GOAL Sciences

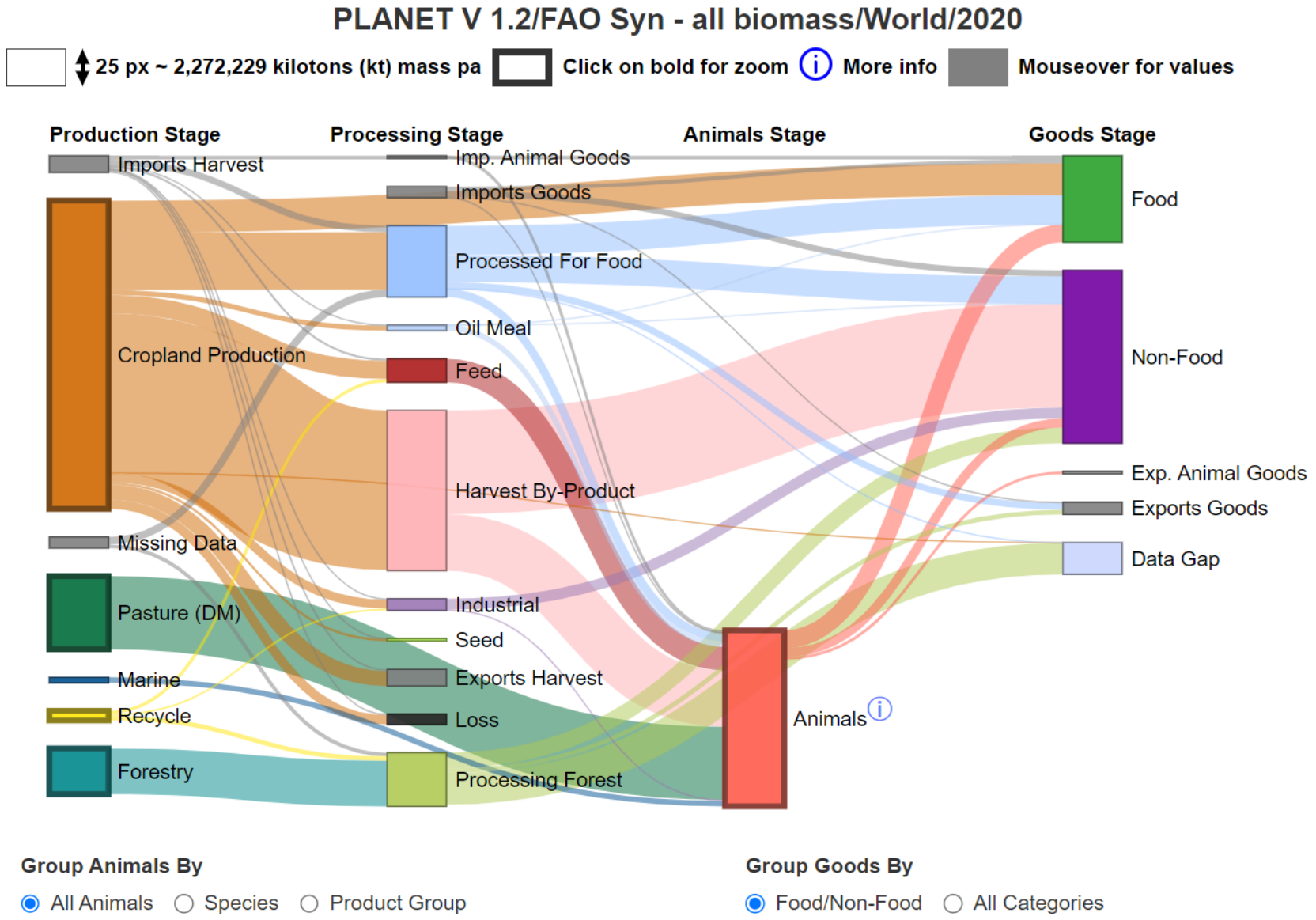
Global Observatory for

Accurate Livestock Sciences

Why we need more animal-sourced foods in order to feed the global population in a healthy and sustainable way

