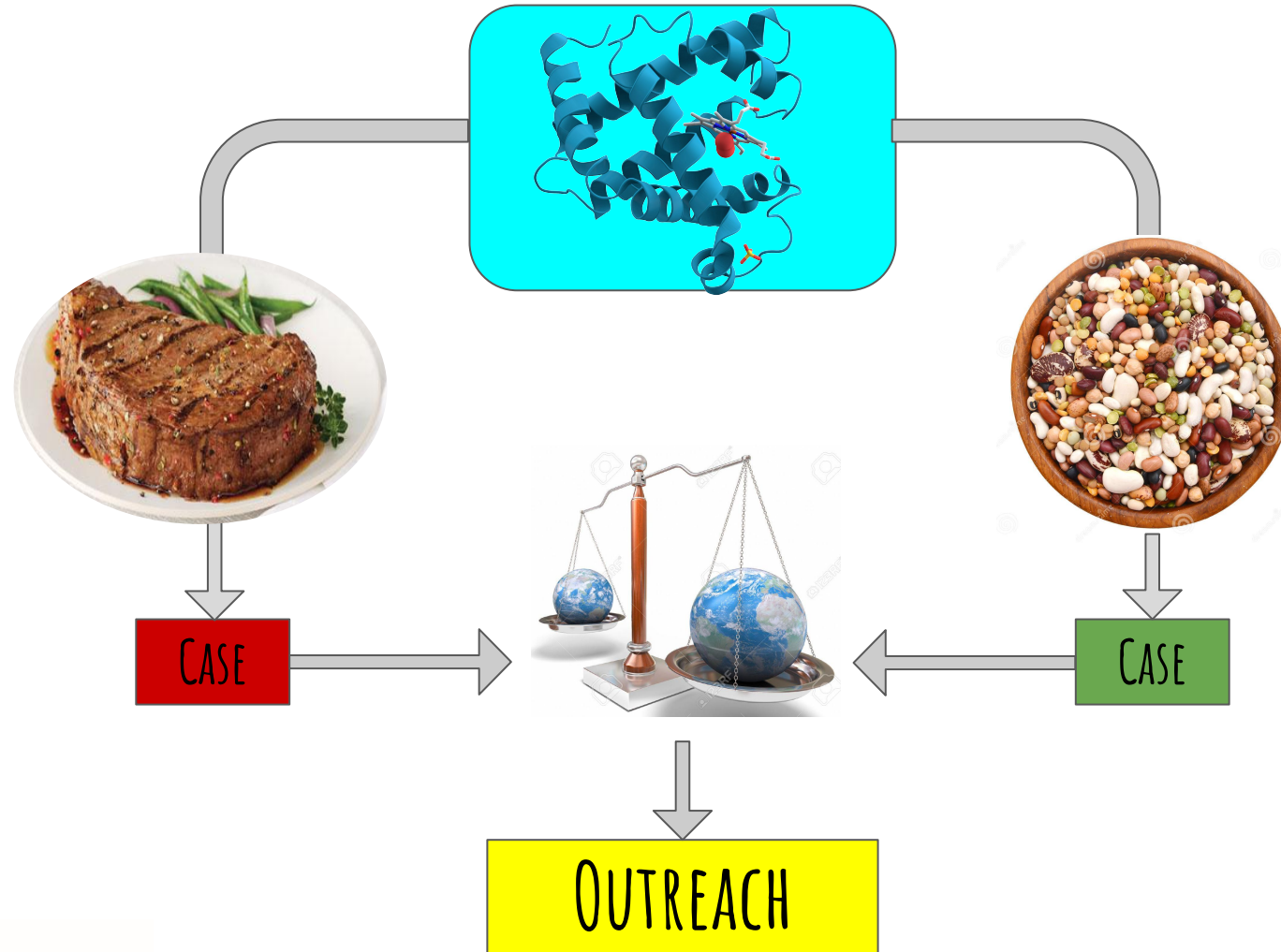


BIODIVERSITY AND PROTEIN CONSUMPTION

