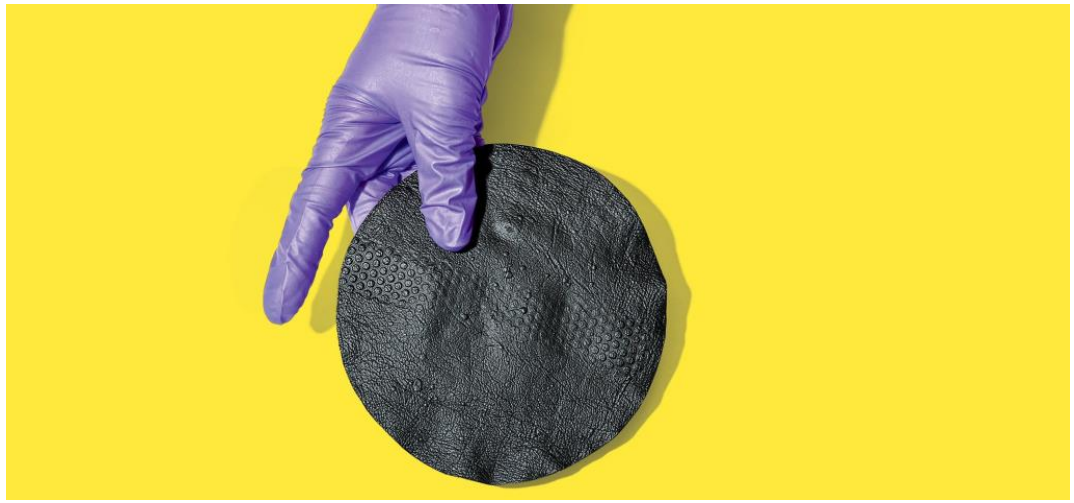
Solution for Dilemma

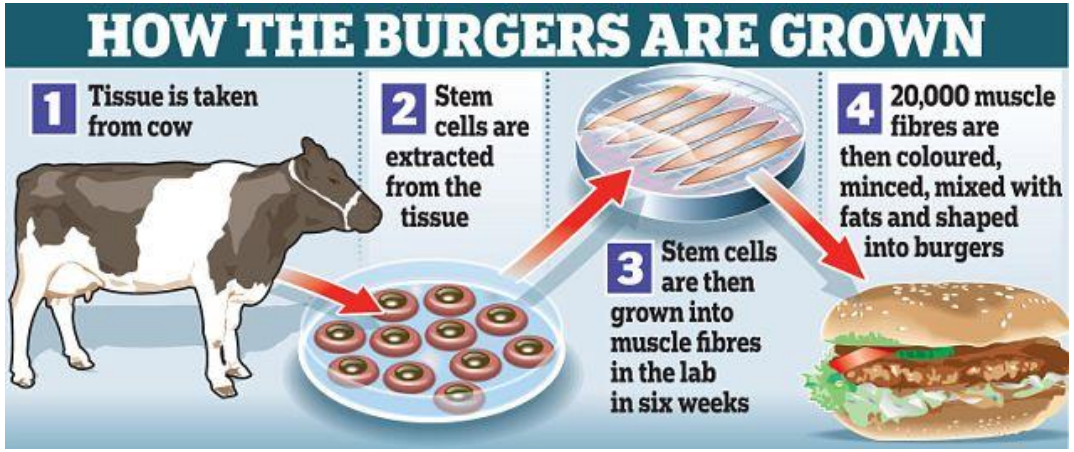
By Cleon Liu, Samual Huang, and Aidan Knapfl

Hello, and good afternoon. The topic our group chose was “Leather and meat without killing animals”, by Andras Forgacs.



- The dilemma our group had was the following:
- If meats could be synthetically made in a lab, how would this new technology negatively affect the population of that specific animal? How would eating synthetically made meat affect the health of the human species? And how would we be able to fix these problems?

What is synthetic meat and how is it made?



