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WARNING: MEAT KILLS

Livestock contribute to deforestation, water pollution, air pollution, greenhouse gases, global warming, desertification, loss of biodiversity erosion, human obesity... Virtually anywhere you go in the world, the damage done by ruminants, pigs and poultry, and those who grow feed crops for them, is visible on the land. *Smithsonian Mag 2012, Is The Livestock Industry Destroying The Planet?*

Livestock outnumber people 3 to 1.



UNSUSTAINABLE

- By 2050 the global poultry population will grow to nearly 35 billion, goats and sheep to 2.7 billion, and cattle to 2.6 billion animals. *Consultative Group on International Agricultural Research 2012. vitalsigns.worldwatch.org/vs-trend/farm-animal-populations-continue-grow*
- 92 million tons of wild fish used globally, with another 51.6 million tons from aquaculture. *U.N. FAO 2006*
- Beef, veal, pork, poultry consumption by world's "major traders and USA" is 251,432 metric tons ("carcass and ready-to-cook"). *Foreign Agricultural Service/USDA, 2013*
- Anticipated by 2050: 9 billion+ humans on earth. Meat production will double for projected total of nearly 500 million tons. *U.N. FAO, Livestock's Long Shadow, Rome: 2007*
- 1 hectare of land (about 2.471 acres) yields rice or potatoes for 19-22 people yearly while equivalent area produces lamb or beef for 1-2 people. Beef production uses 50 times more water than vegetables. 1 calorie of beef eaten = 35 calories used in production. 1 calorie of plant-based food = 3 calories used. *Global Food: Waste Not, Want Not, UK Institution of Mechanical Engineers, 2013*
- 70% of all agricultural land, almost 1/3 of earth's land surface, farms animals for human consumption. *United Nations Food and Agriculture Organization (FAO)*
- Grain-fed livestock guzzle 80% of U.S. water reserves. Beef production exhausts more water than total for U.S. fruit/vegetable crops. *John Robbins, The Food Revolution*
- Water used to make 1 pound of beef: Estimated 2,500 gallons (*Dr. Georg Borgstrom, Chairman, Food Science & Human Nutrition Dept, Michigan State University*). A pound of tomatoes or lettuce use just 23 gallons of water each.

- "Vegetarian and vegan diets could play an important role in preserving environmental resources and reducing hunger and malnutrition in poorer nations." *L. Baroni et al. Evaluating Environmental Impact of Various Dietary Patterns Combined with Different Food Production Systems; European Journal of Clinical Nutrition, 2007*
- 56 million acres of U.S. land grow hay for livestock; just 4 million acres produce vegetables for human consumption. *U.S. Department Of Commerce, Census Of Agriculture*
- About 80% of U.S. farmlands are used for meat (*Jean Mayer, Harvard nutritionist*). U.S. and European scientists are tweaking in vitro synthetic meat that multiplies animal cells in a culture...to consume as boneless burgers.

CLIMATE CHANGE & MEAT

- 18% of global greenhouse gasses are from meat production. Meat yields more heat-sucking vapors than all cars, trucks, planes, ships. *FAO, Livestock's Long Shadow, 2007*
- As environmental-risk specialists employed by the (U.N.) World Bank and International Finance Corp., Jeff Anhang and I estimate **livestock products account for at least 51% of greenhouse gas emissions**. *Goodland, R. & Anhang, J. World Watch 22, 2009 chompingclimatechange.org*
- **1/3 of global greenhouse gas emissions come from livestock production.** 2013, *Klaus Butterbach-Bahl, Karlsruhe Institute of Technology (Germany) and Livestock Research Institute (Nairobi, Kenya); 2012, "Climate Change and Food Systems," Danish climate researcher Sonja Vermeulen and Oxford University professor John Ingram*
- U.S. livestock plants "emit as much greenhouse gas as a car driven 1,800+ miles" *Scientific American; How Meat Contributes to Global Warming, Nathan Fiala, 2009*