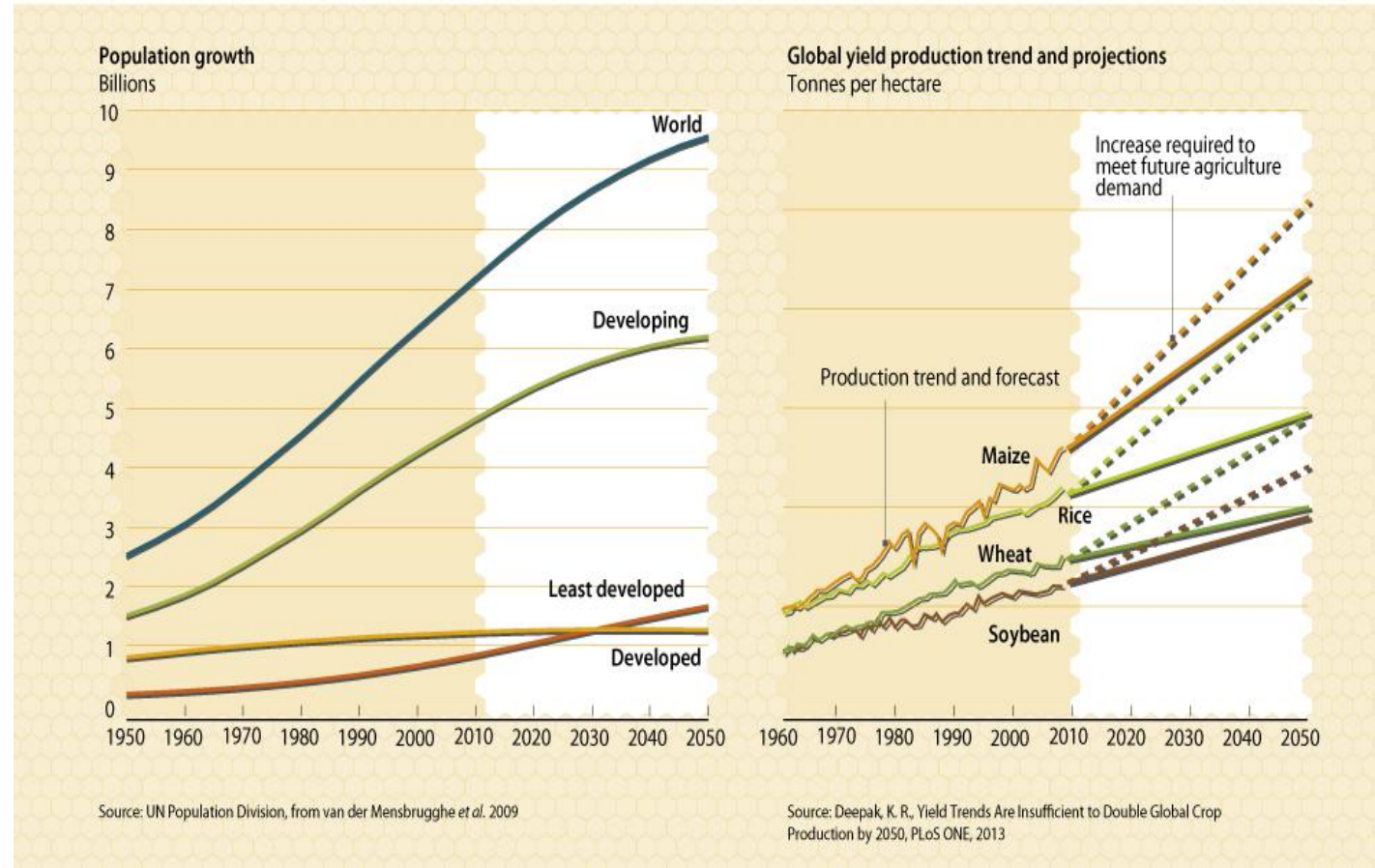
GEOG 446 TOPICS IN GEOGRAPHY WITH LOCH BROWN

