

(A)

ESTIMATE OF GLOBAL PRODUCTION

estimated global egg production



$$E_{\text{egg}} \approx 0.01 \times E_{\text{day}} \approx 20 \text{ kcal / day}$$

$$\rho_{\text{egg}} \approx 1 \text{ kcal} \times \text{g}^{-1}$$

$$m_{\text{egg}} \approx \frac{20 \text{ kcal}}{\text{day} \cdot \text{person}} \times \frac{1 \text{ kg}}{1000 \text{ kcal}} \times \frac{365 \text{ days}}{1 \text{ year}} \times 7 \times 10^9 \text{ people}$$

$$\sim 5 \times 10^{10} \text{ kg} \times \text{year}^{-1} \sim 50 \text{ Mt} \times \text{year}^{-1}$$

estimated global poultry production



$$E_{\text{poultry}} \approx 0.05 \times E_{\text{day}} \approx 100 \text{ kcal / day}$$

$$\rho_{\text{poultry}} \approx 1 \text{ kcal} \times \text{g}^{-1}$$

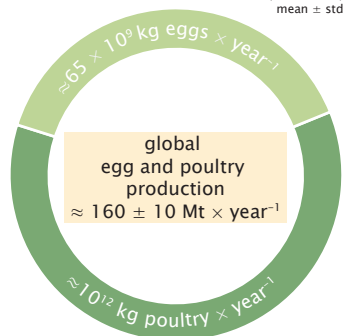
$$m_{\text{poultry}} \approx \frac{100 \text{ kcal}}{\text{day} \cdot \text{person}} \times \frac{1 \text{ kg}}{1000 \text{ kcal}} \times \frac{365 \text{ days}}{1 \text{ year}} \times 7 \times 10^9 \text{ people}$$

$$\sim 3 \times 10^{11} \text{ kg} \times \text{year}^{-1} \sim 300 \text{ Mt} \times \text{year}^{-1}$$



AGGREGATED DATA

data source: FAOSTAT (2010–2018)
mean \pm std



(B)

ESTIMATE OF GLOBAL PROCESSING

total global egg laying chickens per year



$$m_{\text{egg}} \sim 5 \times 10^{10} \text{ kg} \times \text{year}^{-1}$$

$$m_{\text{egg production}} \approx \frac{0.05 \text{ kg}}{\text{egg}} \times \frac{350 \text{ eggs}}{\text{chicken} \times \text{year}} \approx 20 \frac{\text{kg egg}}{\text{chicken}}$$

$$N_{\text{chicken}}^{(\text{egg})} \approx \frac{5 \cdot 10^{10} \text{ kg}}{\text{year}} \times \frac{1 \text{ chicken}}{20 \text{ kg egg}}$$

$$\approx 3 \times 10^9 \text{ layer chicken} \times \text{year}^{-1}$$

total global poultry chicken per year (slaughtered)



$$m_{\text{chicken}} \sim 5 \times 10^{11} \text{ kg} \times \text{year}^{-1}$$

$$m_{\text{edible}} \approx 3 \text{ kg} \times \text{chicken}^{-1}$$

$$N_{\text{chicken}}^{(\text{poultry})} \approx \frac{5 \times 10^{11} \text{ kg}}{\text{year}} \times \frac{1 \text{ chicken}}{3 \text{ kg}}$$

$$\sim 10^{11} \text{ poultry chicken} \times \text{year}^{-1}$$



AGGREGATED DATA

data source: FAOSTAT (2010–2018)
mean \pm std

