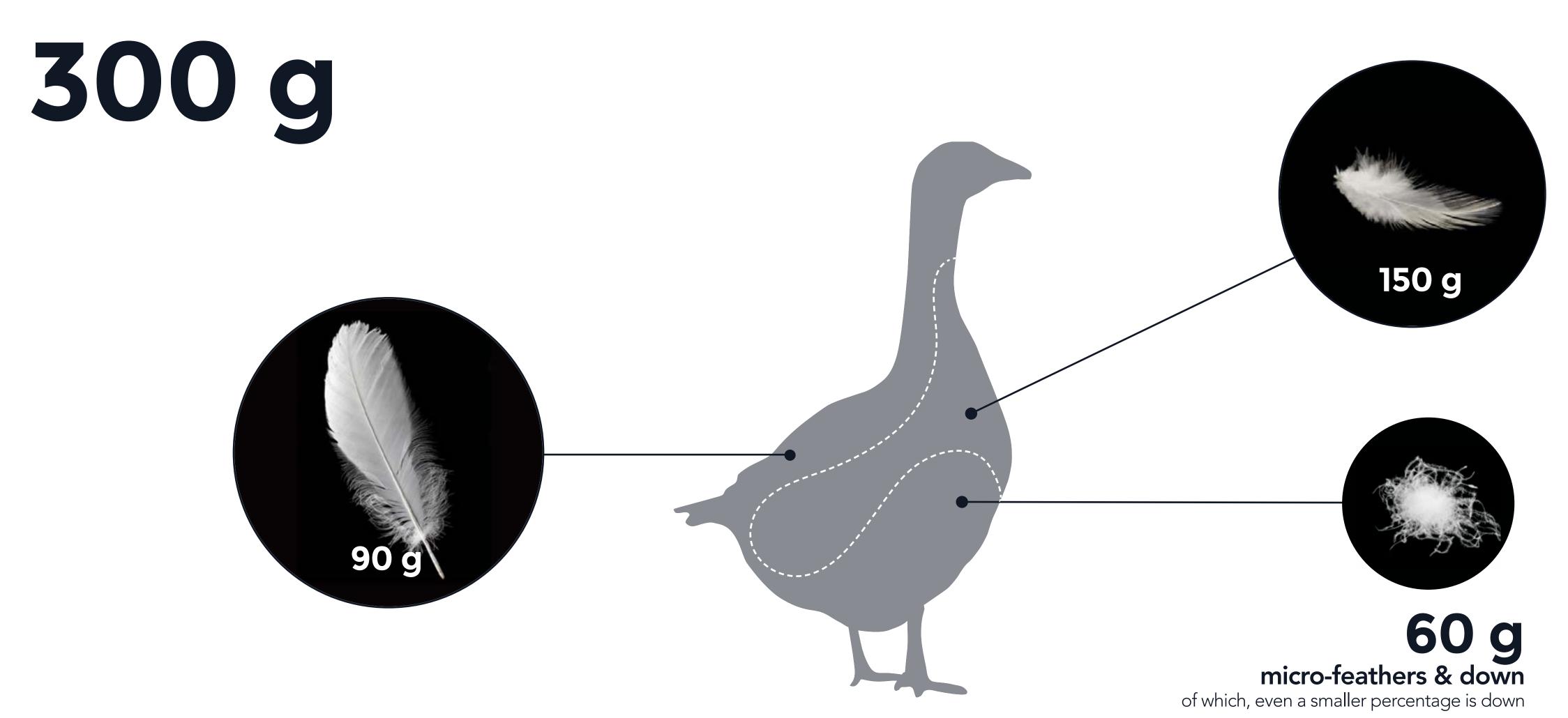
90-97% meat for consumption

 \longrightarrow 2-8% of total value for down & feather

small additional value for **miscellaneous**