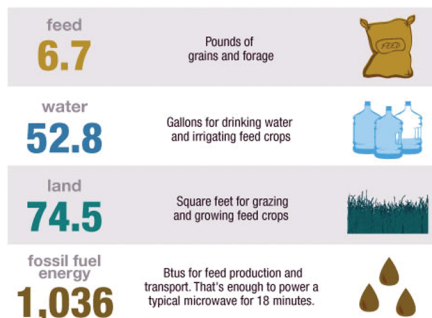
- Ruminant digestive systems emit 65% of human-caused nitrous oxide, with 296 times more force to lock-in heat than CO2. Animal excretions comprise 37% of methane, a gas that out-traps CO2 with 23 times more heat capture. Livestock add 64% of human-related ammonia (a main player in acid rain). *FAO, Livestock's Long Shadow, Environmental Issues and Options (Rome: 2007)*
- If Americans skipped meat in 20% of meals, it would be as if each swapped a sedan for an energy-saving Prius. *Gidon Eshel, geophysicist, Bard Center & Pamela A. Martin, assist. professor of geophysics, University of Chicago*

POOP & POLLUTION

- U.S. livestock make at least 1 billion tons of poop, 3 times more than the human population. A 2,500-count dairy farm excretes as much waste as a Miami-size city. *Environmental Protection Agency, Risk Assessment Evaluation For Concentrated Animal Feeding Operations*
- Close to 3 trillion pounds of animal waste is annually dumped in football-field length lagoons full of hormones, pathogens and toxic metals (*U.S. EPA*). Dusts, molds, bacteria, heavy metals, ammonia, nitrous, hydrogen sulfide, methane and more vaporizable elements in waste cess-pools seep into surface/ground waters, soil, air.
- CAFOs (Concentrated Animal Feed Lots) are lead contributor to water quality impairments in U.S. rivers and lakes (*Animal Waste and Water Quality: U.S. EPA / Regulation CAFOs, CRS Report for Congress, 2010*). CAFO pollution causes 55% of U.S. streams and rivers to be "in poor condition for aquatic life" (*EPA, National River & Streams Assessment*). CAFO runoff helped make a Gulf of Mexico "dead zone" the size of New Jersey. *National Oceanic & Atmospheric Admin 2011*
- When nitrogen particles convert to gas, they disperse ammonia mist for 50 miles. Some transformed particles travel 250 miles. *Institute for Agriculture and Trade Policy noted bits of undiluted animal urine in rainwater, 2001*

RECIPE FOR A QUARTER POUND BURGER

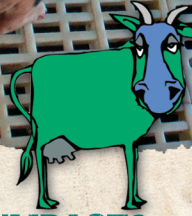
Source: J.L. Capper, *Journal of Animal Science, 2011*



- Meat is the world's top water polluter, contributing "animal wastes, antibiotics, hormones, tannery chemicals, feed crop fertilizers and pesticides, sediments from eroded pastures." *UN-FAO Agriculture & Consumer Protection Dept., Livestock impacts on environment, 2006*
- North Carolina, home to 10 million+ hogs: The toxic microbe *Pfiesteria piscicida* killed 1 billion fish in coastal waters. Mass fish kills tied to manure pollutants have occurred from California to Maryland. (*EPA, CRS Report for Congress 2010*). 2013: A Minnesota dairy farm leaked 1 million gallons of manure into streams that flow into the Root River. *MPRnews, Agency probing major manure spill*



KILLED FOR FOOD: 150 billion animals worldwide, a low estimate that omits non/under-reporting countries and marine animals killed in excess of a guesstimated 90 billion. *UN-FAO; adaptt.org/killcounter.html*



