
Role of livestock in global nutrition security: a land use perspective

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How to feed the world sustainably?



Is there a future role for livestock?

Sustainable nutrition security?

Production of enough,
nutritious food

Safe

Sustainable
consumption

Animal friendly

Active and
healthy life

Fair price

Produced in an
environmentally friendly way

Access to food



A land-use perspective



How to use this earth efficiently? Role for livestock?

Messages

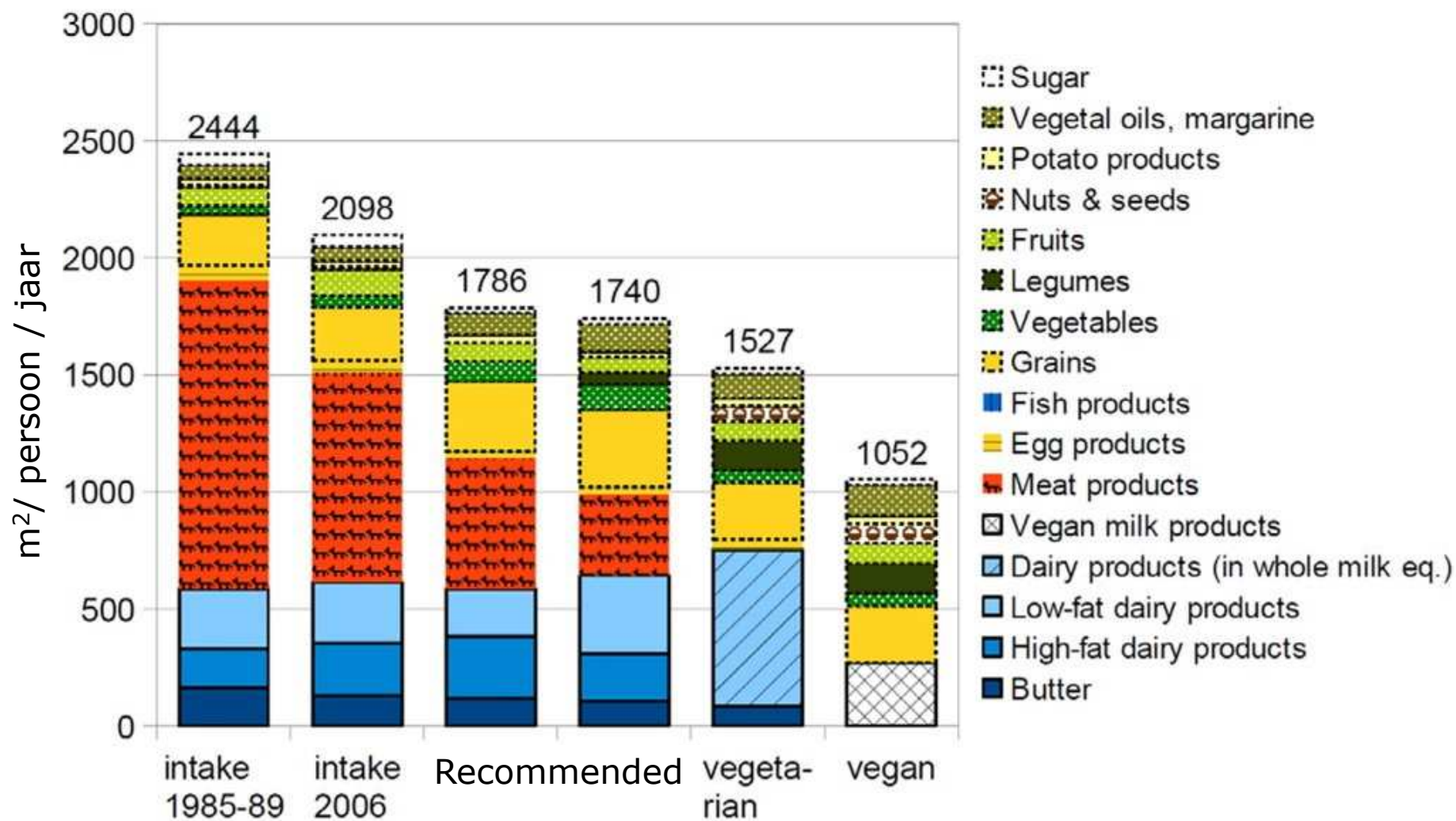
Become vegan (or vegetarian)