- Synthetic meat is not made by the process of slaughtering animals
- First take a sample of muscle cells muscle cells from an animal, which is a cow.
- Then, you'll need a mixture of sugars, amino acids, and blood from unborn cows to feed the stem cells
- Nutrients allow the cells to multply and create tissue, because muscle is the main componet we eat
- The muscle cells still need to be "bulked up" into solid fibers, to achive this, tiny shocks of electrical currents are used.
- Approximately, one million cells are needed to create one muscle fiber, and it takes around 20,000 fibers to make a 5 ounce burger

Making Real Meat

- Making real mead does not require a sacrfice of an animal
- Uses a lot of water and produces waste, 28% of the earths land is used to feed or raise live stock, with around 60 million farm animal housed, fed, and slaugthered every year
- 150 grams of beef burger take 2,400 liters of water to produce, the process of making meat uses a lot of water

What are the risks politically/culturally/religiously

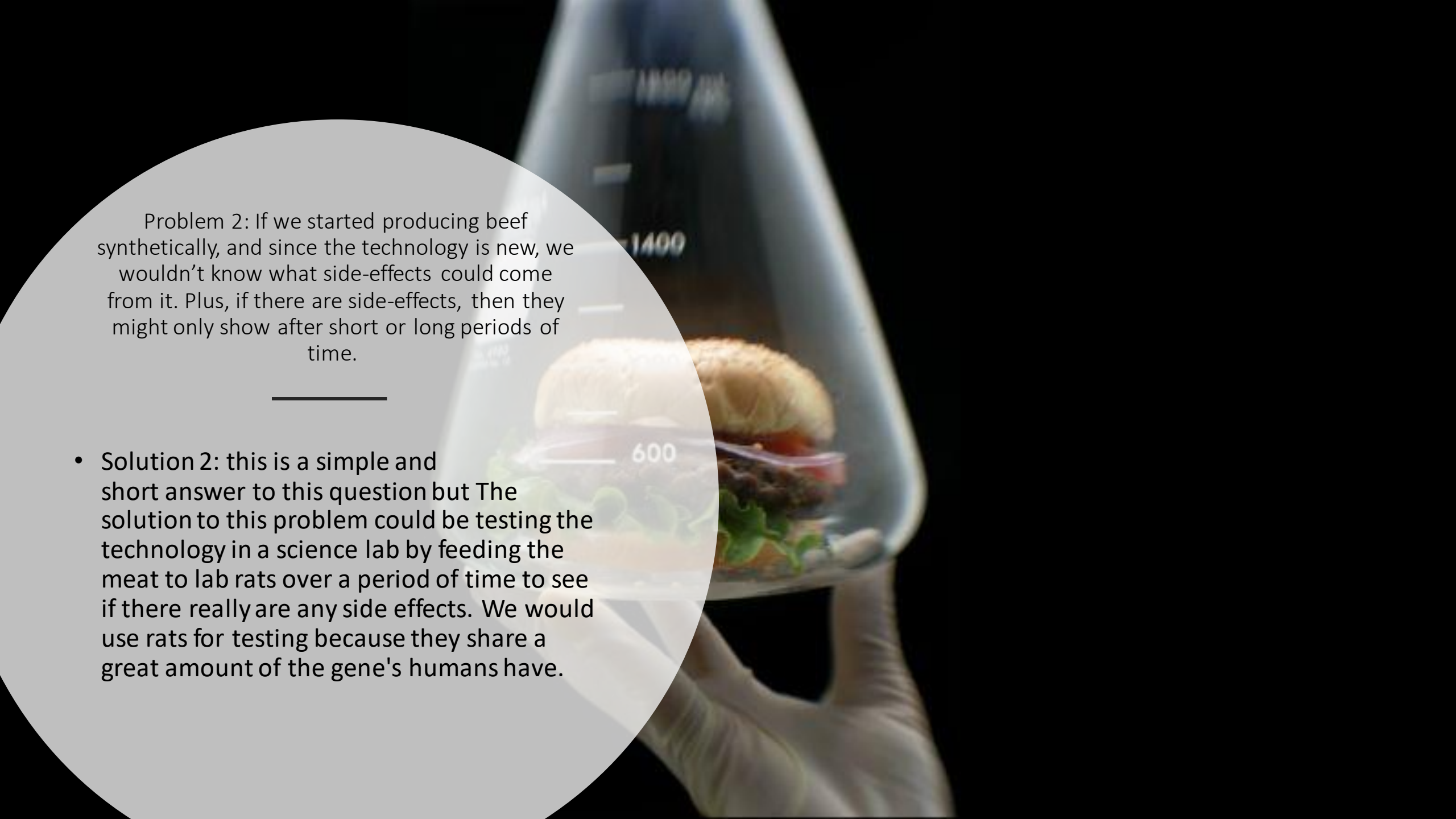
Politically:
People can use this technology in order to further their own agendas.