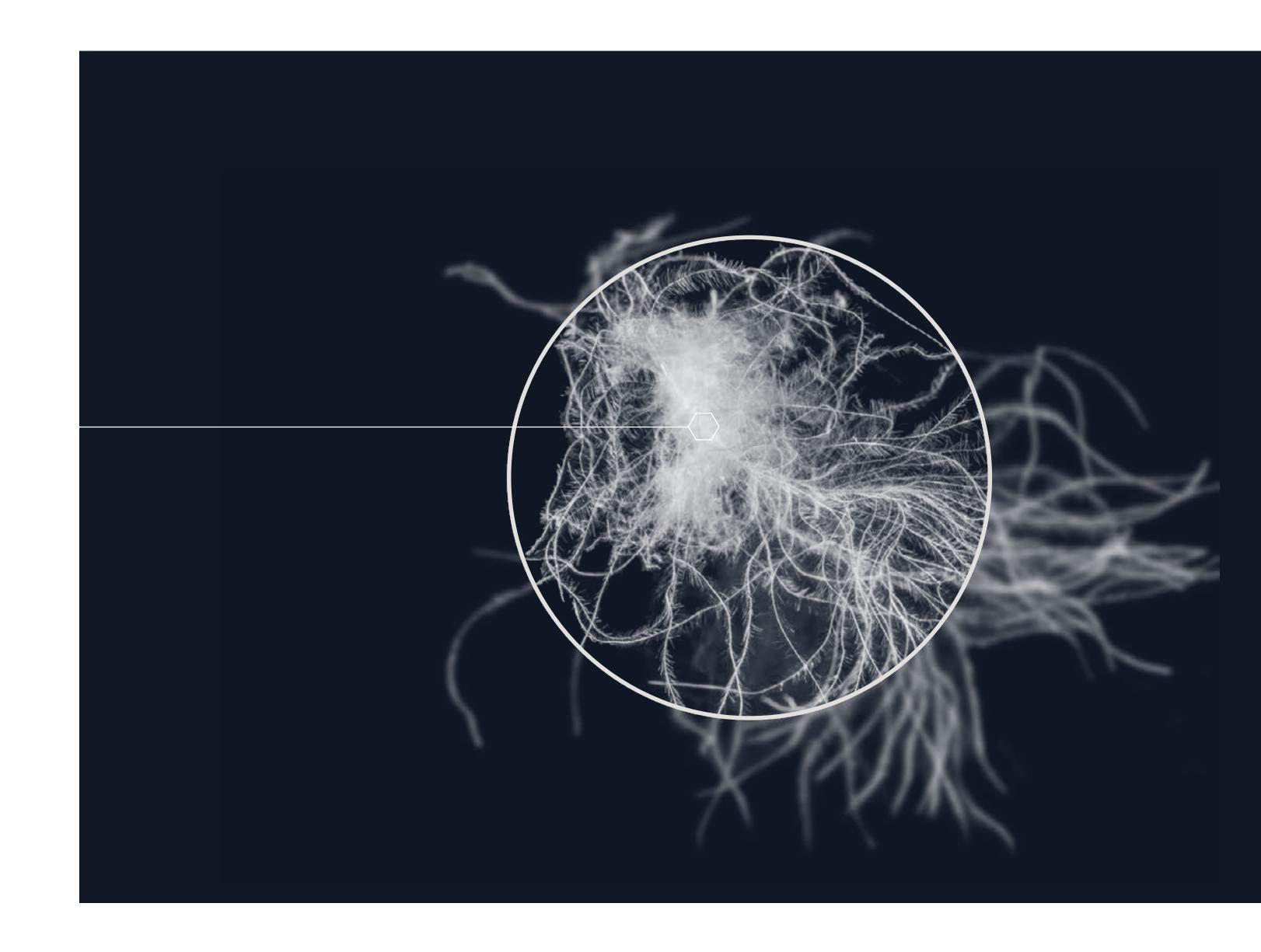
APPROXIMATE TOTAL PLUMAGE

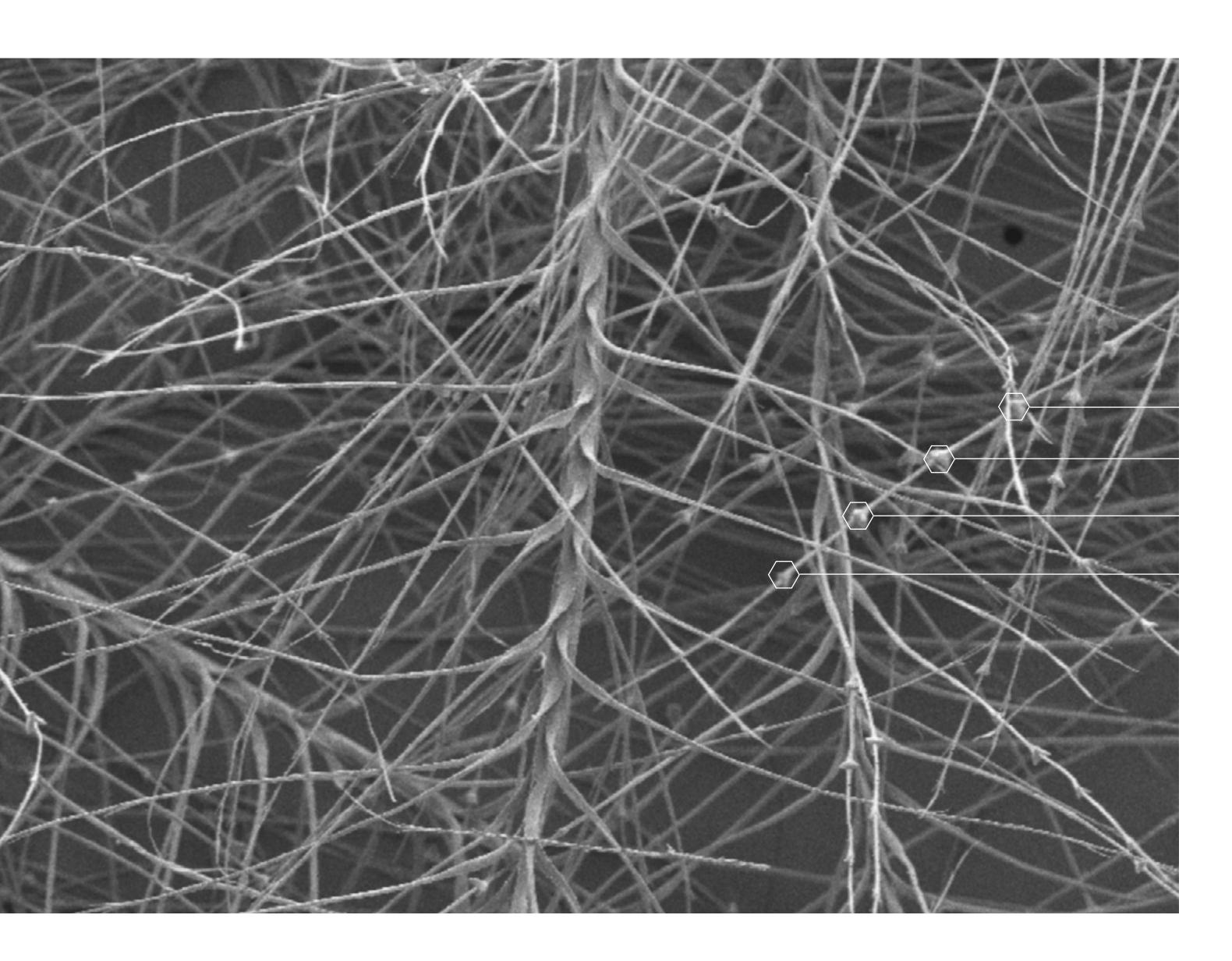
FROM AVERAGE SIZED GOOSE



THE DOWN CLUSTER

The down cluster contains thousands of filaments radiating from a central point. With no quill, the cluster has the unique ability to compress completely and the resiliency to regain its dimensionality.