ERIN GRACE, KASPER SUNDBAEK, PEDRAM ALVARI, ZIYANG JIN, AND CHRIS MONAGHAN

INFOGRAPH



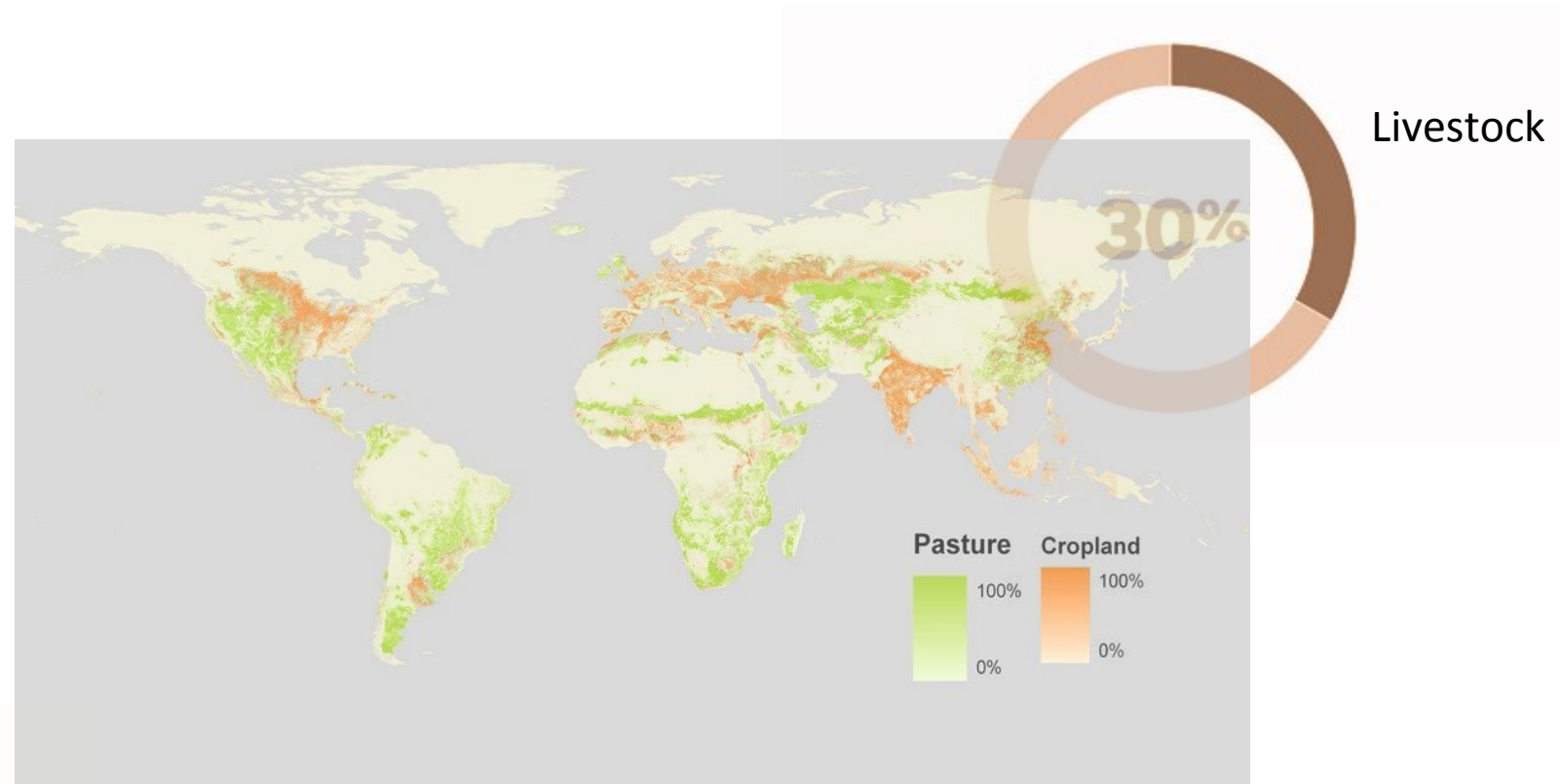
WILL THERE BE ENOUGH FOOD FOR 9.6 BILLION PEOPLE?