Culturally/religiously:
Some cultures/religions may denounce the creation of leather/meat as treading into the territory of`` replicating what a singular God or multiple god's can do, and thus considers synthetic creation of meat a sacred violation or something of the sort; others might simply just disavow it because it is not what nature might've intended.

So before we can get to the solutions for the problems, we first have to get to the problems:

- Problem 1: In the future, the government/organizations could control the flow of our food stock. This could cause problems such as possible dictatorships in the future, where governments literally hold all of the power over food and the food market (as all meat could be created in restricted government facilities blocked off to the public).

- Solution 1: We can fix this by making sure that the people will control the food markets; make sure that we let farmers and slaughterhouses continue their duties, no matter how harsh it may sound, so they will not get monopoly of the market.

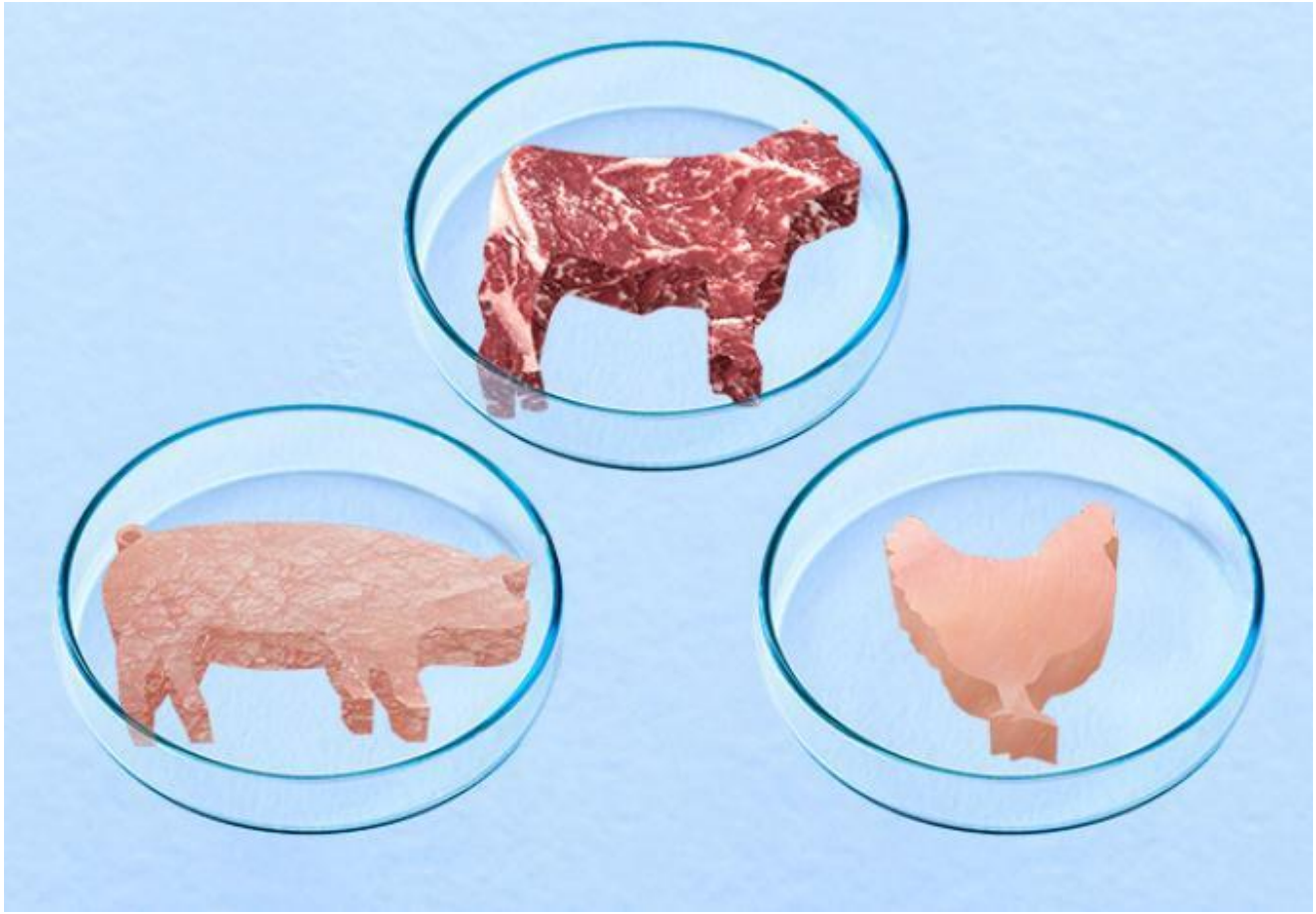


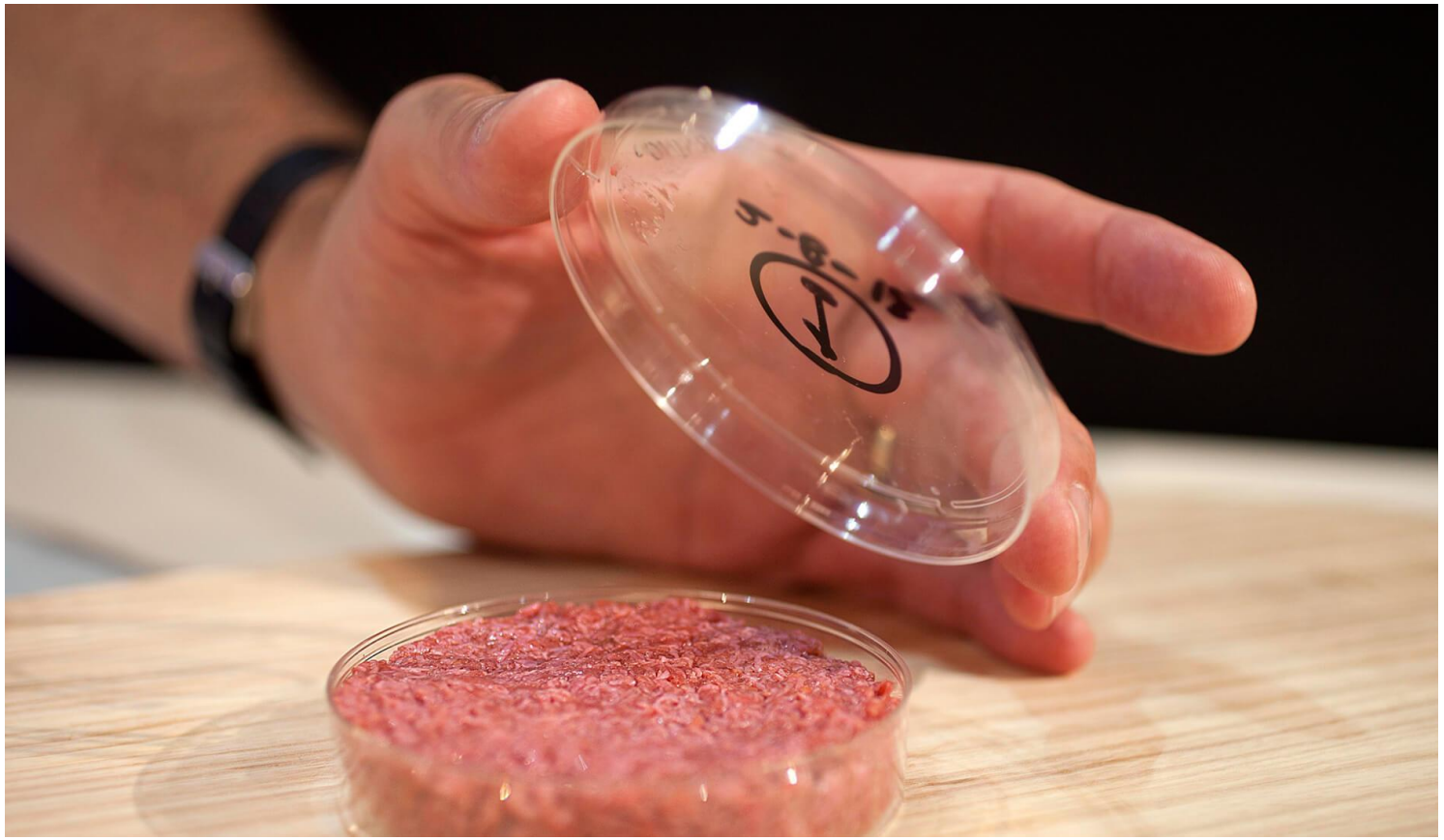
Problem 2: If we started producing beef synthetically, and since the technology is new, we wouldn't know what side-effects could come from it. Plus, if there are side-effects, then they might only show after short or long periods of time.