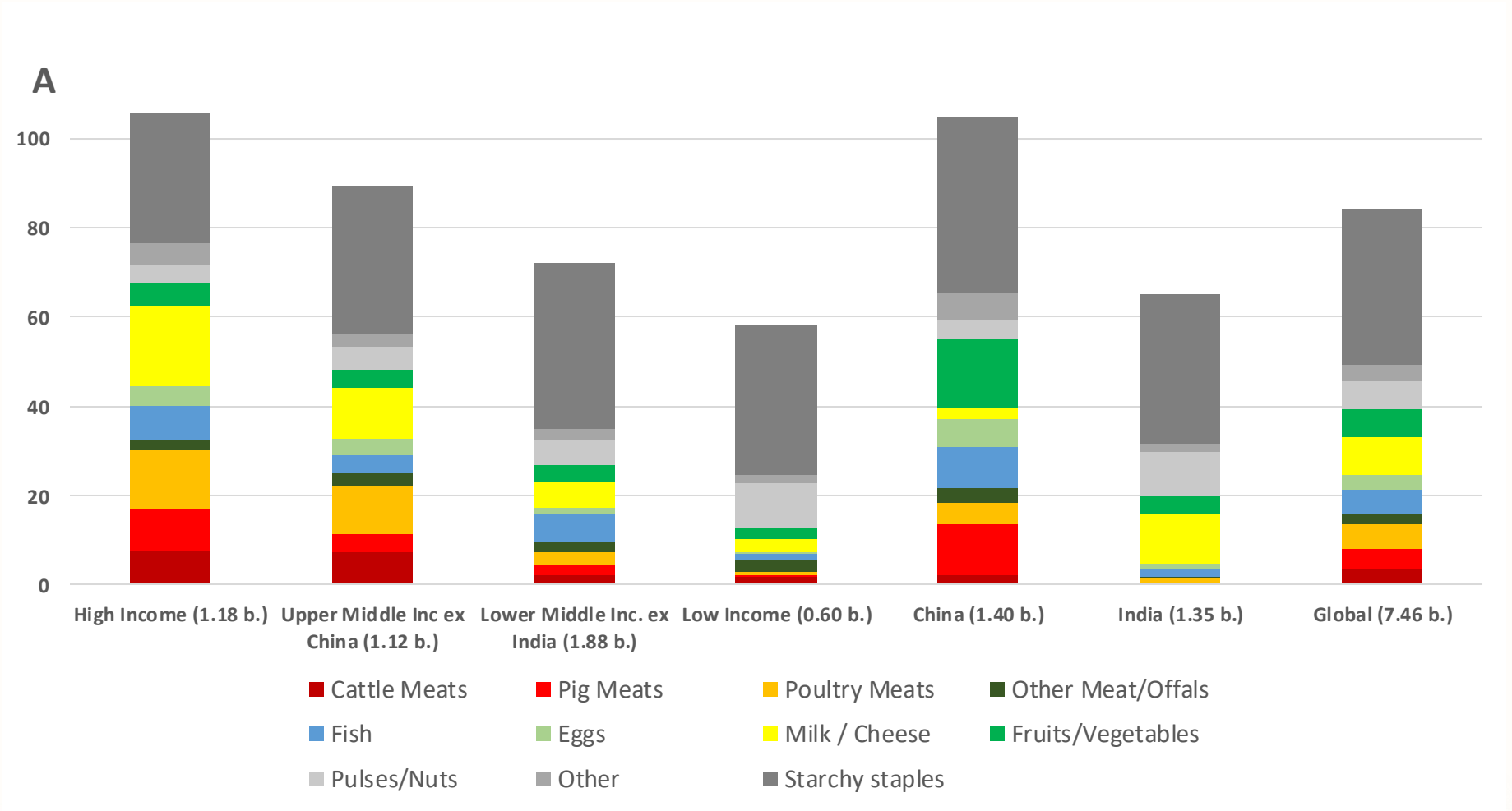
27 January 2023

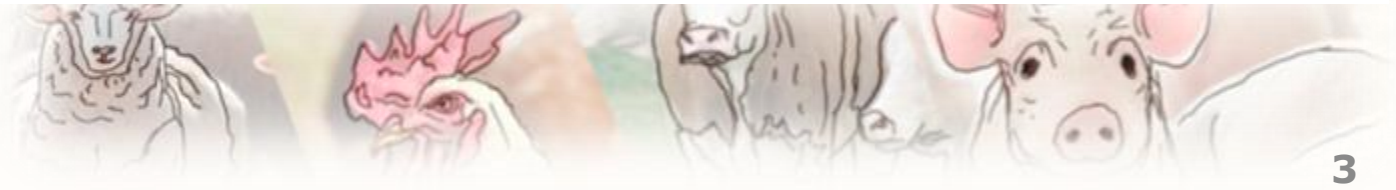
GOALSciences.org



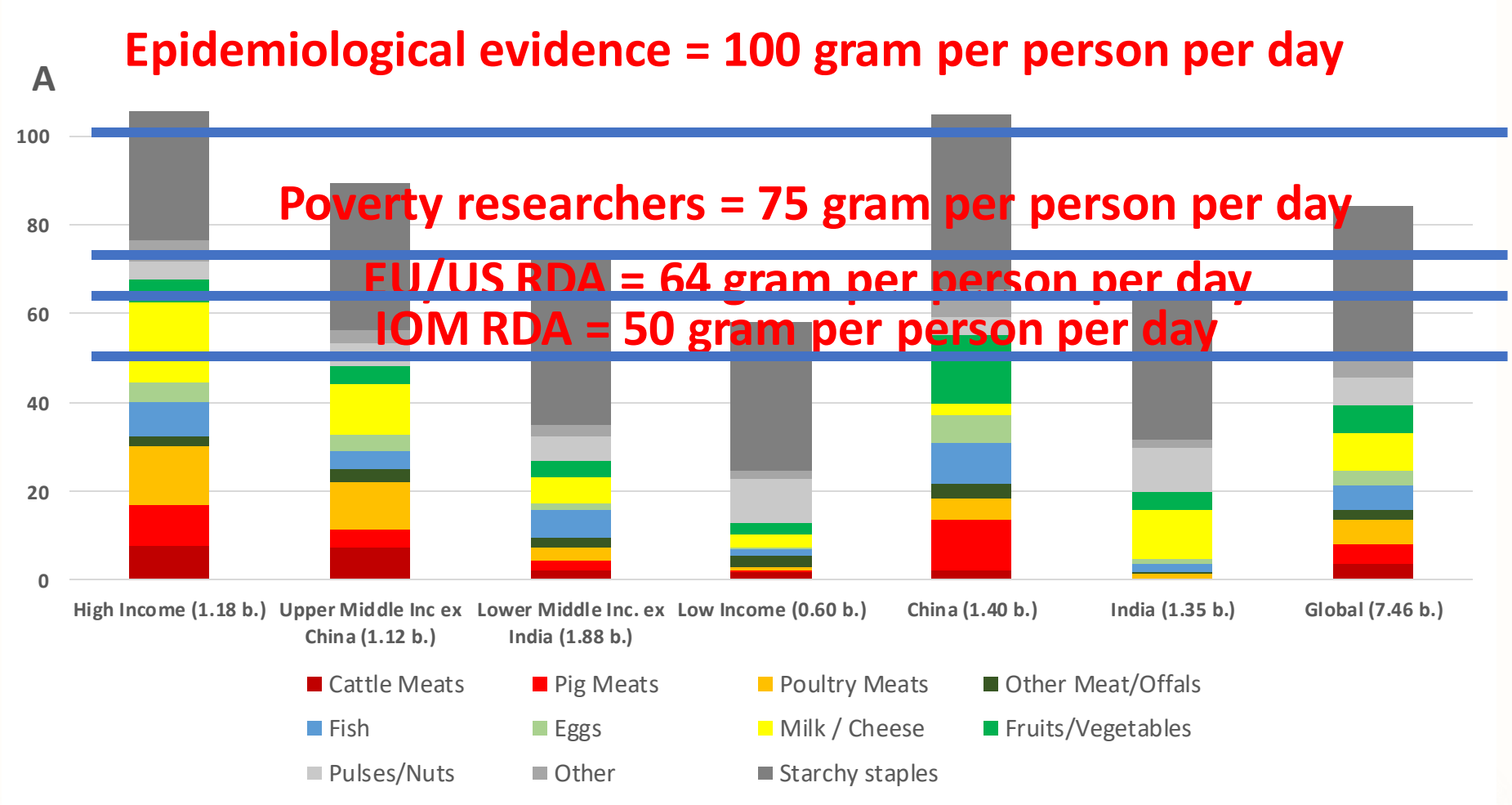
Protein supply per country / income group

In grams
per person
per day
In 2018





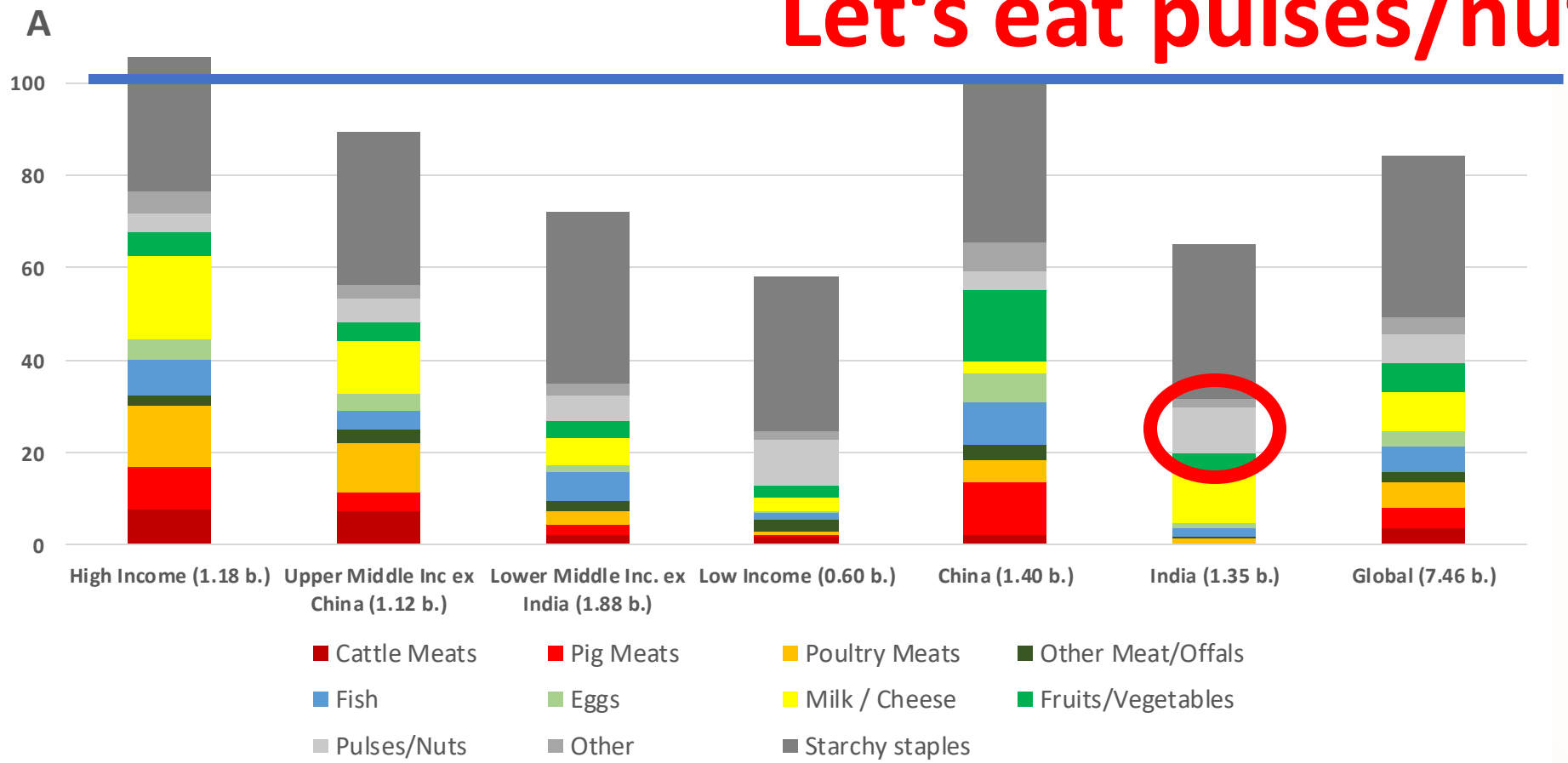
How much protein do we need?