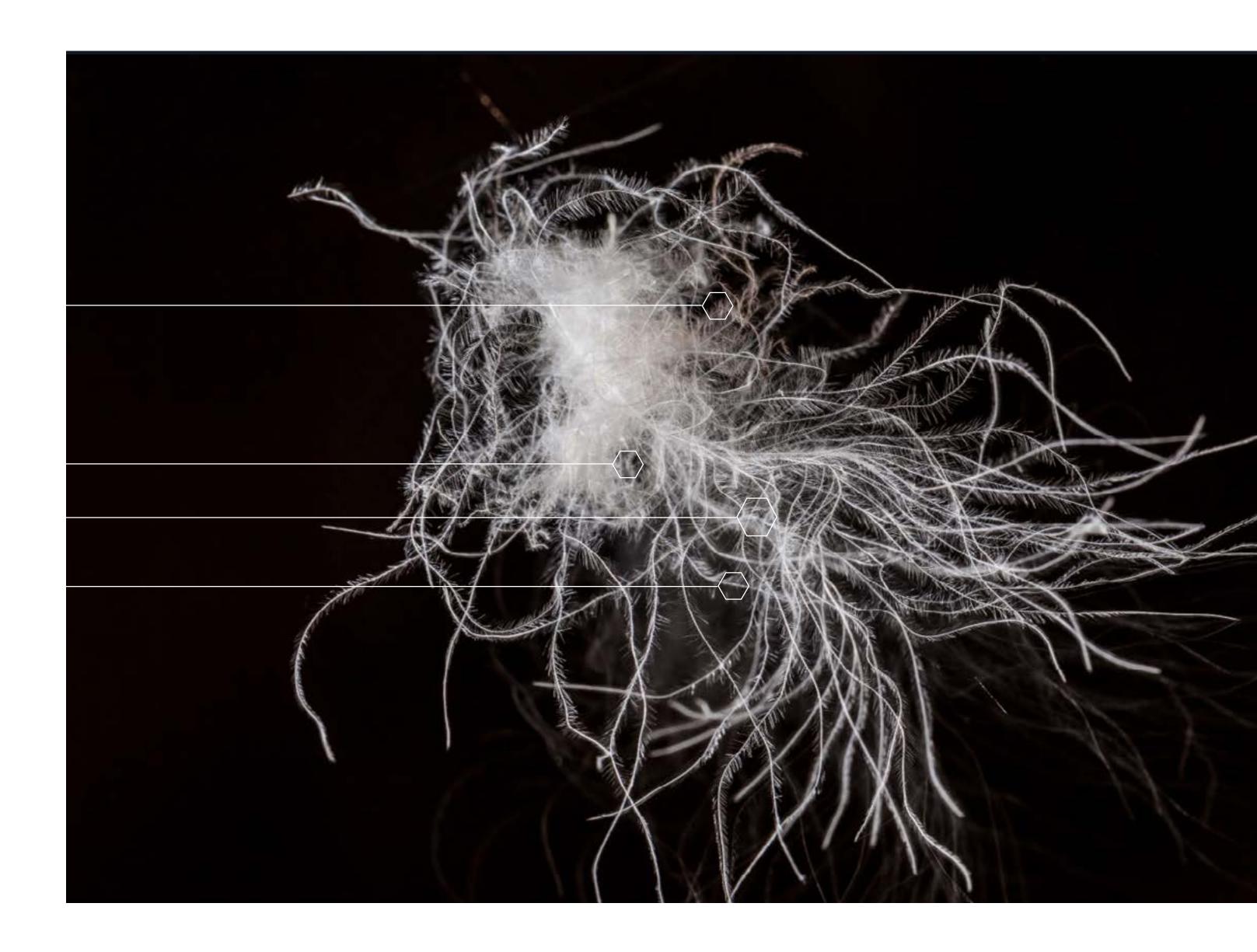




Additionally, each arm has added filaments, acting like barbs, branching out allowing the individual clusters to take hold of one another.

When the clusters of down interlock, pockets are created to trap air insulating with minimal weight.

This is what enables down to continue to be the best insulator with the highest warmth to weight ratio far exceeding any synthetic.