FRANKENFARMS

Concentrated animal feeding operations (CAFOs), which confine large numbers of animals, comprise less than 5% of all AFOs (animal feeding operations), yet raise over 40% of U.S. livestock. *Animal Waste and Water Quality: U.S. EPA / Regulation of Concentrated Animal Feeding Operations, CRS Report for Congress, 2010*

● **HOG FACTORIES** warehouse 600-pound sows in 2-ft. wide stalls with cement floors and metal slats. 50% of hogs live in industrial barns with 5,000 or more hogs (*USDA 2002 Census of Agriculture*). Animals inhale ammonia/hydrogen sulfide fumes from manure heaps. In the last 30 years U.S. hog farms dropped from 650,000 to 71,000, but number of hogs raised for food rose.

● **DAIRY PLANTS** artificially inseminate cows to stay pregnant and lactating. Attached to mechanical milking devices up to 3 times daily, many are injected with Recombinant Bovine Growth Hormone (rBGH) and suffer bovine mastitis, a painful udder infection.

● **VEAL FARMS** seize males born to dairy cows within 24 hours of birth. Before the calves can stand, they're chained by the neck inside 2-foot-wide crates and fed a liquid only diet to suppress muscle growth and induce anemia. This creates white, tender veal. Most go to slaughter at 20 weeks, crippled and sick.

● **BEEF MAKERS** in Kansas, Texas and Oklahoma Panhandles, Colorado...overfeed thousands of steers and heifers, also giving them hormones and antibiotics to fatten and accelerate their growth.

● **EGG PRODUCERS** typically pack 6-9 hens inside wire coops no larger than a filing drawer. Each bird occupies a space half the size of a paper sheet. 98% of egg-laying hens live in battery cages stacked inside dark sheds (*College of Agriculture and Biological Sciences, South Dakota State University*). U.S. egg producers starve birds in 10-14 day cycles, *forced molting*, to up egg output.

● **"BROILER CHICKENS"** are crammed in windowless grower houses. To deter fights and cannibalism, workers amputate bottom 1/3 of each bird's beak. To fatten chickens and turkeys for slaughter within 6-20 weeks, geneticists breed anatomically altered birds who can't support their own weight. Birds are crippled, dehydrated...suffer respiratory ailments, heat prostration, bacterial infections, cancer. 10 corporations dominate 90% of U.S. poultry.



HUMAN HEALTH IMPACTS

Traces of antibiotics, hormones, chemicals, steroids, pesticides, herbicides accrue in animal tissue.

● **HEART DISEASE** kills 1 of 2 Americans yearly, due to saturated fat/cholesterol in standard American diet. Most saturated fat and *all* cholesterol are from animal products. Meat-dairy: Top cause of clogged arteries in non-smokers.

▶ Coronary heart disease mortality is lower in vegetarians than nonvegetarians. Meatless diets have also arrested heart disease. Scientific findings reveal link between a vegetarian diet and reduced risk for obesity, coronary artery disease, hypertension, diabetes mellitus and some type cancers. *American Dietetic Association*

▶ Study shows strongest proof yet that DASH diet (fruits, vegetables, whole grains, plant-based protein) cuts heart and stroke risk. Women are 24% less prone to heart attack and 18% less likely to have a stroke than women on typical U.S. diet. *Archives of Internal Medicine, 2008*

● **CANCER** is #2 American killer. Antibiotics, hormones, heavy metals, dioxins, other compounds found in animals killed for meat raise cancer risk.