Where to obtain more proteins?

In grams
per person
per day
In 2018

Let‘s eat pulses/nuts



Let's eat pulses ?

- Since years, India cannot increase its pulses production enough due to agronomic difficulties
- Pulses are toxic, they need up to 2 hours of cooking time to become edible, which is a problem where fuels for cooking are short
- Pulses are available only once per year, and after that have demanding storage requirements

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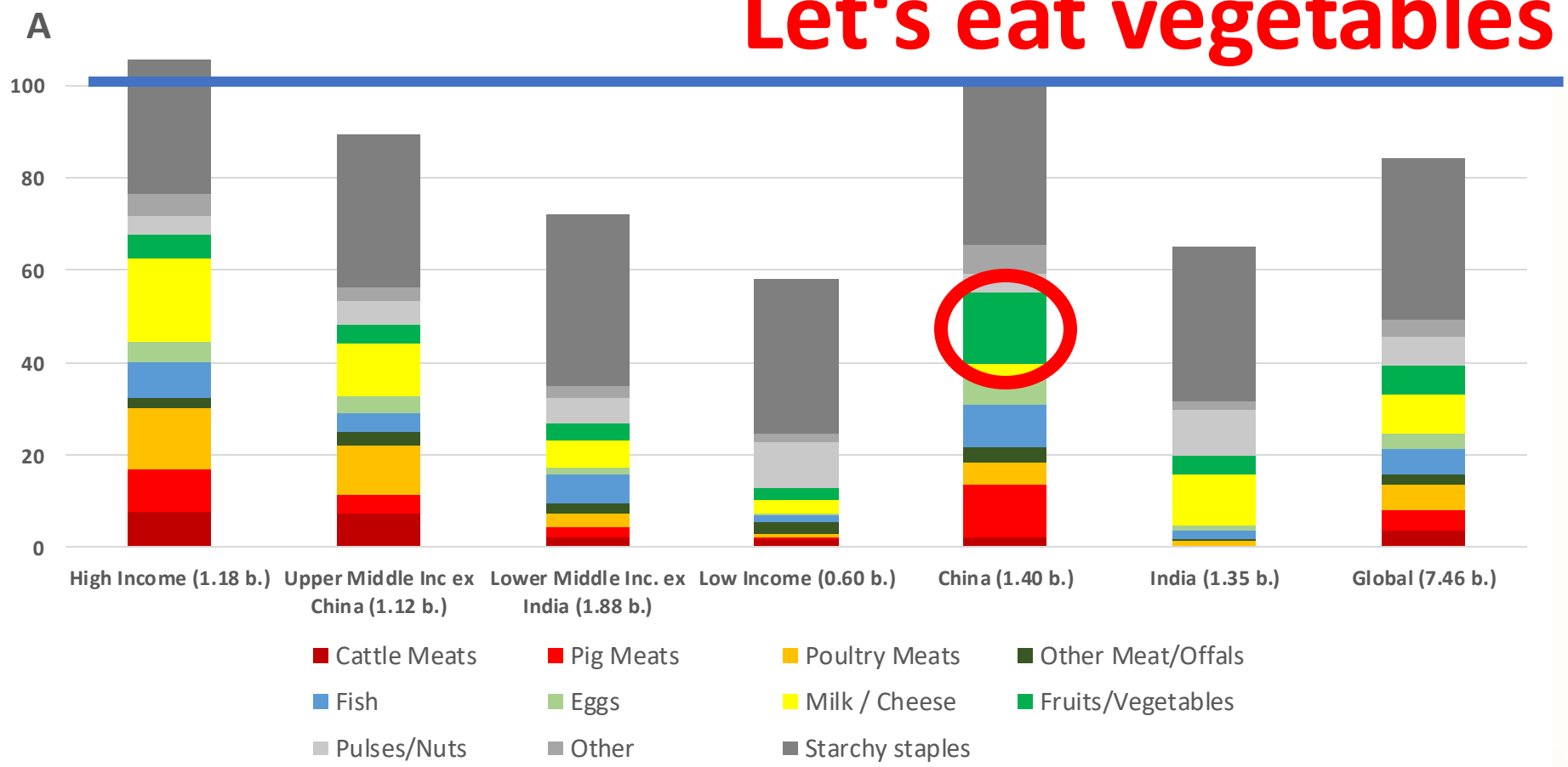
Where to obtain more proteins?