- Plant-based diets (vegan) have most potential to reduce land use

Replace “red meat” by “white meat”

- Per kg protein, chicken or pork need less land than beef

Land use



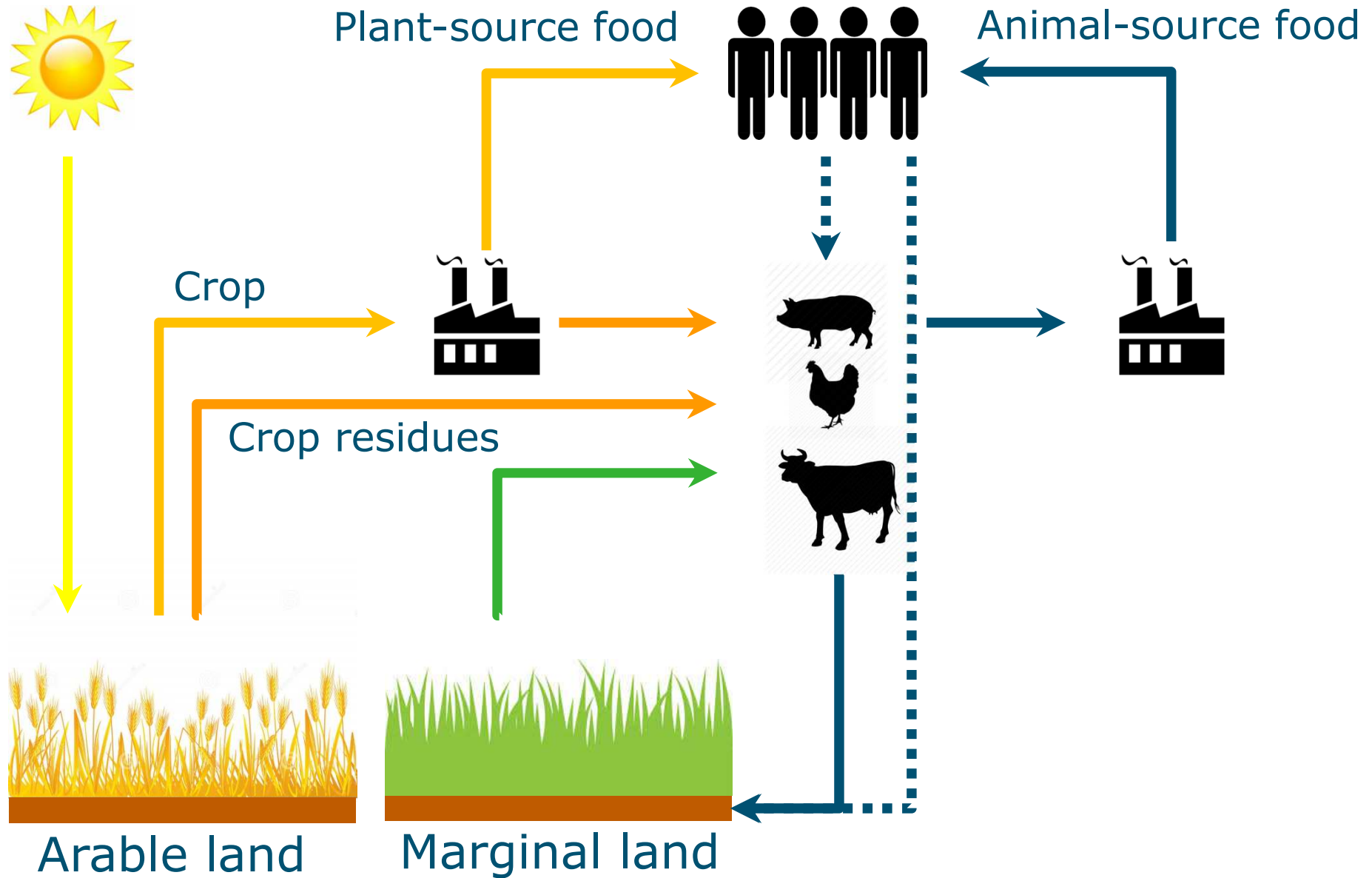
These studies ignore

- “product-packages”
no milk without meat, no sugar without beet-pulp

- “feed-food” competition

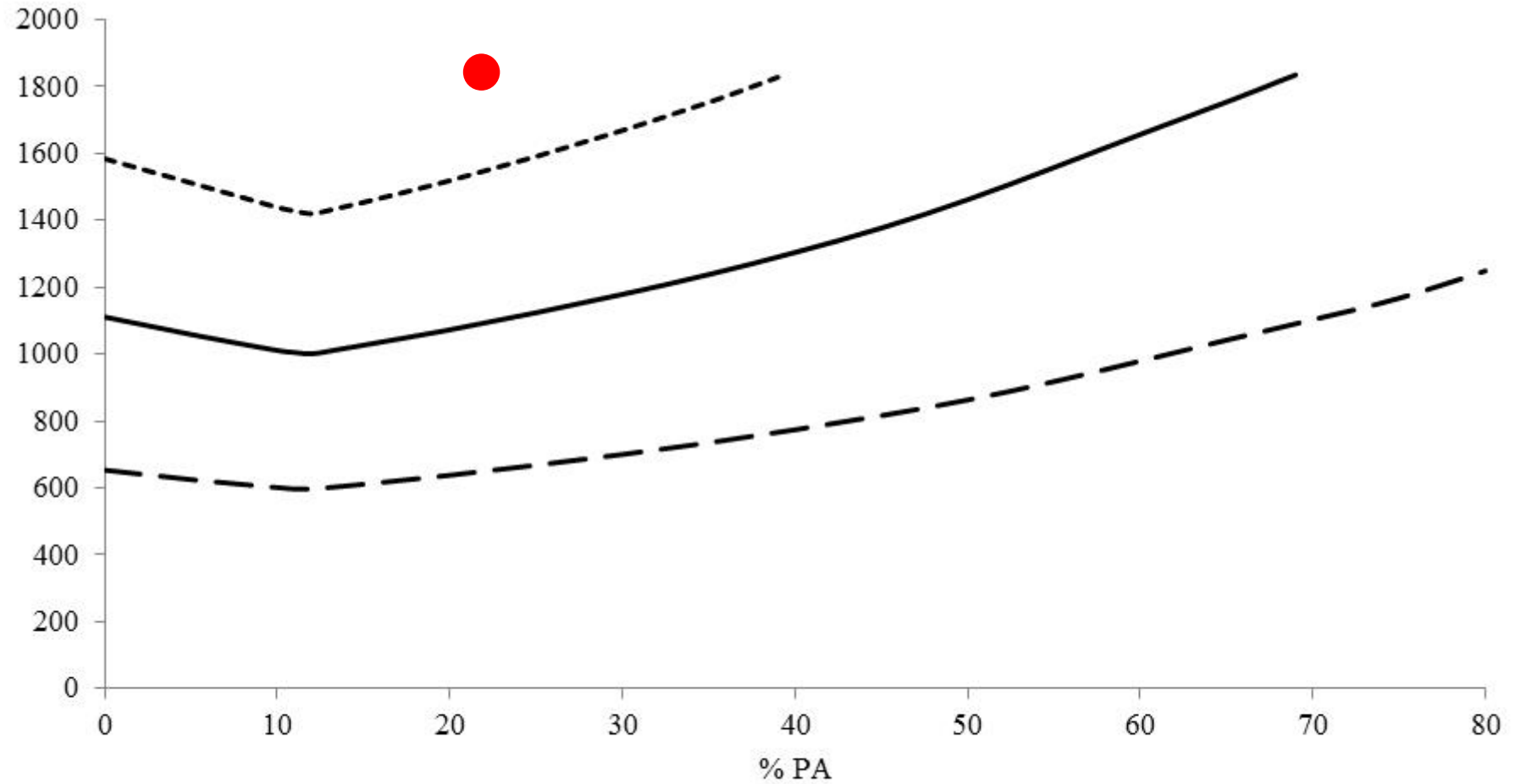


How?



