California ballot initiative and pig welfare What are gestation crates and why are they used in industrial meat production? What are the objections to the use of gestation crates? What is a ballot initiative and how does it differ from how most laws are passed? What are potential physical and psychological harms of gestation crates? We have discussed subsidies to corporate farms. In this article, Professor Gale argues that the lack of federal regulations is “a form of a subsidy to factory farming.” Explain what is meant by this. Integrating animal husbandry with crops Historically, animal husbandry has been integrated with crop production. This changed mid-20th century. As you read this article, consider 1) what factors drove the separation of animal husbandry from crop production, 2) what are the consequences of this separation, and 3) what practices are most promising for reintegration of animal husbandry and crop production? Questions: Discuss the potential and challenges of increasing food and nutrition for the growing human population by raising livestock. How can careful management of the livestock sector move us closer to meeting the Sustainable Development Goals (SDGs) of the United Nations? What are three potential options for integrated crop-livestock systems that can help achieve synergies between agricultural production and environmental quality? Discuss the pathways of decreasing the environmental footprint of livestock products (figure 2). What are the main take aways from figure 3? Reading - https://serc.carleton.edu/integrate/teaching\_materials/food\_supply/student\_materials/834 Early Hunter-Gatherer Modifications of Environment for Food For over 90% of human history, humans have primarily fed themselves through hunting and gathering activities. Fire was one of the key tools used by hunters and gatherers. Why was fire so important? What is the Pleistocene Overkill Hypothesis? The Nature and Timing of Agricultural Domestication: Global Patterns How has the term domestication been defined by those studying the process? What is meant by the phrase “domestication syndrome” and what are some examples of traits commonly seen as part of domestication syndromes? Geographical Sites and Ecological Components of Agricultural Domestication What are the major centers of crop domestication? What crops were first domesticated in these regions? Explaining Domestication using Coupled Human Natural Systems (CHNS) What is an example of a potential positive feedback in coupled human natural systems? A negative feedback? Why did agriculture emerge at the end of the ice age? Discuss the drivers, feedbacks, and coevolutionary dynamics. From the Origins of Agriculture to Challenges and Opportunities for the Future of Food Describe the spatial diffusion that led to the spread of agriculture. Discuss the significance of agrodiversity to the early spread of agriculture. For each of the periods below, identify significant events, drivers, feedbacks, etc. Period 1: Domestication, Early Farming, and Widespread Impacts (10,000 BP - 4,000 BP) Period 2: Independent States, World Trade, and Global Colonial Empires (3,000 BP – 1800/1900 CE) Period 3: Modern Industrial Agriculture (1800/1900 CE – Present) Period 4: Sustainability Movements Towards the Future of Food: Quasi-Parallel Ecological Modernization and Alternative Food Networks (2000 – Present)