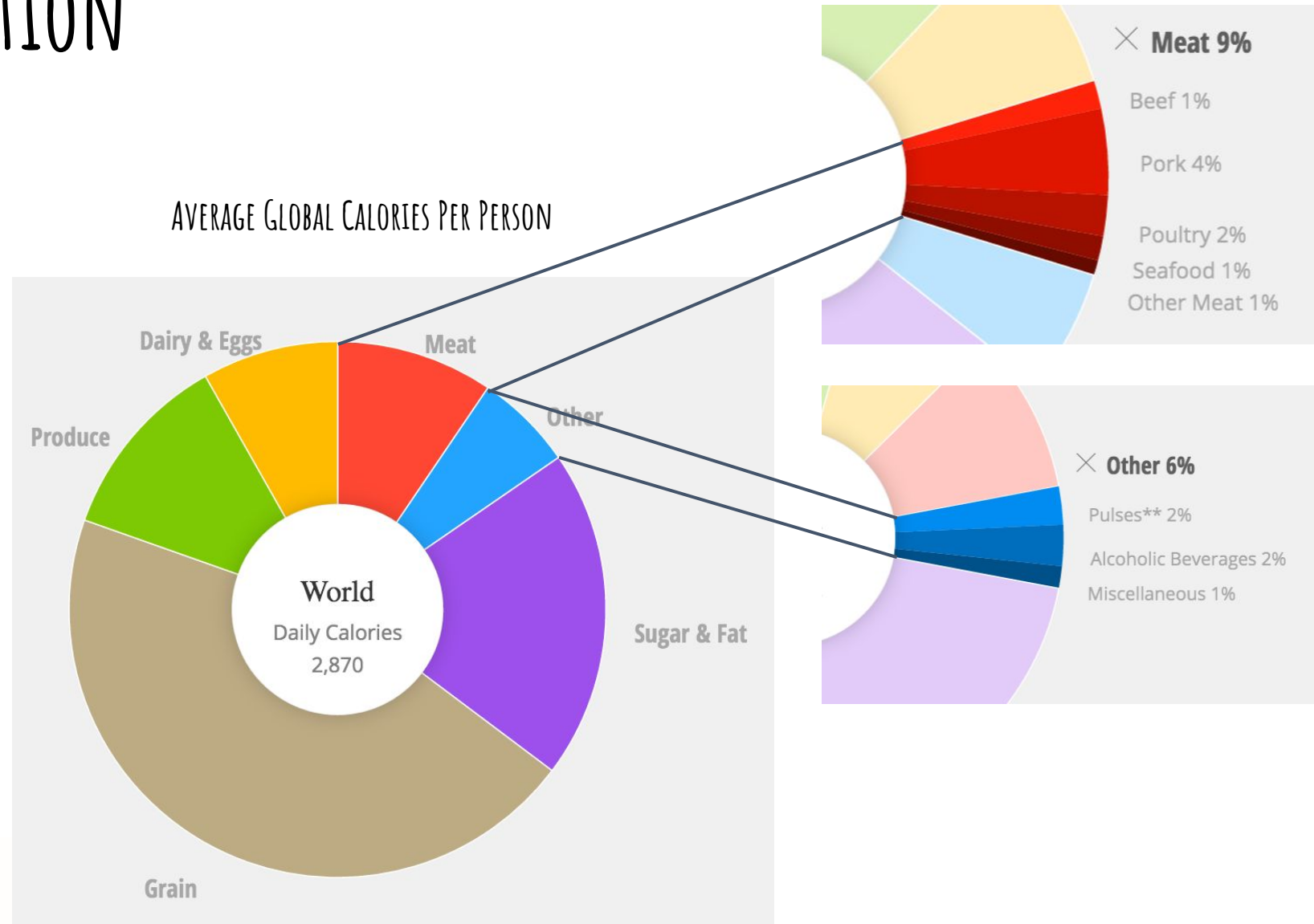
(Formo *et al.*, 2014)

