

ASAE Biological Engineering Initiative

Appeared in ASABE Resource, vol 9, number 11,

Let me begin by complementing you on an excellent issue of *Resource*. The September issue certainly supports the intention of the Society to emphasize biological engineering. The Update section was chock-full of examples illustrating applied biology, and these can be very useful in class. The McLeod Harvest article also was good because it looked at some of the biologically-broader issues of harvesting. Norm Scott's article on sustainable communities was also consistent with the applied biological themes of the previous pages. This article, however, brings up a number of issues related to the ASAE biological engineering initiative.

An important aspect of biobased sustainable communities is the socioeconomic phenomena mentioned but not further elaborated in the article. A potentially sustainable community may be possible in China with its limited resources, generally compliant population, and its high degree of sensitivity to common purpose. In the United States, however, we have a population that is egocentric, opportunistic, and not so limited by available resources. Now, if biological engineers are going to try to establish biobased sustainable communities in the United States rather than China, they need to be able to deal with vastly different socioeconomic realities.

So, this relates to the ASAE biological engineering initiative because it illustrates that the technical and not-so-technical issues of interest of ASAE members must broaden considerably. Not only must biological engineers know about dealing with standard biological systems, but they must also know how the context affects expected responses.

In order to be the Society representing biological engineers, new associations and new liaisons must be established. Not only need we, as ASAE members, be concerned with what is going on with agriculture but also with biomedicine, genetics, psychology, biochemistry, and a whole bunch of things we never thought about seriously before.

The world in which we find ourselves as biological engineers is different from the world of agricultural engineering. The opportunities are different, the competition is different, and the interested groups are different. One big step toward playing a role in biological engineering is to step out smartly and start talking to the other players in this field. I think that it is starting to happen with the Biomedical Engineering Society on the issue of ABET accreditation of programs. It needs to happen also with other groups about public policy, research interests, and professional issues.

This is not only about borrowing from other groups, because ASAE members have a lot to offer as well. It has been my experience over the last 30-35 years that the other groups do not know the strengths represented by ASAE. It is time to represent our strengths to other groups with interests in biology and engineering.

We will find that the field of biological engineering can be very broad, and we do not have serious interests in the entire field. That is fine; we must be able to know where our core interests lie. Certainly, we will want to retain agriculture, food, and the environment as some of these interests. But, who better than we can deal with some of the connections between environment and human disease just coming to light these days?

I would urge the Board of Trustees and the other officers of ASAE to consider the details of the biological engineering initiative, because the details will be what define ASAE and its interests. Such things as annual meeting keynote speakers, sponsorships of meetings, presence at sister organization events, biologically-related standards, and cooperation with other groups speak very loudly about who we are and what we can contribute.

So, if we model ASAE as a sustainable community, we must account for the total environment in which we find ourselves, and learn as much as we can about all the external influences that can determine whether or not we achieve our goals.