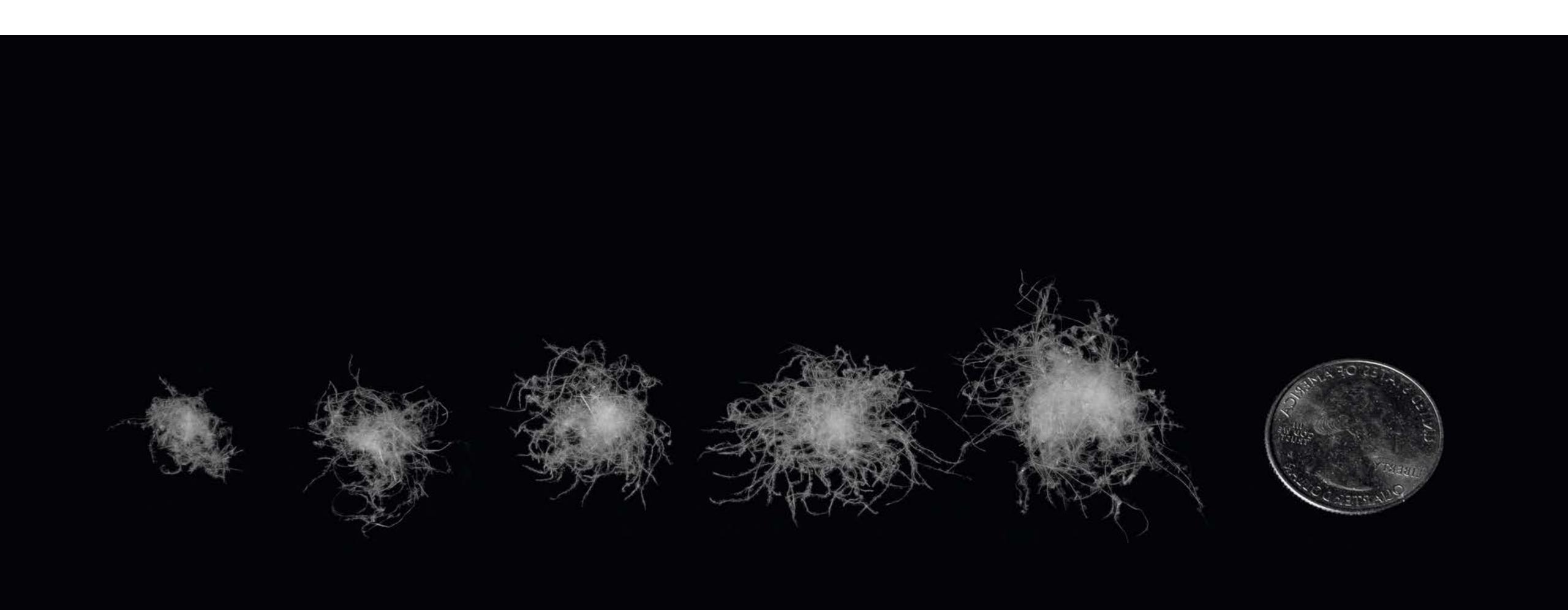


FILL POWER

CUBIC INCHES/ 30g OF DOWN

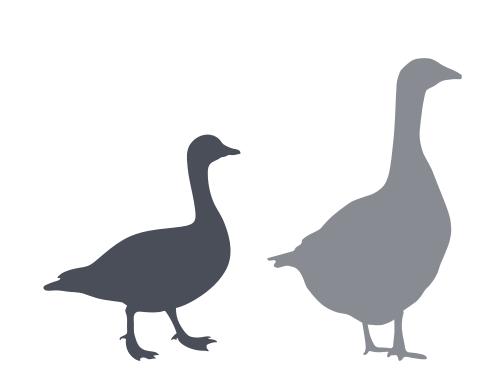


CLUSTER SIZE

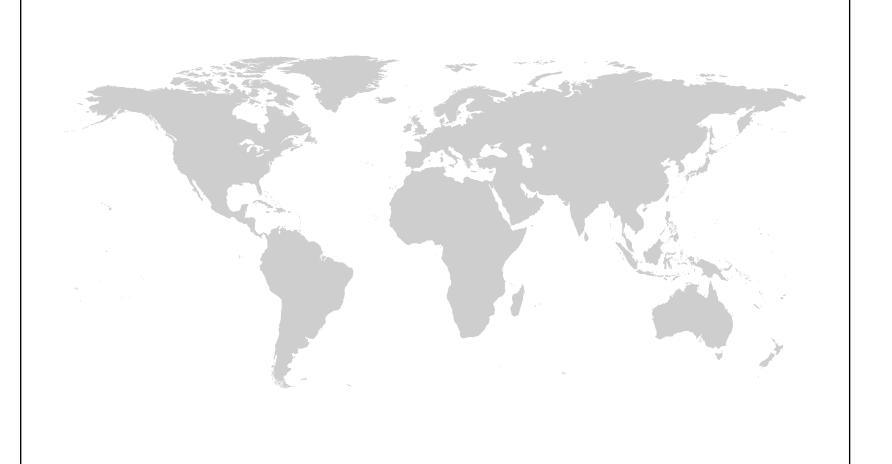