LANDUSE TODAY

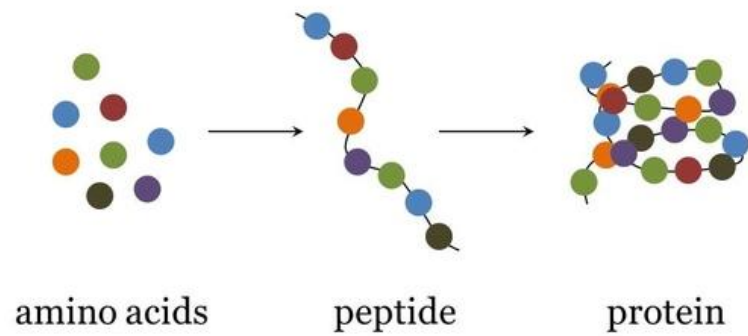
“Globally, over 4,000 assessed plant and animal species are threatened by agricultural intensification, and the number is still rising” (Nellemann et al., 2009)



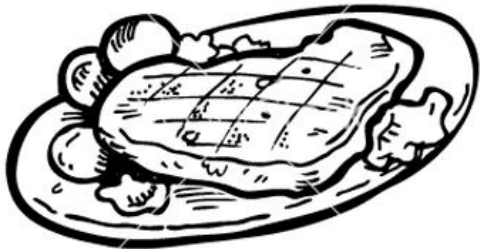
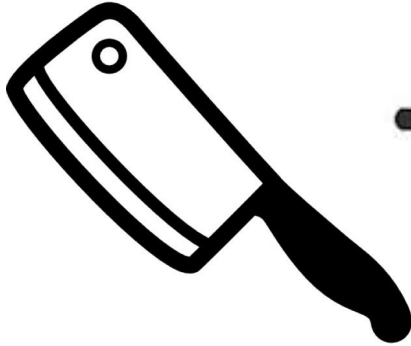
DIET CONSUMPTION



WHY PROTEIN IS IMPORTANT



COMMODITY CHAIN MEAT



PROBLEMS WITH MEAT



COMMODITY CHAIN PULSES



<http://www.drjodiesnaturalpets.com/single-post/2014/07/14/Biochem-For-Your-Pets-Go-t-Sprouts>



<http://www.cimmyt.org/are-cows-the-next-development-boom-for-smallholder-farmers/>

http://www.undp.org/content/dam/uganda/docs/UNDP%20Uganda_PovRed%20-%20Beans%20Value%20Chain%20Report%202013.pdf

http://www.undp.org/content/dam/uganda/docs/UNDP%20Uganda_PovRed%20-%20Beans%20Value%20Chain%20Report%202013.pdf
<http://petcherseeds.com/velvet-beans/>



http://www.undp.org/content/dam/uganda/docs/UNDP%20Uganda_PovRed%20-%20Beans%20Value%20Chain%20Report%202013.pdf



<http://www.calgaryherald.com/travel/venturing+well+beyond+beaches+souvenir+shops+while+cruise/9354497/story.html>