▶ "Evidence on red meat and processed meat [as cause of cancer] is stronger than in mid-1990s." Evidence that red and processed meat cause colorectal cancer "is convincing." High content of animal fats (and calcium) in dairy goods contribute to risk of colon, prostate and other cancers. *World Cancer Research Fund, 2013 report*

▶ 2.2 million pounds of roxarsone, a cancer-causing arsenic compound, are in U.S. chicken feed yearly. 70% of 9 billion fryer chickens worldwide roxarsone (pig and turkey feed too). Exposure to inorganic arsenic is tied to cancer, heart disease, diabetes, brain function decline. *Chicken Feed Additive May Pose Danger, thepoultrysite.com*

▶ 1.7 oz of meat daily ups colorectal cancer risk by 21%. (*World Cancer Research Fund*). Chicken is higher than red meat in heterocyclic amines compounds shown to raise cancer risk. *CANCER RES (1995;55(20):4516). No chemical carcinogen is nearly so important in causing human cancer as animal protein, Dr. T. Colin Campbell*

● **OBESITY:** 1 in 4 adults (25.6%) is obese. Americans average 3,700 calories daily. Most are from meat and dairy foods (*CDC, State-Specific Prevalence of Obesity Among Adults, 2008*). Individuals with lowest risk for overweight or obese eat mostly plant-based diet. *U.N. FAO / USDA Human Nutrition Research Center on Aging, Tufts University*

● **HYPERTENSION:** About 65 million U.S. adults have high blood pressure (*National Heart, Lung and Blood Institute*). Randomized controlled trials found blood pressure is lowered if animal products are replaced with vegetable products. *Dr. Neal D. Barnard, Physicians Committee for Responsible Medicine, 2005 Nutrition Reviews*

● **ANTIBIOTIC RESISTANCE:** Some 29 million pounds of antibiotics — about 80% of total antibiotic usage — are annually mixed into animal feed to spur livestock growth. Routine use in pigs, chickens, turkeys and cows is key factor in antibiotic-resistant bacteria in humans *Nat'l Resource Defense Council / Union of Concerned Scientists*

▶ American Medical Association and World Health Organization oppose antibiotic overuse because it fosters fresh strains of cure-resistant bacteria. Use of antimicrobial drugs [to boost animal growth] has risen 50% since 1985. *Centers for Disease Control and Prevention*

● **SICK FOOD:** 76 million cases of foodborne illness (5,000 fatalities) arise yearly (*Centers for Disease Control*). 1 of every 4 cows on kill floor may have E. coli. Tests on 525 chickens in 23 states found 83% of chickens tested contained *Campylobacter* and *Salmonella* food poisoning bacteria. *2007 Consumer Reports / UPC Poultry Press*

▶ Dirty, crowded conditions on factory farms propagates disease among the animals, including **swine influenza (H1N1), avian influenza (H5N1), foot-and-mouth disease, and mad-cow disease (bovine spongiform encephalopathy)**. Diseases not only translate into enormous economic losses (UK alone spent \$18-25 billion in 3 years to combat foot-and-mouth) but also lead to human infections. *Global Meat Production and Consumption Continue to Rise, WorldWatch Institute, 2011*

▶ Nations with no industrialized livestock are mainly free of the lethal H5N1 strain of Avian flu. "In intensively farmed poultry, high density of birds and constant exposure to feces, saliva and other secretions provide ideal conditions for the replication, mutation, recombination and selection through which highly lethal forms can evolve. [With] the global nature of poultry industry we have the most plausible mechanism for spread of the virus." *Dr. Leon Bennun, Director, Science, Policy & Information, Birdlife International, BBC News*

● **MAD COW DISEASE:** Process of grinding dead cows, sheep, pigs, goats into feed for living cows causes bovine spongiform encephalopathy (BSE), mad cow disease. FDA banned feeding dead-to-live animals in 1997, but the ban is laced with loopholes to shield meat trade.

▶ 2003: A Washington state dairy cow with mad cow disease prompted USDA rule to ban downers from food stock. Science shows downers (stockyard animals too sick or crippled to walk, stand) may have a strain of BSE. Virus-like prions in BSE can trigger Creutzfeldt-Jakob Disease (CJD), a human fatal nervous system infection. USDA amended its rule in 2007 to let downers, under some circumstances, be killed for human consumption. In 2009, Obama admin closed this loophole.

▶ Of officially recorded mad cow cases in North America, almost all originated in downer cattle.