In grams
per person
per day
In 2018

Let‘s eat vegetables



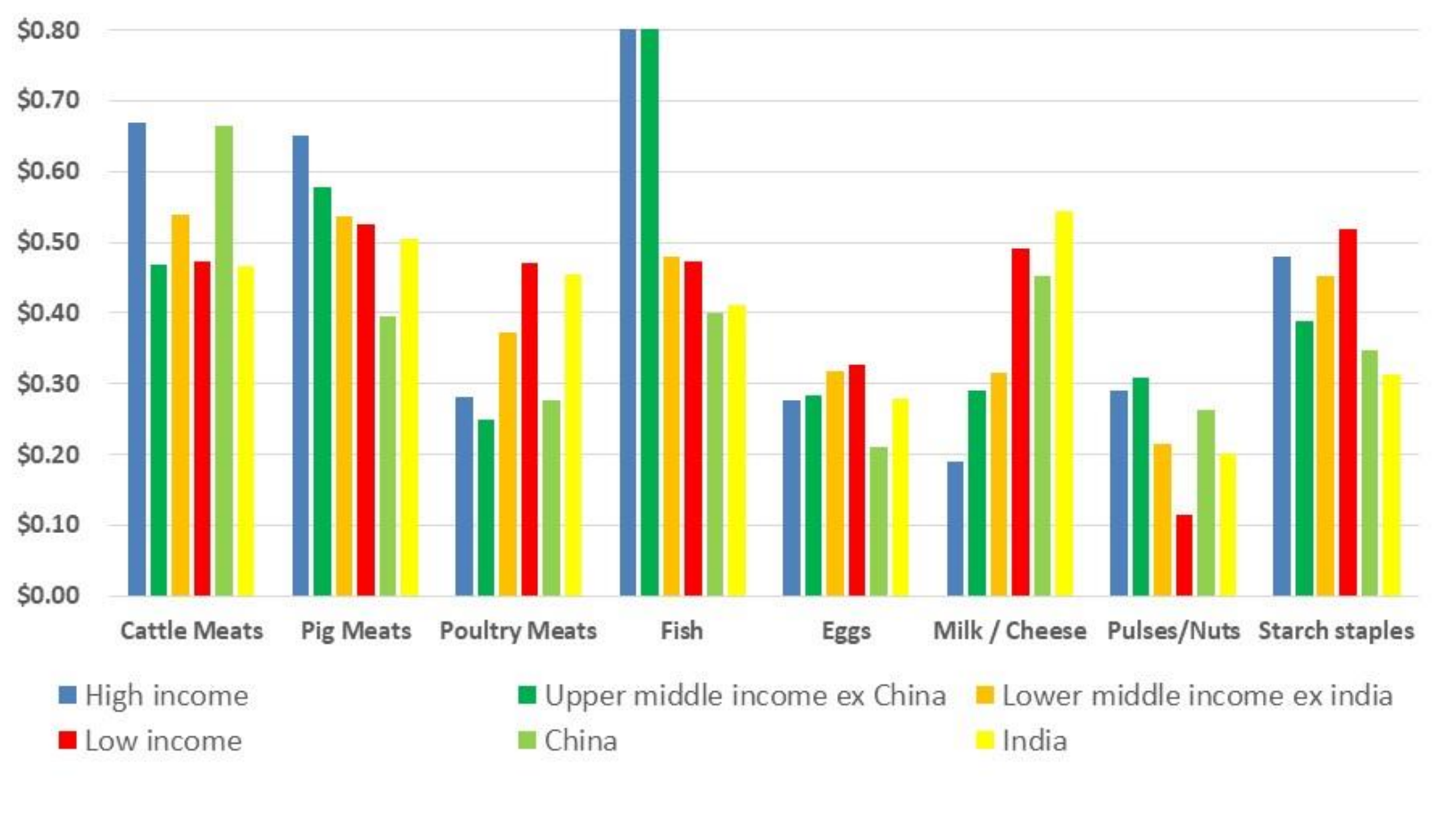
Let's eat vegetables and fruits ?

Comparing FAO Food balance sheets with Global Dietary Database:

- Wastage rates on overall protein: 20 %
- Wastage rates on overall vegetables: 50%
- Wastage rates on overall fruits: 70%

Animal products have best cost performance

USD cost
per
10 grams
bioavailable protein



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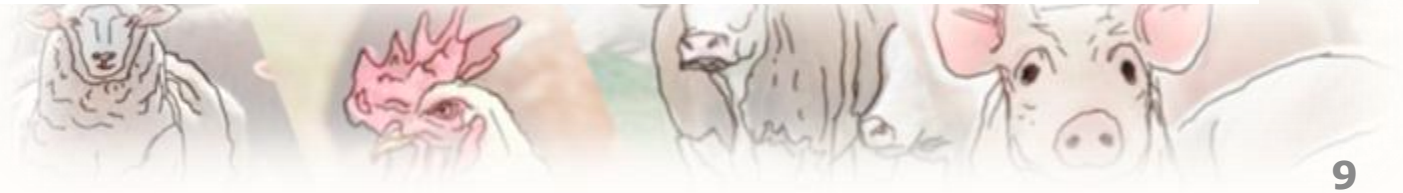
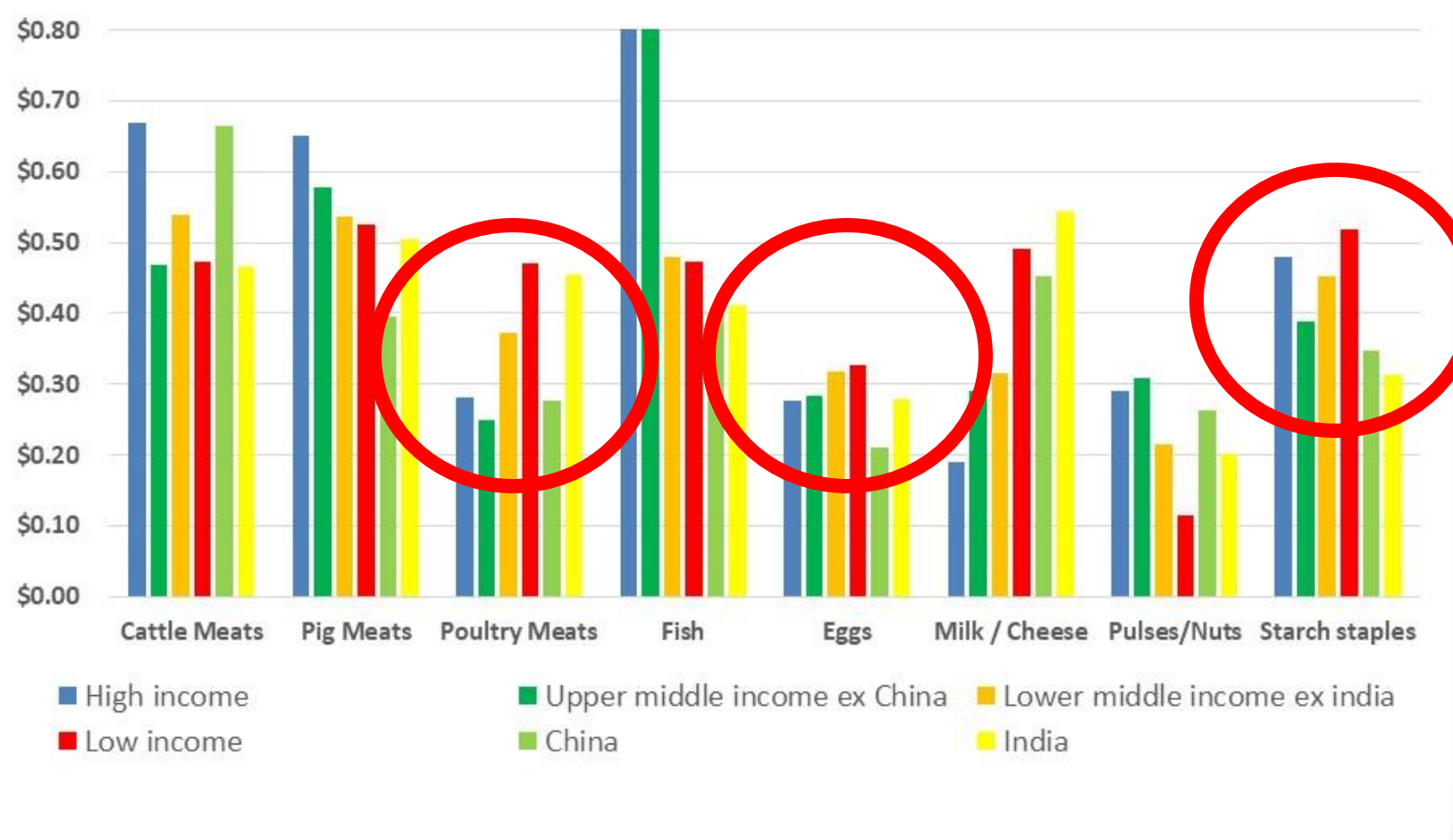