QUALITATIVE FACTORS

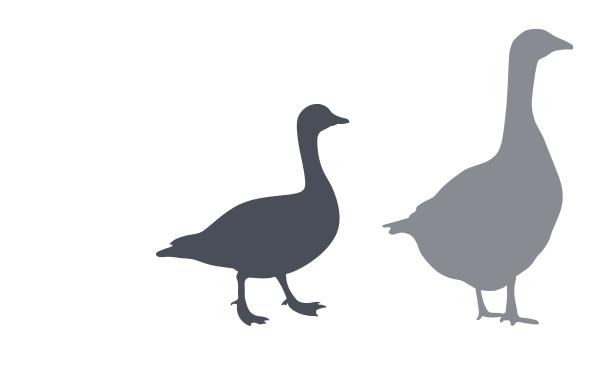
SPECIES



REGION



SOURCE



CHINA

6-8wks

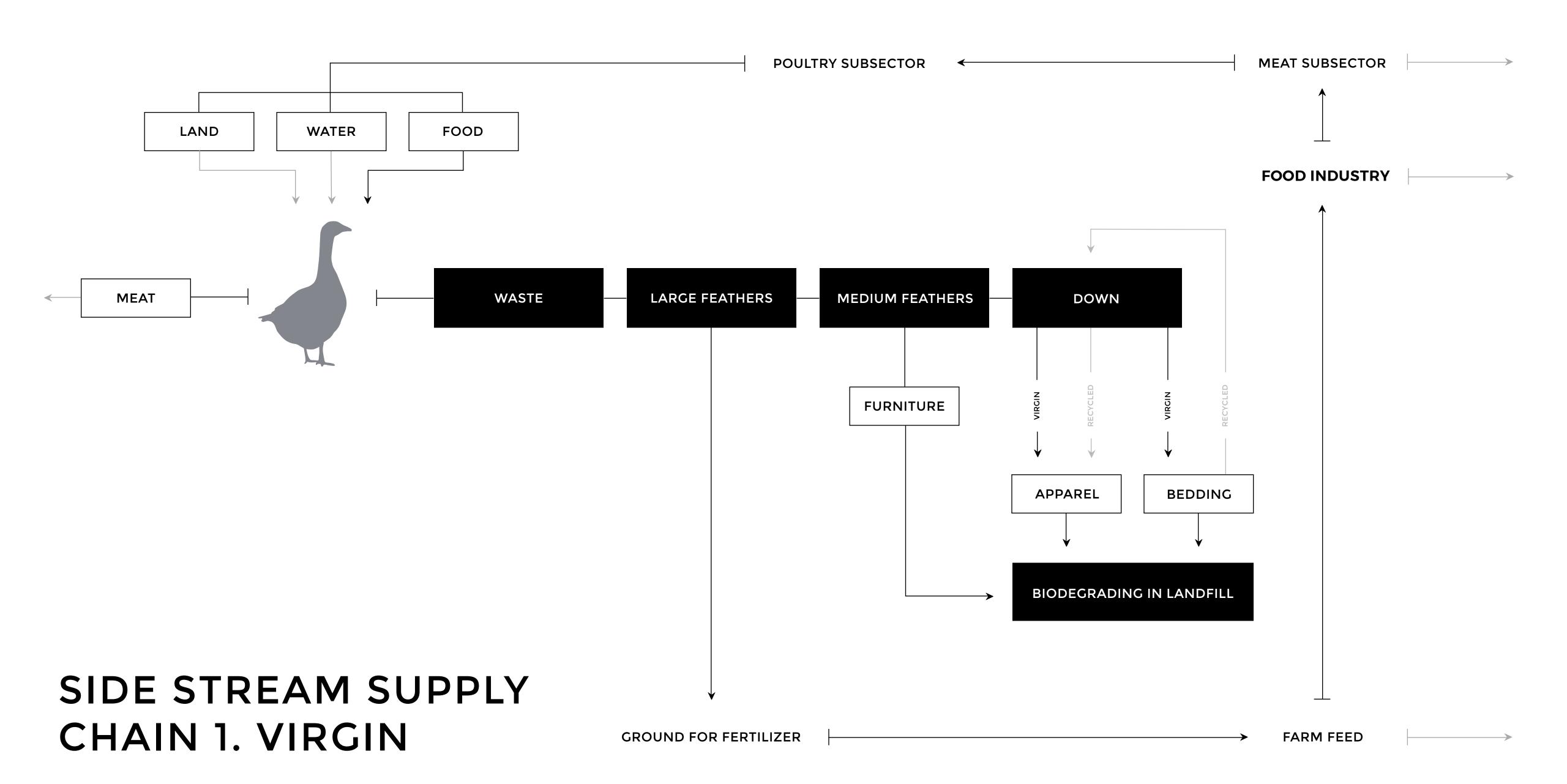
14-20wks