<http://www.photo4design.com/stock-photo-stack-of-pulses.-58363#.WL-SKxLyu8o>

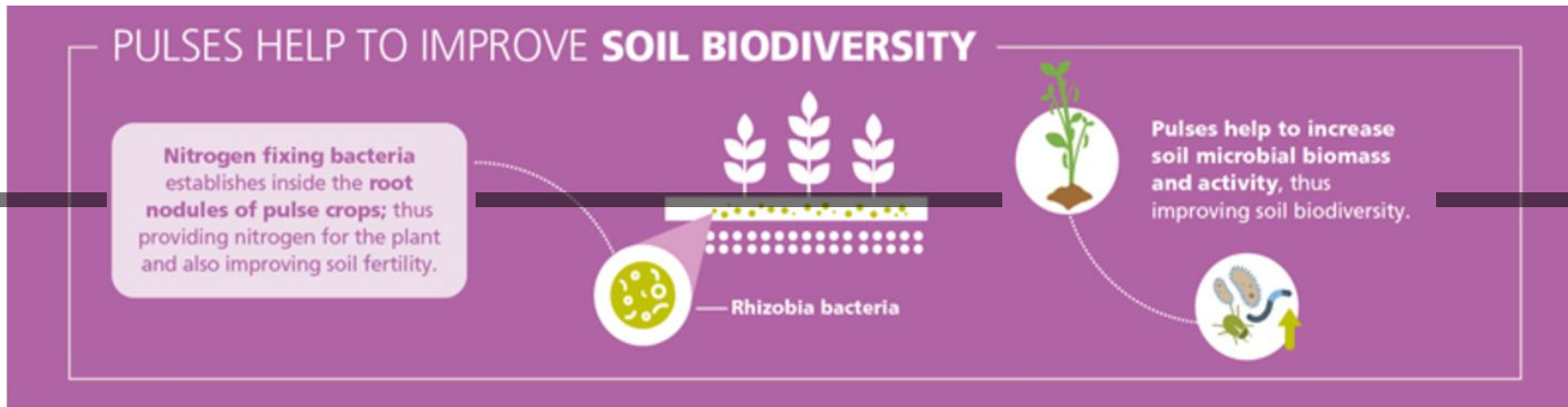


http://www.undp.org/content/dam/uganda/docs/UNDP%20Uganda_PovRed%20-%20Beans%20Value%20Chain%20Report%2013.pdf