It is the Upcycling Ratio which counts

USD cost
per
10 grams
bioavailable protein



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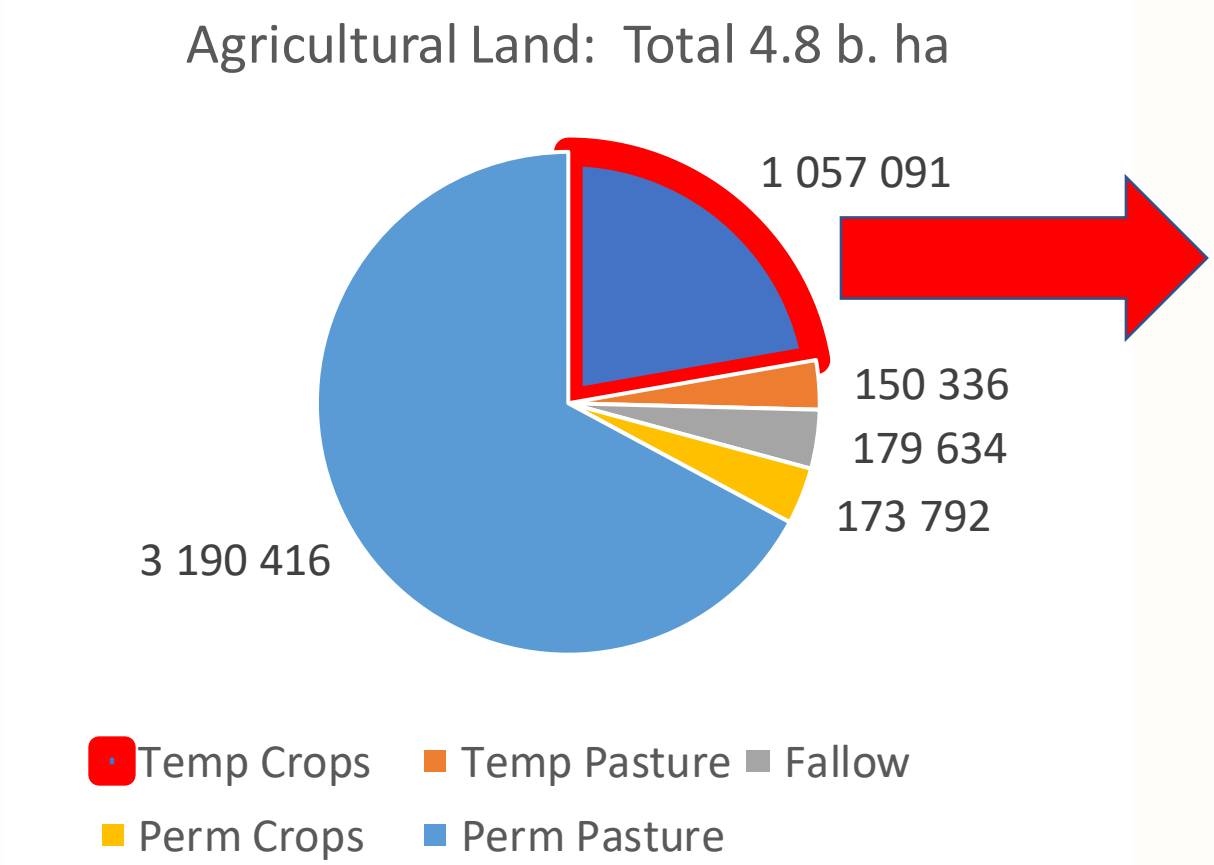
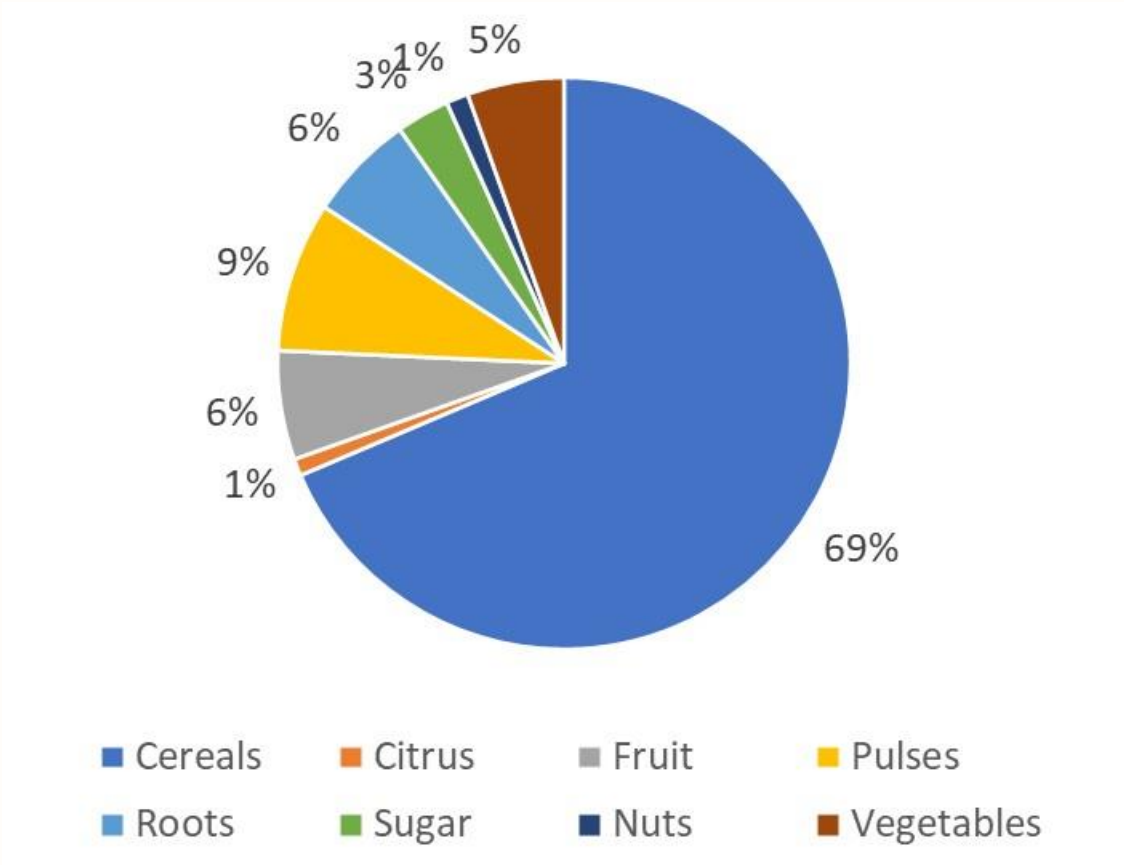
My choice of scenario is where we need to double protein supply today, and triple until 2050, and for that

We need more:

- Pulses and vegetables and fruits
- We need more dairy and eggs and fish
- We need more meat from cattle, pigs and poultry
- We need to reduce waste