EUROPE

10-11wks

24-30wks





SUPPLY CHAIN VIRGIN MODULE 1

INDUSTRIAL FARMS











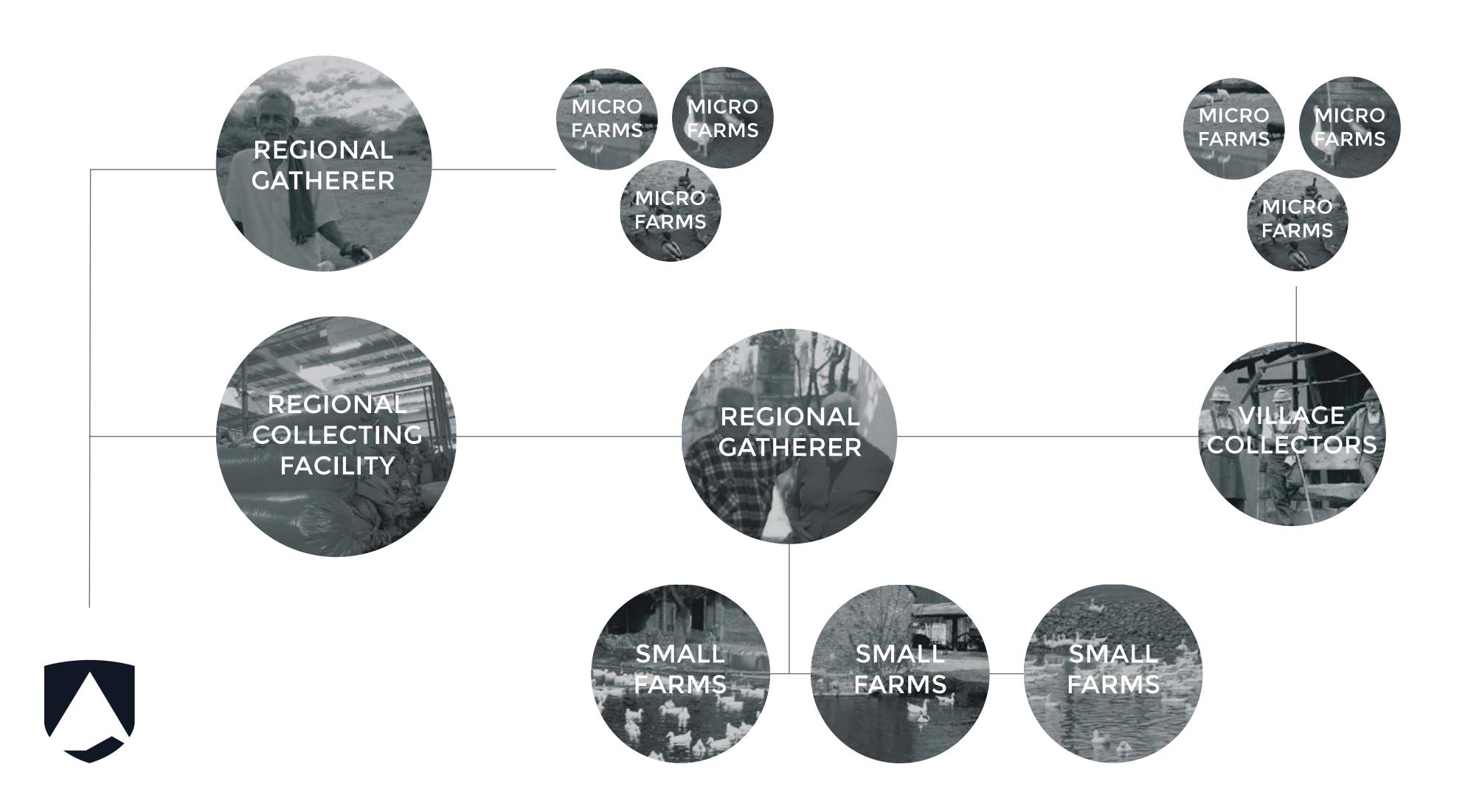
European Goose farm during ALLIED audit.