Land use increasing % protein animals

10³ ha land



--- 15 mln — 25 mln -.- 35 mln ● 41.3 mln

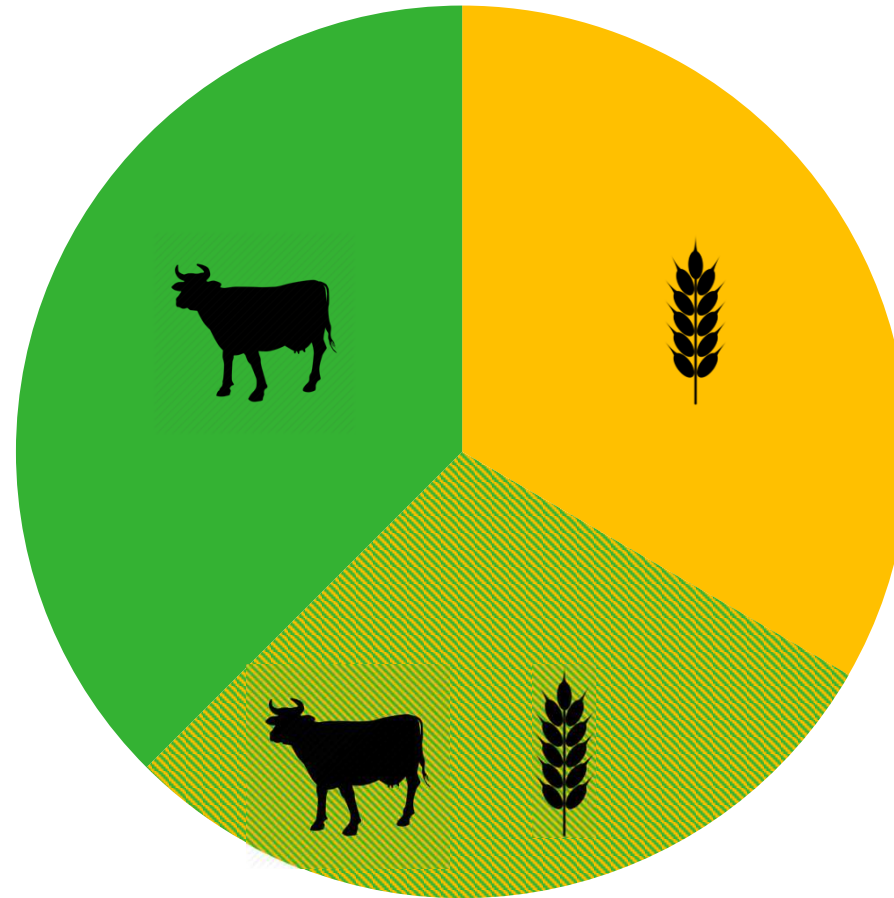


Lessons from thought experiment

- Land use minimal: moderate consumption of animal-source of food
- Animals value by-products & marginal land (importance “feed-food” crops)
- Marginal land of importance with high population density