Feed / food competition does not exist





Source: FAOStat: https://www.fao.org/faostat/en/#data/RL

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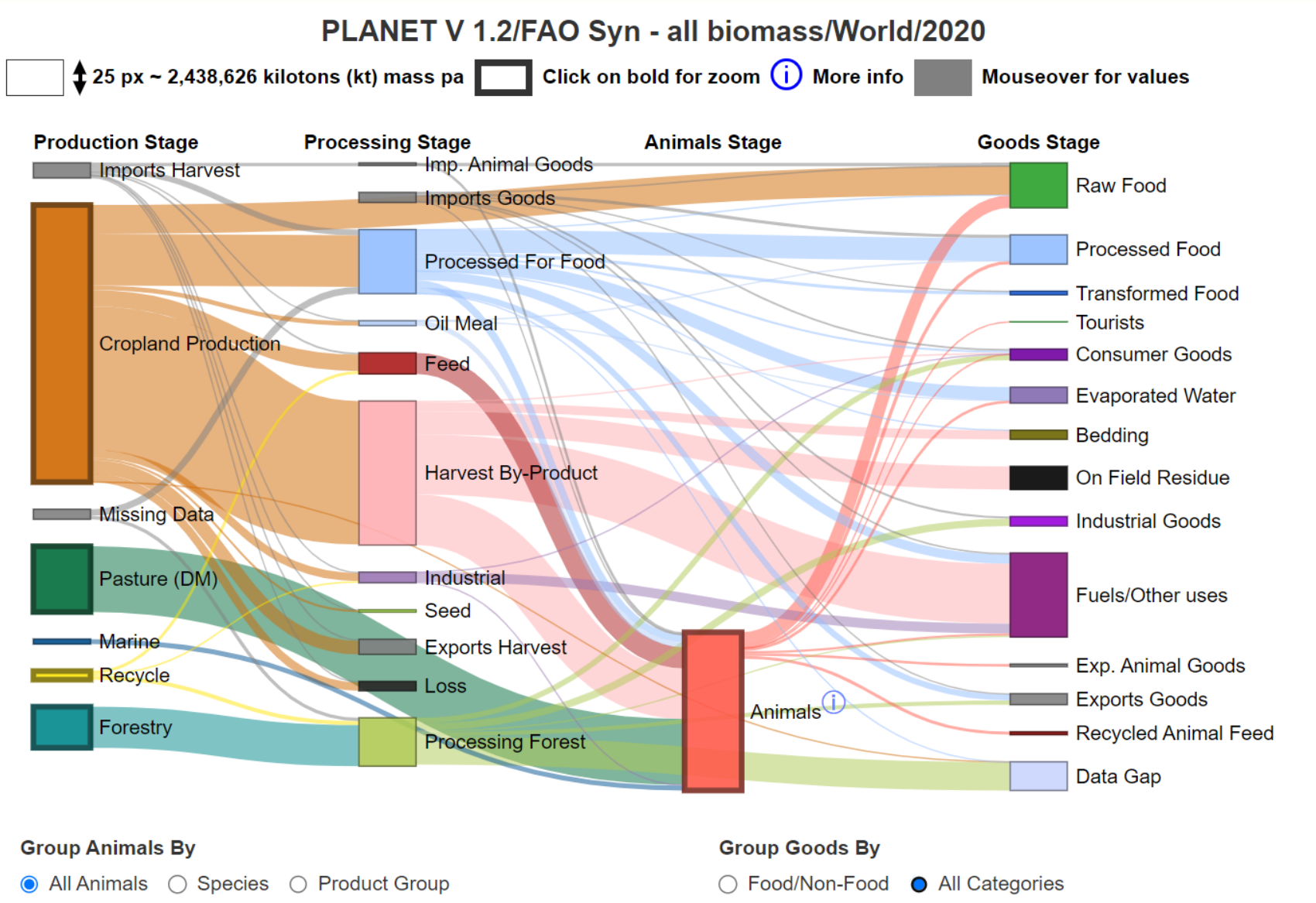
Animal feed / fuel competition !

Notice the

oil meals,
feed amounts,
fuel amounts,
harvest by products



Source: www.goalsciences.org

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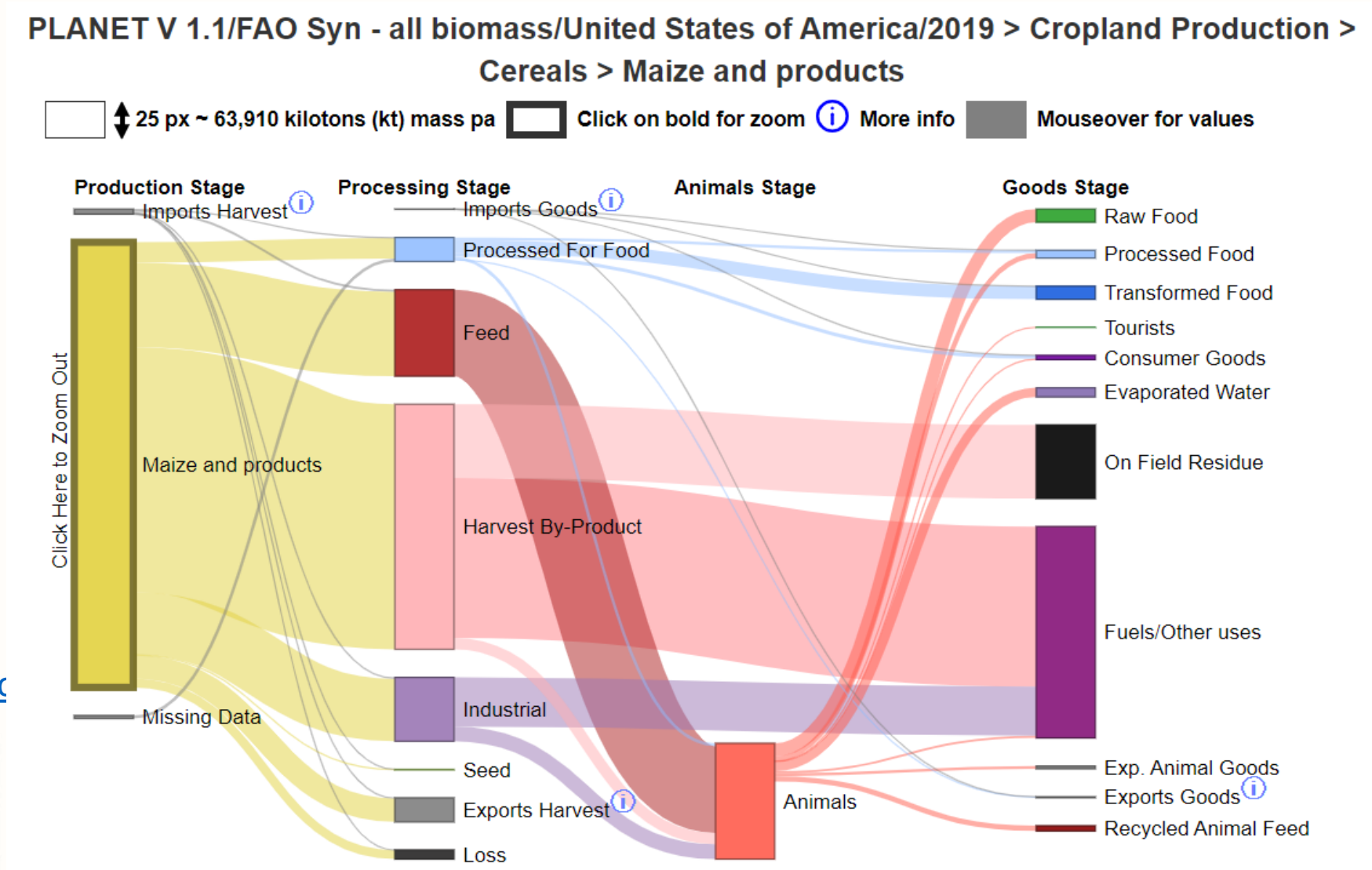
Feed / fuel competition ! Maize in USA



