

TOWARDS PROMOTING ARTIFICIAL OR CULTURED MEAT IN AFRICA- WHAT NEED TO BE IN PLACE FOR ITS SUCCESS

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Abstract

This article provides the merits and demerits of artificial or cultured meat as against conventional method of meat production. It then highlights and discusses the key issues that must be addressed to promote cultured meat in Africa, such as the acquisition of this meat production technology, enactment of the needed laws to govern its production, establishment of the meat standards and safety measures and addressing the aesthetic appeal of cultured meat. The rest include education of the general public about its merit, encouraging entrepreneurs to venture into it and lastly using innovative marketing strategy to promote its consumption.

Introduction

Cultured meat is made by growing and harvesting muscle cells using a cultured medium (1). In recent years, meat produced from cultured cells of animals, also known as artificial meat, is attracting interest from various quarters in the world, (2) including Africa. The reasons are not far-fetched. Cultured meat could be a good avenue for meeting the increased demand for livestock meat in Africa arising from population, urbanization and income growth (3), whilst at the same time curbing the release of greenhouse gases from livestock animals into the atmosphere. However, this reason is contestable, as it has been established that whilst some greenhouse gases emissions such as methane and nitric oxide get reduced with this meat production system, other gases such as carbon dioxide do indeed rise (4). This insight notwithstanding, cultured meat has additional merits such as eliminating animal welfare concerns as well as reducing the use of freshwater and land in meat production. It is also relatively quicker and more efficient to produce cultured meat than the conventional method of meat production. The techniques for culturing meat keep improving by the day resulting in reduced commercial price of cultured meat. Given that the livestock sector in Africa is very important for job creation and livelihoods as well as a foreign exchange generator in some countries in Africa, the introduction of cultured meat needs careful consideration before adoption. On the other hand, the low intake of livestock meat in Africa should urge us on to look for alternative ways of producing meat as offered by cultured meat technology. In this article, the possible issues likely to affect the promotion and adoption of cultured meat on the African continent would be looked into and discussed.

I. Acquire the improved and commercial cultured meat production technology

The technology for commercially viable production of muscle tissues from stem cells of livestock animals is available

and must be acquired from the holders of this technology. These technologies can be found across the world, especially in the developed economies. Such a technology should encompass the commercial production process itself of the meat as well as the culture medium to be used in producing the meat. Indeed, various culture media have been identified for the successful production of artificial meat. Ideally, the culture medium to be used in Africa should be readily available, efficient to grow meat and also relatively cheaper. The acquirers of the technology should also be trained to successfully adapt the technology to our unique and hot African climatic conditions. The technology for growing cultured meat commercially is not a rock science and therefore should be possible for it to be developed in Africa with adequate research funding.

II. Pass the needed laws and regulations

As a novel sector in Africa, the needed laws and regulations should be passed to regulate the sector and guide would-be entrepreneurs on what is permissible or not in the sector, so that the cultured meat produced is safe, nutritious and true-to-type. Ideally, the cultured meat should be equal in nutritive and feeding value or must exceed that of conventionally produced ones. The needed regulating bodies must also be established to ensure that the laws are stringently enforced. Where it is not possible to set up these bodies, existing institutions in the food sector in Africa can be given the responsibility to oversee the sector.

III. Establish meat standards and safety measures

It is critical that high hygienic standards and safety measures are maintained in producing cultured meat in Africa as our peculiar climatic conditions predispose meat to relatively high levels of spoilage and contamination. The meat should not only be grown under aseptic conditions but also should be free from food pathogens such as *Escherichia coli*, *Salmonella* species, and *Campylobacter* species, among others. The Veterinary Services Departments in Africa should be authorized to conduct periodic inspection of the growing conditions as well as the meat itself being grown and packaged for sale to the general public. Furthermore, samples of the meat should be checked for color, flavor, texture and consistency regularly. It is only after the needed examinations have been undertaken before cultured meat should be allowed to be sold to the general public.

IV. Address the aesthetic appeal of cultured meat

Consumers in Africa have only known meat produced by walking animals on four hoofs, so naturally they may have difficulty accepting meat from a cultured medium (5). That aside, the flavor, texture and color of a cultured meat are dependent on the medium used in growing the meat and so may differ from conventionally produced meat. The aesthetic appeal of cultured meat therefore needs to be addressed. A technological innovation may be needed to enable cultured meat to be equal or even exceed conventionally grown ones in richness of color, flavor, texture and consistency. Endorsement by public figures and celebrities could also help address this deficiency.

V. Educate the general public about its merits

The general public should be educated on the merits of this meat production system such as its usage of relatively low amounts of water and land. This system of meat production also reduces the emission of methane, a greenhouse gas that causes global warming and climate change. It is also, a quicker and more efficient method of producing meat and it has no animal welfare concerns. Furthermore, the general public should be informed that when well produced, the nutritive value of cultured meat is comparable to or may even exceed that of conventionally produced meat. This is an area that a lot of work is needed as the very viability of this system of meat production depends very much on consumer acceptance of this meat in Africa. Parameters such as the price, flavor and taste of the cultured meat are determinants of its ultimate acceptability as meat by the consuming public. It is also necessary that big data and neuroscience are leveraged in marketing it to the general public.

VI. Encourage private entrepreneurs to venture into it

It is common knowledge that the level of protein consumption in Africa is low when the continent is compared with other parts of the world. Cultured meat therefore could play a complementary role in addressing this challenge. African governments should therefore encourage entrepreneurs to venture into this system of meat production. This can be done by tax waivers, material and financial support to would be entrepreneurs. The Government can also provide a conduit for selling such meat by buying it for the school feeding programs, prison, health and allied institutions.

VII. Find innovative ways of marketing it

Cultured meat on a commercial scale is new in Africa, as such innovative ways need to be found to market it. Apart from the usual traditional and online advertising, food tasting contests should be organized for the general public to determine whether they can distinguish between cultured meat and its conventional counterpart. During such meat tasting contests, the unnaturalness associated with cultured meat can be addressed. Also, the general public can be taken through the entire production process, including the various ingredients used in producing cultured meat. Mention has already been

made of endorsement of cultured meat by public figures and celebrities, which is applicable also here in marketing the product.

Conclusion

It has been estimated that Africa's demand for meat would almost quadruple by 2050 (6). Already our meat and for that matter, our protein intake is low when the continent is compared to other parts of the world. This calls for identifying and promoting alternative means of meat production in Africa. The adoption and promotion of cultured or artificial meat could be a complementary means of meeting our meat requirements now and in the future. This discourse has outlined and discussed the key issues that need to be addressed for Africa to enjoy the benefits of cultured meat.

References

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Biography

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