

**House Bill 19-1102 *Nonanimal and Lab Grown Meat Misbranding* from an Economic
Prospective**

House bill 19-1102 *Nonanimal and Lab Grown Meat Misbranding* proposes a regulation that will prohibit meat not derived from livestock flesh from being labeled as “meat” or any term used to describe meat according to the USDA Institutional Meat Purchase Specifications unless the label specifies “lab-grown” or “artificially cultured”. Violations will be considered misbranding. This regulation will concern both the conventional meat and artificial meat industries and their consumers. This paper analyzes the purpose and predicts the results of passing the bill from an economic prospective.

Markets should be regulated only if they are acting inefficiently. Inefficiencies can usually be categorized as either market imperfections or externalities. The bill directly addresses a major market imperfection that arises through information asymmetry. This condition exists when one party in a transaction has more or better information than the other. The bill attempts to answer the question of what meat consumers should know about the origin of the meat products they consume.

The bill does not directly address externalities associated with the production of meat but would have consequences for those externalities that should be discussed. Conventional meat production creates many environmental externalities which may be reduced by substituting livestock with artificial meat. The bill will reduce this substitution in the short run. However, those externalities would be better addressed with other policies. Ultimately this paper finds that the bill will prevent information asymmetry which will make the market more efficient. Thus, it supports the passing of HB19-1102 but suggests a minor amendment.

Artificial, lab-grown, cultured, or in-vitro meat is a relatively new product designed to be a substitute to traditional livestock meat. In the field of cellular agriculture scientists have developed and are refining tissue engineering practices to produce the artificial meats (Stephens sec.1). It is distinct from vegetarian alternatives to meat such as tofu. Artificial meat is made to replicate the appearance, tastes, and textures of traditional meat.

The motivation for developing artificial meat arises, at least in part, from concerns associated with the resource costs of conventional meat production, and the attendant externalities. Livestock production currently uses 30% of all land on earth and accounts for 19% of all greenhouse gas emissions (Penn p.104). Meat demand has consistently risen in the last forty years. This is largely due to increasing population and incomes in developing countries (Schwarzer p.3).

Various lifecycle assessment studies have estimated that artificial meat could require 99% less land and produce 78%-96% less greenhouse gasses per mass of meat product (Stephens sec.3). Though these estimates are only hypothetical, artificial meat may present a viable solution to the environmental concerns and growing demand for meat.

While artificial meat has potential benefits, it faces a large consumer acceptance barrier. Studies suggest that the naming of artificial meat products contributes to the low acceptance. “Cultured” and other scientific terms used to describe artificial meat do not appeal to consumers (Mouat p.9). The term “clean-meat” is becoming more popular in the discussion of artificial meat and will likely contribute to more effective advertising for artificial meat (Mouat p.9). Though loosely justified by the cleaner environmental impact this term does not distinguish artificial meat from livestock meat.

Consumers should have full information about the stuff they eat. That is both ethical and essential to an efficient market. Therefore, proper distinction between meats derived artificially and from livestock is necessary. For example, diamonds can be made in a lab that have the same chemical composition and are mostly indistinguishable from mined diamonds. The FTC regulates labeling of manufactured diamonds in the same way the bill intends to regulate artificial meat labeling (“STATEMENT p.79). The market values manufactured diamonds at 30% less than mined diamonds (“Identifying). This regulation allows the market to determine the price of manufactured diamonds. Consumers clearly see them as a different and inferior product to mined diamonds.

It is too soon to tell whether artificial meat is an inferior product to livestock meat. However, “low consumer acceptance” really means low demand. Allowing artificial meat to be passed off as meat without consumers knowing the product is not derived from livestock will result in a higher price and quantity of the product. This creates an economic loss born by the consumer and producers of livestock meats. Requiring artificial meat to be labeled accordingly will effectively mitigate this economic loss.

Livestock meat is not the direct subject of this bill but the negative externalities associated with its production are a notable public policy challenge. By prohibiting artificial meat labeling itself as meat the bill will limit its ability to reduce the environmental externalities associated with livestock production. An argument could be made against the bill on the premise that the gains in environmental quality could outweigh the consumer’s loss and ultimately be more efficient. That could be true but the environmental externalities associated with livestock would be much better addresses with other policy.

The best policy to reduce the environmental externalities would have to internalize the external costs of livestock production. A Pigouvian tax, where the tax rate is set at the marginal societal costs is an effective way to accomplish this (Metcalf p.11). Greenhouse gas emissions are one of the top concerns about livestock production. To mitigate this externality government could levy a tax on emissions. the marginal cost of production will then include the cost to society of having the pollution.

Higher production costs mean a higher price. When prices increase demand for substitutes generally increases. Because cattle are the most pollutant meat source this will shift more consumption to poultry and pork (Key p.10). It will also make artificial meat a more appealing substitute and shift demand there too. This would be the proper way government could discourage meat consumption and encourage artificial meat consumption to reduce externalities. Making the situation even better the revenue from taxes could be used for damage reparations. The improper way to reduce those externalities would be to pretend artificial and livestock meat are the same thing.

Such taxes need to be carefully administered to be effective. For instance, if the tax is administered at the consumer level, transaction costs could be low but meat producers will have no competitive incentive to improve production technology. If the tax is administered at a per animal rate rather than a per emissions rate there will also be no incentive to innovate. (Key p.409) There is then the difficulty of how to effectively measure emissions across the industry at an individual level. It may be possible to set rates dependent on the known emissions levels for each production method and make sure to measure and set rates for new technologies. The livestock industry will likely oppose such policies even more than allowing artificial meat to be labeled as meat however it is necessary for the market to act efficiently.

The bill only intends to fix the information asymmetry but that is an adequate place to start. Others state legislations are doing this as well. One of which; Kentucky has passed in their house HB311 which addresses the same issue (Kentucky). The federal government (FDA) and (USDA) are also having the debate about what artificial meat should be labeled and which organization will regulate it (Greene). The emissions tax is not a new concept but it is becoming more discussed in government due to the rising concerns about livestock externalities.

Because the bill can effectively reduce the information asymmetry this paper recommends passing HB19-1102. One thing to note is that terminology like “cultured” can be prejudicial to products. Because of that this paper also recommends expanding the list of terms allowed on artificial meat labels to give the industry more marketing flexibility. The terms just need to distinguish the product from livestock meat to effectively accomplish the goal. The general assembly should then consider developing appropriate emissions taxes to internalize the social cost of meat production in the livestock industry.

In conclusion, the meat industry creates concerning environmental externalities and that has led to an innovative technology to produce artificial meat possibly with far fewer resources and emission. Artificial meat however has a consumer acceptance issue or “low demand”. The industry could workaround that by passing their product off as livestock meat. This would result in an inefficient market for artificial meat with too high quantity and price creating an economic loss absorbed by consumers. Thus, it is beneficial for government intervention to make sure consumers know what they are buying. HB19-1102 will prevent this inefficient outcome. It will then be necessary for government to develop and implement an effective Pigouvian tax to internalize the environmental externalities associated with livestock.

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