Source: www.goalsciences.c

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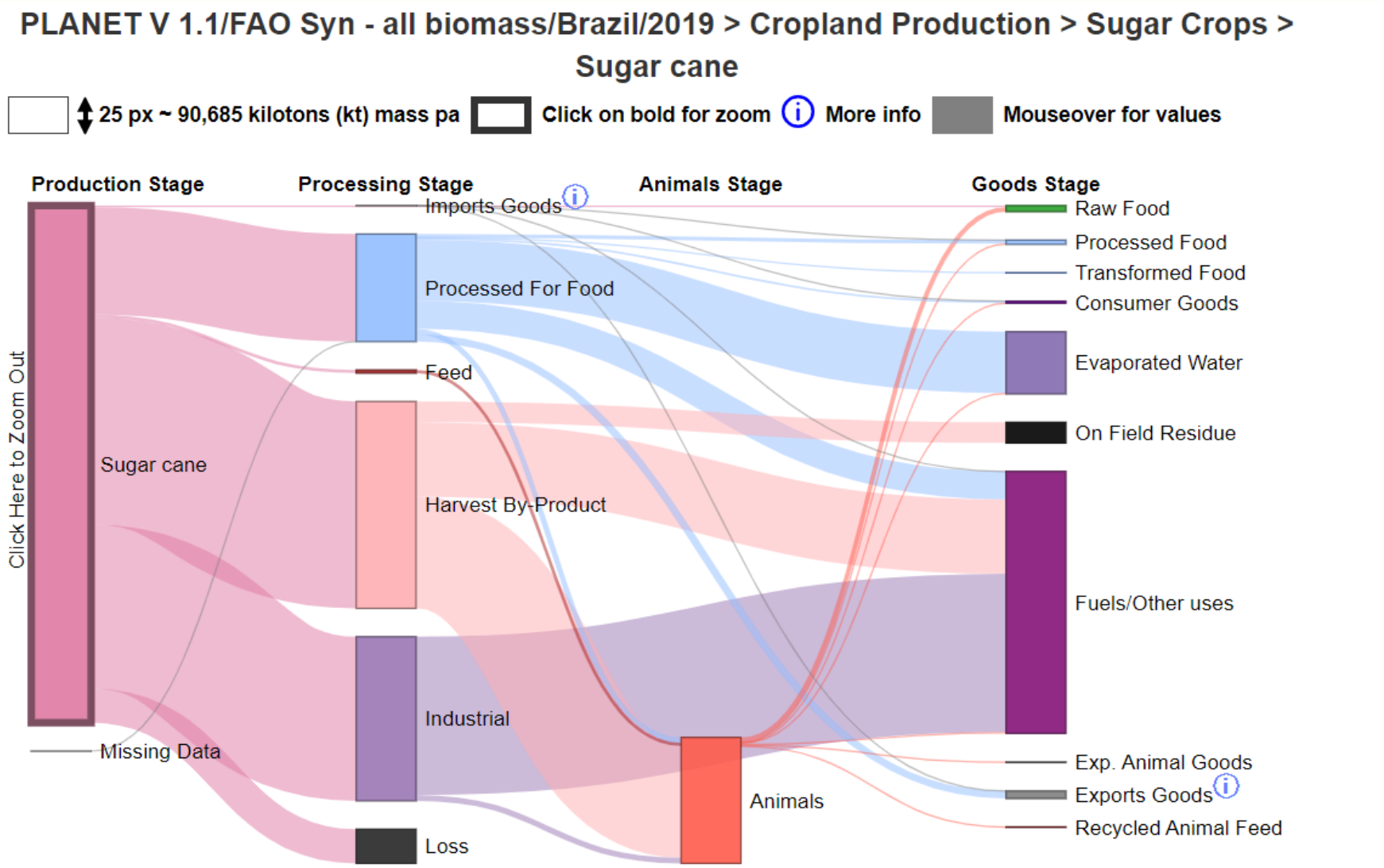
Feed / fuel competition ! Cane in Brazil



Source: www.goalsciences.o

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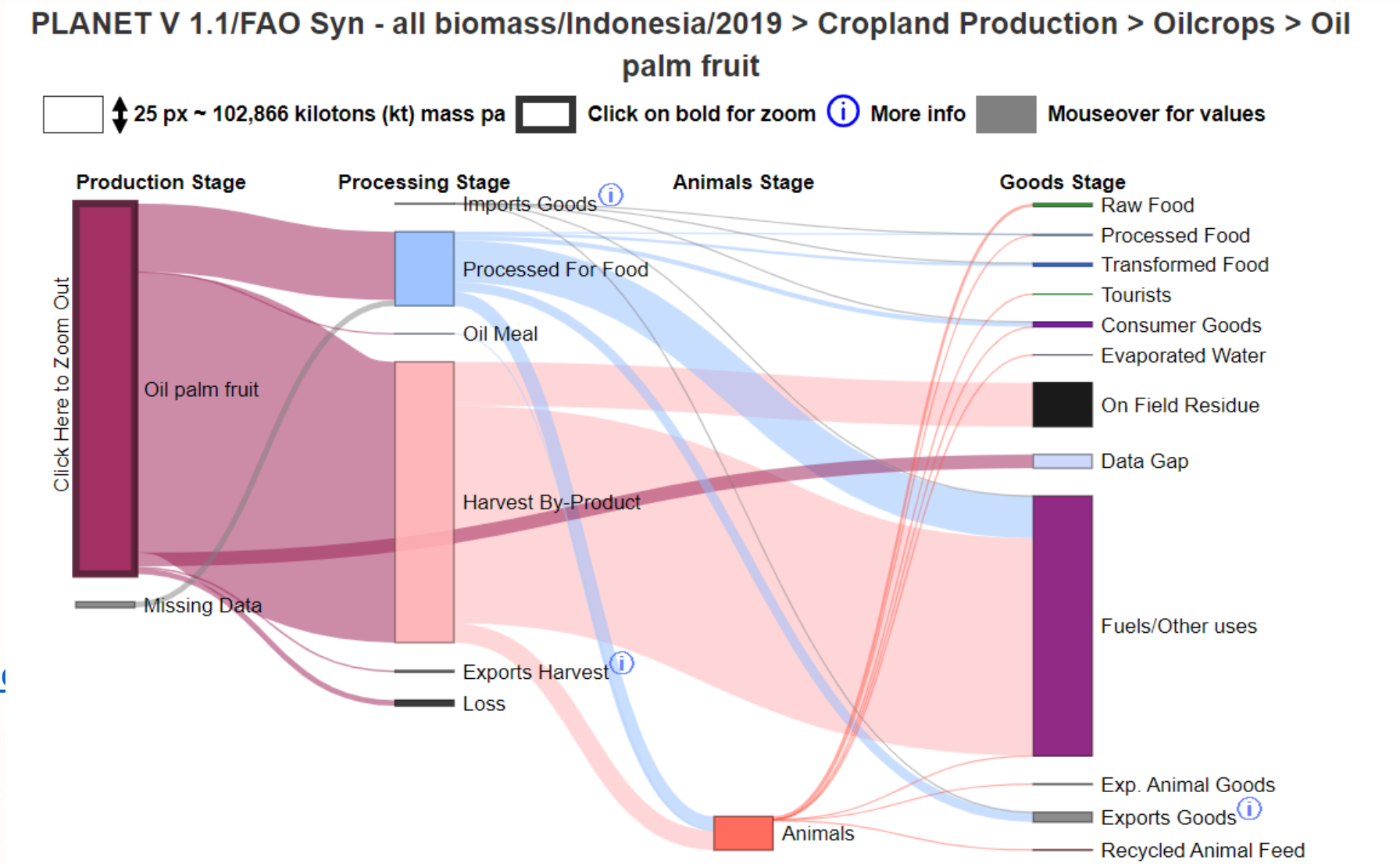
Feed / fuel competition ! Palm in SEA



Source: www.goalsciences.