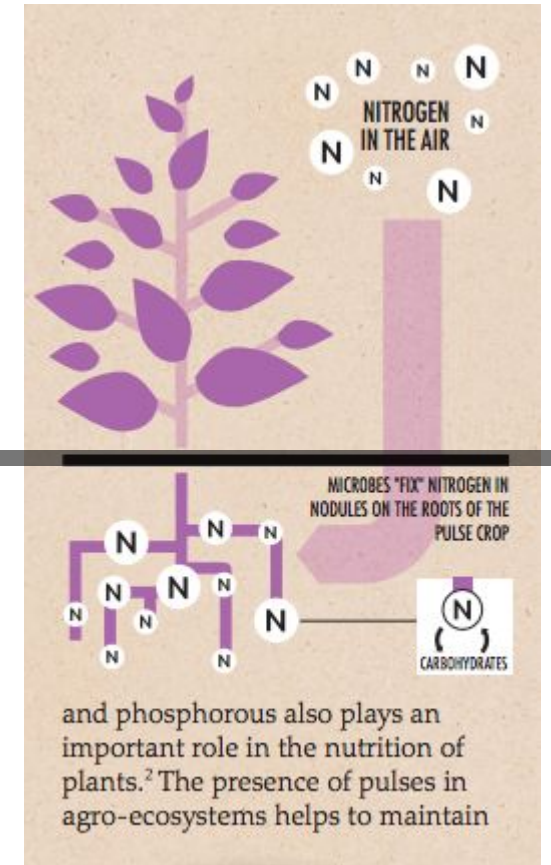


<http://www.sofarsochic.co.uk/2012/11/whole-foods-market-cheltenham.html>

PULSES - NITROGEN AND BIODIVERSITY



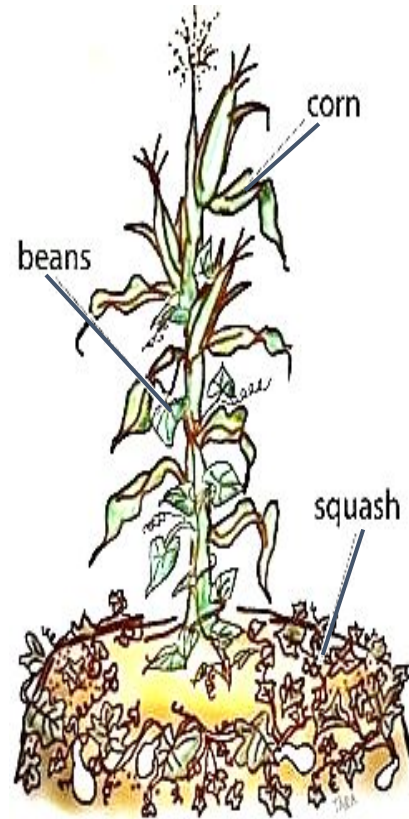
<http://www.fao.org/resources/infographics/infographics-details/en/c/472566/>



http://www.fao.org/fileadmin/user_upload/pulses-2016/docs/factsheets/Biodiversity_EN_PRINT.pdf

CASE STUDY OF PULSES

VELVET BEAN (MUCUNA PRURIEN)



<http://www.yesmagazine.org/planet/four-ways-mexico-indigenous-farmers-agriculture-of-the-future-20150810>

MEXICAN FARMER JOSEFINO MARTINEZ

MILPA SYSTEM OF CROP-GROWING

COMPARISON



BIODIVERSITY

WINNER



<http://www.meatlessmonday.com/articles/eat-your-beans-united-nations-declares-2016-the-international-year-of-pulses/>

SEEDS Sustainability
Program

EDUCATIONAL OUTREACH-INTERACTIVE LEARNING

WHERE DO PULSES COME FROM?



HOW TO EAT PULSES

COOKED, SPROUTED...



DID YOU KNOW
PULSES ARE GLUTEN
FREE?



WHY NOT SPROUTS?



HOW TO SPROUT PULSES

HOW TO SPROUT PULSES



<http://nhne-pulse.org/grow-your-own-food-sprouts/>

Step 1: Put pulses in the bottom of a jar and cover with water to soak for 12 hours. The lid of the jar have to be replaced with a mesh.

Step 2: Rinse the seeds in room temperature water and drain the jar.

Step 3: Place the as on the picture on the front in sunlight.

Step 4: Repeat the rinsing (step 2) at least once every 12 hours until the sprouts are ready (usually about 2 to 4 days).

Step 5: Eat the sprouts straight away or transfer them to a plastic bag in the fridge where they keep well for several days.

<http://www.verticalveg.org.uk/6-easy-steps-to-sprout-heaven/>

TAKE AWAYS

1. CLARIFY MYTHS ON PROTEIN

Protein per 100 g

Soybeans 36.49 g

Velvet Beans 32.4 g

Red lentils 29 g

Chicken 27 g

Pork 27 g

Beef 26 g

Broad Beans 25 g

Lamb 25 g

Red Kidney Beans 23.6 g

Black Beans 21.6 g

Green Lentils 14 g

TAKE AWAYS

2. MAKING THE CONNECTION BETWEEN CONSUMER CHOICES AND GLOBAL ISSUES/ IMPACTS



TAKE AWAYS

3. CHANGE EATING HABITS



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Max, R. 2016. Land Use in Agriculture. Published online at OurWorldInData.org. Retrieved from: <https://ourworldindata.org/land-use-in-agriculture/> [Online Resource]

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National Geographic 2011. *What the World Eats*. Retrieved March 14, 2017, from <http://www.nationalgeographic.com/what-the-world-eats/>

Reijnders, L., and Soret, S. 2003. Quantification of the environmental impact of different dietary, 78(Suppl), 664–668.