

Definitive Power: The Policy Impact of Definitions.

Mark Jenner, Ph.D.

Common terms, like manure, often mean different things to different people.

The public policy process codifies these common terms and their different definitions. New terms are developed to clarify existing definitions and the cycle begins again. Clarity of the law is fundamental to an economic system based on the right to own and use private property.

A broadening of regulatory definitions can behave like a regulatory ‘taking.’ It is a very subtle way to cast a broader jurisdictional net. At the very least, a lack of clarity from regulatory definitions only adds confusion and costs.

Examining various definitions of plant material; organic, manure, biomass, and biosolids, provides for a critical lesson in the powerful role definitions play in shaping policy.

Organic: The term “organic” is...

- a. Used to describe chemical compounds that contain most commonly **carbon**-hydrogen bonds. [<https://www.britannica.com/science/organic-compound>]. This is the definition used by chemists. There is a chemical bond with the element carbon, including all plants.
- b. A fertilizer containing **carbon** and one or more elements (other than hydrogen and oxygen) essential for plant growth [based on the American Association of Plant Feed Control Officials (AAPFCO) regulatory definition]. This is the definition for organic fertilizer and is based on the commercial regulatory standards set by the AAPFCO. This regulatory definition still depends on the presence of carbon as a criterion.
- c. A labeling term that refers to an agricultural product produced in accordance with the Act [The Organic Foods Production Act of 1990] and the regulations in this part. (No carbon). This definition is interesting because ‘organic’ is reduced to a consensus-based label and no longer has anything to do with the technical link to carbon. This definition is purely a construct of public policy and less related to carbon.

Manure: Manure is neither inherently good nor bad; it is the process or treatment technology that determines if it is resource or a liability. The term “manure” is defined as the following...

- a. *Feces and urine as excreted.* [Agricultural Engineers, ASAE D384.1 FEB03]. This is the ASAE Standards (engineering standards, practices and data) defines manure as fresh feces and urine. Does not include bedding or added water.
- b. *Includes **manure**, bedding, compost and raw materials or other materials commingled with manure or set aside for disposal.* [Clean Water Act, CFR, Section 122.23: (b) (5) (more commonly referred to as the Concentrated Animal Feeding Operation (CAFO) Rule).] From the Clean Water Act rules and goes beyond logic by using ‘manure’ itself to define ‘manure.’ In addition, they include bedding, compost and other spare residual materials. Anything that has ever had manure is codified as manure...forever, without possibility of transformation into non-manure. The markets and the courts continually refine the definition of private property. This regulatory definition of manure confounds those boundaries by piling more and more materials into the definition of manure.

- c. *Unused corn and soybeans.* [adopted by Biomass Rules, LLC]. Corn and soybeans have positive images and values until they become manure. Identifying manure as unused corn and soybeans preserves the positive images. All the other definitions of manure identify it as an endpoint or product. This definition has flow characteristics of a broader 'system' implying further use.

Biosolids: Biosolids are treated and untreated sewage sludge. Unlike manure, biosolids are not simply, '*feces and urine as excreted.*' Human waste has the larger challenge of carrying human pathogens and has historically been more heavily regulated than manure from livestock. The regulations lower the risk of reusing of biosolids.

Biosolids are the solids of industrial and residential sewage (liquid waste). The liquids are treated and discharged back into the waters of the U.S. The solids may be human fecal material, but they might also be organic and inorganic solids left over from industrial manufacturing.

The EPA Part 503 biosolids regulations are very thorough in identifying standards for use based on risk reduction. The Part 503 Biosolids regulations establish four, risk-based definitions for land applied biosolids. From least risky to most risky, they are: *Exceptional Quality* biosolids, *Pollutant Concentration* biosolids, *Cumulative Pollutant Loading Rate* biosolids, and *Annual Pollutant Loading Rate* biosolids.

Unfortunately, the 503 rules do very little in defining the nature of the source material (residential, industrial, hazardous, etc.). All sewage sludges are treated to one of these four categories if they are land applied regardless of the source.

Biomass: Biomass is a new term with several different, broad definitions. Biomass today generally refers to regenerative resources. Simply relying on 'plant-derived carbon' would also include the fossil fuels.

Biomass is a term that is here to stay, so an excellent, non-regulatory definition of the term "biomass" is...*any organic matter that is available on renewable or recurring basis, including agricultural crops and trees, wood and wood residues, plants (including aquatic plants), grasses, animal manure, municipal residues, and other residue materials.* (From Biomass as a Feedstock for a Bioenergy and Bioproducts Industry: The Technical Feasibility of a Billion-ton Annual Supply, April 2005,

https://www1.eere.energy.gov/bioenergy/pdfs/final_billionton_vision_report2.pdf)

Basically, this definition of biomass is any recent plant material (including processed wood and paper) so coal and other fossil fuels would not directly be included.

Definitive Power – Conclusion. An entire book could be written on all the damage from poorly written statutes and regulations. Lawsuits are won and lost on legal semantics. Underlying definitions confer significant power by blurring technical, cultural and legal concepts. The more closely our legal definitions reflect science, the less costly and more effectively public policies will be integrated into the economy.