Chinese Duck farm during Columbia Sportswear visit.



SUPPLY CHAIN VIRGIN MODULE 2

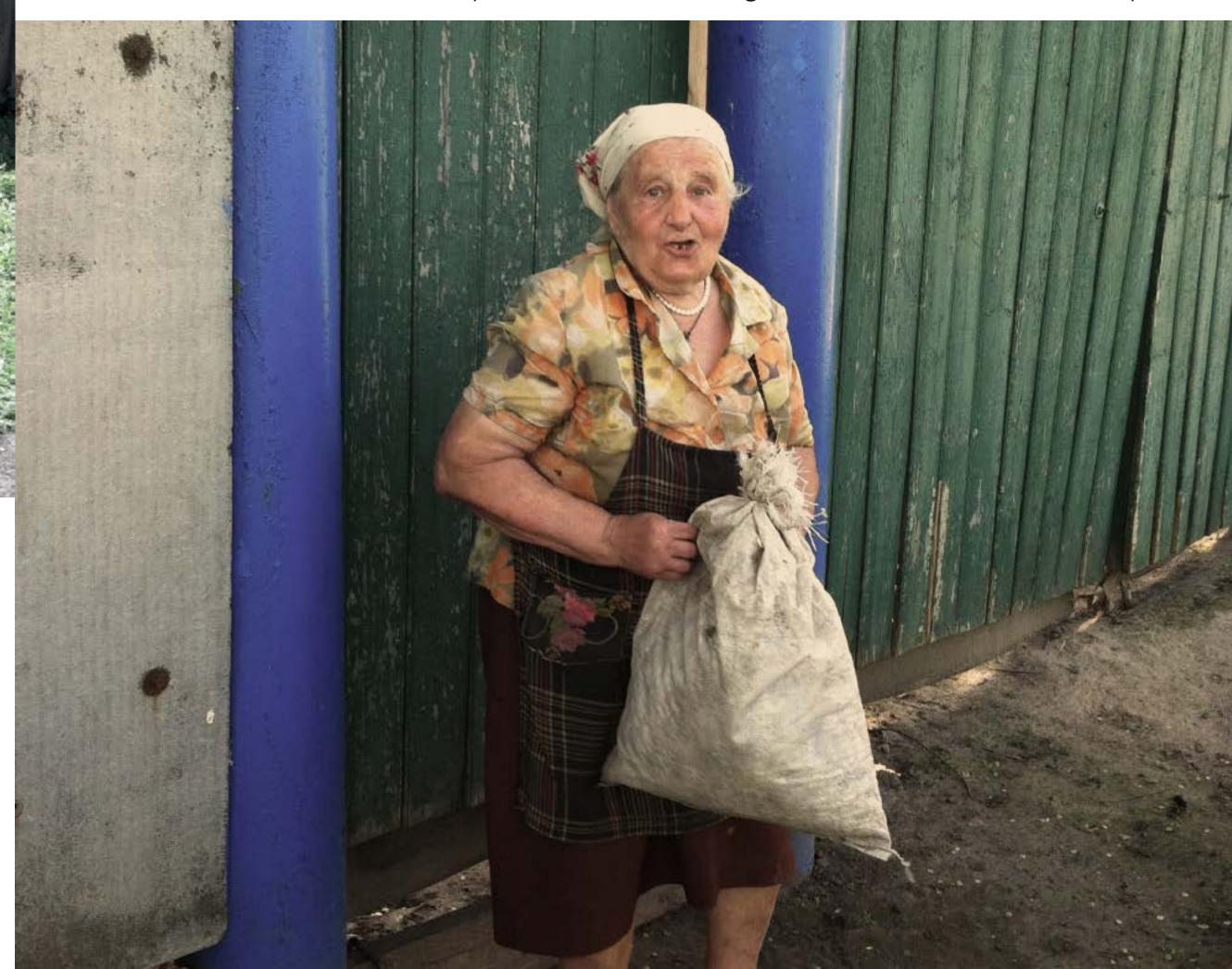
COLLECTOR BASED





European farmer during The North Face visit / RDS pilot.

European collector during The North Face visit / RDS pilot.



IT'S WHAT'S INSIDE THAT COUNTS.



ALLIED
FEATHER & DOWN