- Solution 2: this is a simple and short answer to this question but The solution to this problem could be testing the technology in a science lab by feeding the meat to lab rats over a period of time to see if there really are any side effects. We would use rats for testing because they share a great amount of the gene's humans have.

Problem 3: If there are problems in the creation of the meat, how could we tell?

The ways we can tell the synthetically made meat is unsafe Is by looking for such things as the texture of the meat or by the physical shape of the meat and even cutting the meat open to see if there is anything wrong with the meat.





Problem 4: If the cost to create & sell synthetic meat becomes really low overtime, then there could be an overflow of meat with people possibly stock piling this meat.

- Authorities/organizations/governments can set restrictions and laws to the amount of meat that people can buy. This would be effective because then other people can get meat and therefore people will get a fare share of the amount of synthetically meat that is produced.

Conclusion

- In conclusion, naturally produced meat and leather may become one day a thing of the past due to this new future process of synthetically making these products. Our group believes that in about 100 years this technology will be in use and that people will begin eating synthetic meat. I hope you liked are group presentation on Leather and meat without killing animals thank you for listening and have a great day.

Citations

Source 1 Levitt, Tom. "What's the beef?" *Earth Island Journal*, Winter 2014, p. 18+. *Science in Context*, http://link.galegroup.com/apps/doc/A353319131/GPS?u=43riss&sid=GPS&xid=0d855f6b. Accessed 22 May 2019.

Source 2 Wicker, Alden. "Prototype Modern Meadow Is Growing Leather in a Lab (No Animals Needed)." *Inc.*, Mar.-Apr. 2018, p. 46+. *Canada in Context*, http://link.galegroup.com/apps/doc/A541012719/GPS?u=43riss&sid=GPS&xid=d0a422e9. Accessed 24 May 2019.

Source 3 "More skin in the game; Growing leather in factories." *The Economist*, 26 Aug. 2017, p. 64(US). *Global Issues in Context*, http://link.galegroup.com/apps/doc/A501733156/GPS?u=43riss&sid=GPS&xid=14f0a18d. Accessed 24 May 2019.

The TED Talk video: https://www.ted.com/talks/andras_forgacs_leather_and_meat_without_killing_animals/transcript

Diagram Link: https://moneetp.files.wordpress.com/2013/03/modernmeadowleather.jpg

Leather Picture Link: https://www.incimages.com/uploaded_files/image/1940x900/NewSkin-pano_347769.jpg

Meat Picture: https://media.wired.com/photos/5b493b6b0ea5ef37fa24f6f6/master/pass/meat-80049790.jpg

Meat Picture:https://draxe.com/wp-content/uploads/2018/05/Lab-GrownMeat_Header.jpg

Cow Diagram:https://cdn.nanalyze.com/uploads/2017/10/article-2384715-1B298543000005DC-270_634x267.jpg

Burger Picture:https://dwgyu36up6iuz.cloudfront.net/heru80fdn/image/upload/c_fill,d_placeholder_wired.png,fl_progressive,g_face,h_450,q_80,w_800/v1518778695/wired_it-looks-and-tastes-like-meat-but-it-was-grown-in-a-lab.jpg

Meat Picture:https://geneticliteracyproject.org/wp-content/uploads/2019/02/alternativemeat-illustrationbylindsey-x-.jpg