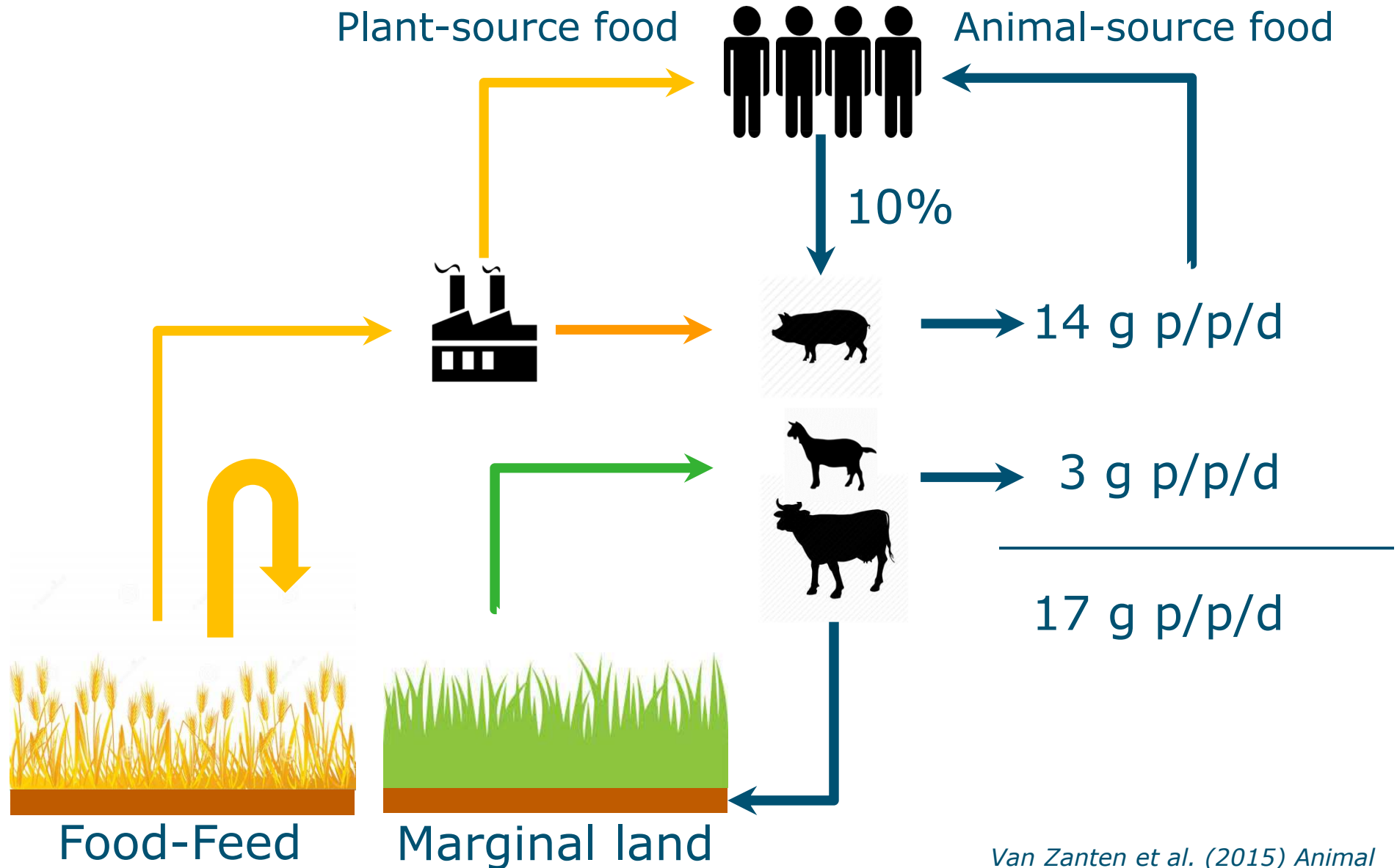
Can we feed the world?

Global use of agricultural land



- Arable land
- Grassland with
- Grassland without

Scenario – World 2050





Land use and food security

- Attention for food-feed crops
- Food waste: reduce – recycle as feed
- Value “waste streams” in animals
 - fungi or insects
 - breed for animals that value leftover streams
 - grass productivity and utilization (biorefinary)
 - produce milk + meat in one system

Livestock and nutrition security

Livestock production has a role in global nutrition security

Moderate consumption of animal-source food

Animals value waste streams & land less suitable for arable
production

Shift our focus from improving efficiency at animal
level to improving the number of people to be
nourished per ha (unit of resource)

Thank you for
your attention