Please follow me on GOALSciences

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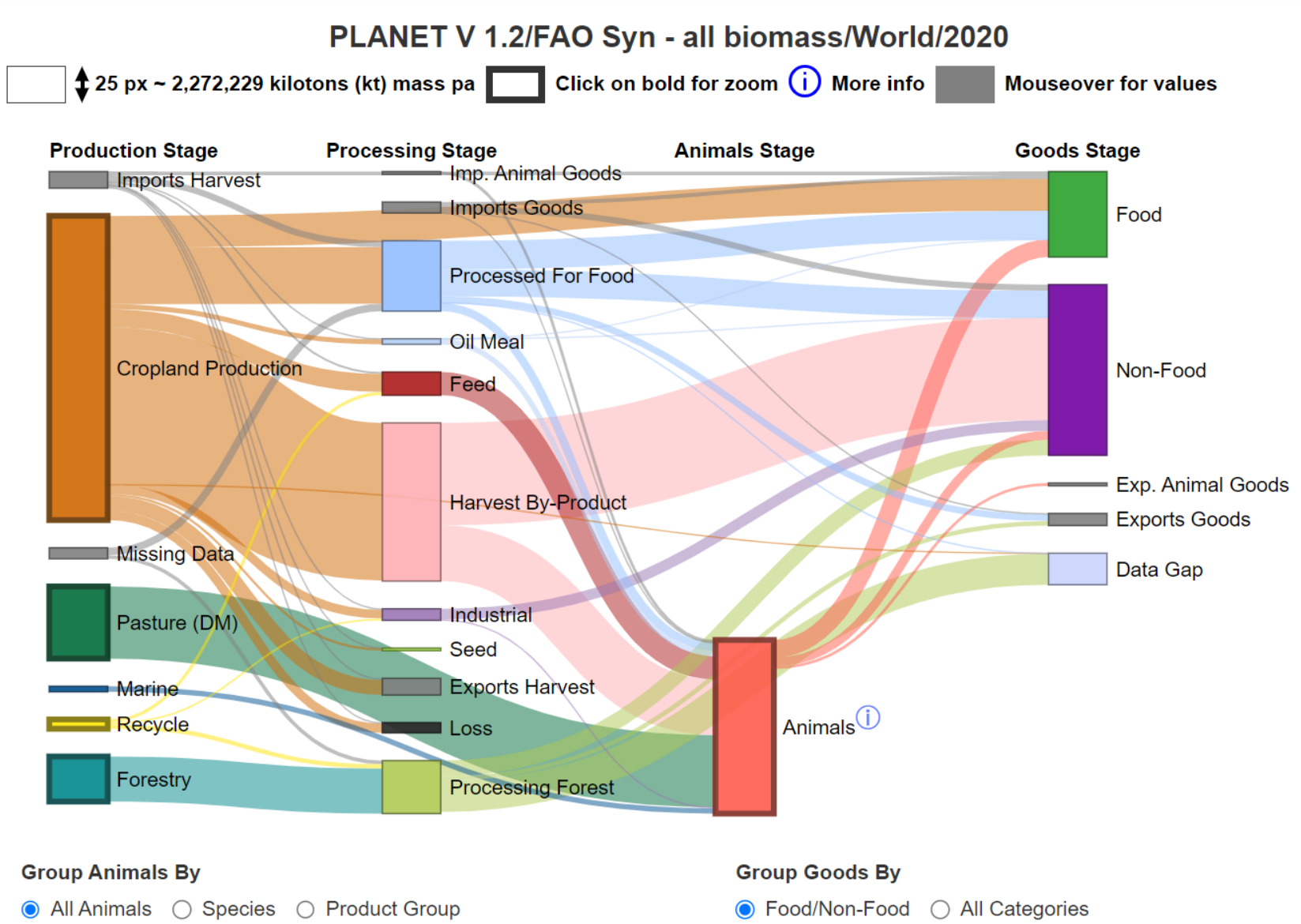

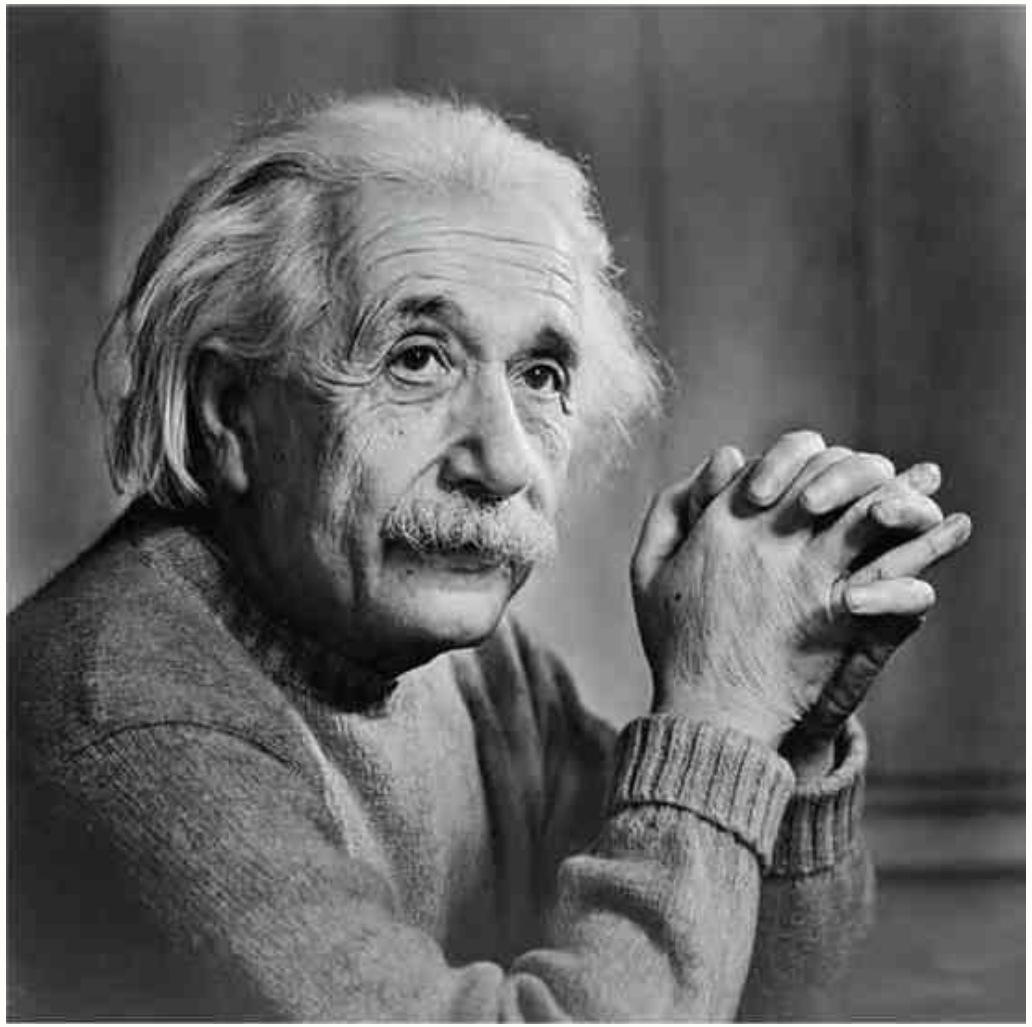

I am not a genius

I am just curious

I ask many questions

When the answer is simple, then God is answering

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