

## Follow-Up Questions for the Cellular Agriculture Society (2018)

Has your organization received any major (>20% of its budget) grants in the last two years?

Yes; to date this has been mainly from the Animal Welfare Fund, managed by Lewis Bollard, in the amount of \$50,000.

If your organization receives any restricted donations, approximately how much did it receive in the past year?

We have received \$5,000 so far, to be allocated towards our legal division (specifically cellular agriculture rhino horn regulation).

If your organization has any revenue-generating programs, it would be helpful for us to know what those programs are and how much revenue they generated in the past year.

I suppose our educational programming could fall under this category, as revenue from speaking engagements that have been paid has been used for travel and accommodations—but any excess is delegated back to CAS as unrestricted financial benefit.

Please provide a list of board members and brief descriptions of their occupations or backgrounds (job titles/industries or links to LinkedIn are sufficient).

The board of directors, as mentioned during our call, is currently changing as we want to maintain a majority with a non-conflict of interest. This means that 2/3 of the board of CAS is intended to have a constituency of people not involved directly with industry. Right now besides myself, this is not the case, which is why there is a need for this remodeling of the board. Mr. Frank Cordesmeyer and Saam Shahrokhi were board members, but with Frank now a leader of clean meat efforts at Buhler, and Saam a bioprocess engineer at Mission Barns, Saam will be departing from the board in place of an individual without industry involvement.

## Does your organization have a strategic plan? If so, can we see it?

To put this bluntly, the strategic plan is literally: "Ensure all efforts at CAS lead to the acceleration of cellular agriculture commercialization globally as quickly and successfully as possible. This strategy exists to address (effectively altruistically) the problems animal agriculture presents. Our programming hinges entirely on this mission/strategy and as noted in our call, may change as the field changes. For instance, we once (early on) funded academic natural science research but then realized the utility of funding this is so low that it is no longer in our domain of interest. (This is because the hundreds of thousands of dollars allocated to natural science research thus far, will likely result in virtually no benefit to actual product commercialization, besides scientist preparation for industry. We are therefore not interested in allocating human/financial resources towards something that does not advance commercialization significantly). There are multiple factors that play into the strategy/mission outlined above, but I quite honestly, an EA calculus is basically used in our decision making; some of our line of thinking for example: How important is this program to advance cell-ag? If it's very important, is anyone else doing it? If not, let's proceed with doing it ourselves. If a collaborator of ours is doing it like GFI, is it being done as effectively as possible (likely in their case)? Yes, well then let's find the next most high-impact area that is also novel/neglected that will advance cell-ag. How tractable is a program to making progress for a particular area?

That is just some of our thought process, however, we also did just recently develop a document outlining 5 top project areas we plan to explore in the near future. This has since changed slightly with the prospect of building the cellular agriculture textbook now, but still gives a strong indication of our "strategic plan" at the moment (with regard to programming):

<https://drive.google.com/drive/folders/1rYZdKg6QFI5CGzqACOfY7dzMwlkuYwXt?usp=sharing>

## Can you provide estimated expenses and your fundraising goal for 2019 if you have it?

It's very contextual to our hiring plans over the next year or so: In essence, while it may be antithetical for what many believe to be oriented with 'growing a business', even a philanthropic one set out to do "more good" and I've been advised to not hold the following business philosophy, (that some feel indicates limited ambition), I believe it falls right within the effective altruism-focused vision of CAS to not seek any more than a handful of employees. This, of course, could change as my assessment of our field's needs change (super rapidly!) but at this point, I think the following positions staffed at CAS would take our impact to the "next level" (even just the first two) and I foresee future hires, unfortunately, falling under a law of diminishing returns re: our effective altruism-aligned effectiveness as an NGO:

- CEO (probably not me; I have some excellent candidates in mind)
- President or Founder (myself)
- Communications Director

- C-Cubed Director
- Top Program Area Director
  - Depends on what program areas seem to have most utility, but could be a full-time social scientist for the Social Science Division, for example

Now, I should have also premised that by saying this is what I see as the direct benefit to effective altruism (which personally, takes precedence over the concept of cellular agriculture). Fewer employees at CAS, fewer than 10 for example, means funding, especially if it's effective altruism-oriented, can go towards other global causes that I believe need it more than cellular agriculture right now. So it's just a process of optimization for me, but I understand well-informed organizations like yours can make these determinations better than myself as you're far more knowledgeable of the "bigger picture" re: global suffering. In other words, I didn't create CAS because I believed cellular agriculture was the only effective altruism priority, but rather, I believe it to be a high, neglected priority which is poised to do an immense amount of good. But I cannot ignore the plight of farmed animals today (and others suffering for that matter), so I ask myself: if CAS has 30 employees instead of 5, how much more effective are we really? I find this to be critical to ponder as it seems that, often times, the differential in funding is the same that would go towards reducing suffering today, not tomorrow, as we are aimed at through CAS.

**How many staff received our culture survey? (We'd like to calculate a response rate.)**

I shared it with members on our team who even just temporarily over the last couple years were able to work more than a couple hours per week. That's more than 5 but fewer than 10 people.

**How many people have already signed up to C-Cubed?**

As of yesterday when I checked, there were 53 people signed up.

**Out of those who have signed up, do you have a way to track how many are active? If yes, can you share more info about that? If no, do you have a plan on how to track this in the future?**

Since the platform is not technically up and running yet, I'd have to say 0 "active" unfortunately. But while we're still planning C-Cubed, I do reach out individually to all these amazing prospective volunteers and share with them progress updates on the platform and if there's anything they'd like to work on in the meantime, we're completely open to this. Some have actually become CAS chapter leaders from this process of reaching out early, which has been great.

Realistically, by the time the platform is completely up and running, I hope to have our COO/CEO on board who can help manage—but we'll also have code built in to notify us of activity from members. For instance, after X amount of inactivity time, we're planning to send follow up

emails/letters to members, just to ensure everything is working smoothly. Ultimately this system will have a ton of checks and balances built in to optimize this, allowing AI to save us quite a bit of time.

Some might suggest that technological progress will come eventually, and what matters most in the long run is whether we've achieved the social change necessary to use those new technologies to help animals. Why is CAS working to advance technology rather than to shift public attitudes?

I'd say this is not really the case for CAS actually. I tend to agree with this position, which is why all of the program areas for CAS (with the exception of one) are pretty much focused on the latter, instead of tech progress: <https://www.cellag.org/programs>.

What can CAS do to ensure that consumers will embrace cultured meat?

There's an extremely complex answer to this one. But in sum, it ranges from creating the designs of the future (facilities, product mockups, etc.) that inspire not only the next thought-leaders for our field, but also prospective consumers, to potentially leveraging "celebrity" connections in the early 2020s to spark social interest in products, to aiding cellular agriculture's integration into future Martian expeditions which could optimize positive consumer interest if it became something "trendy" on Mars, to developing textbooks/journals on cellular agriculture which educate the next leaders in academia, government, etc. It should go without saying that some of these hold more promise than others, but just wanted to share how multifaceted our approach is.

Does CAS directly support work on developing products other than those that could decrease animal product consumption (e.g., promoting alternatives to silk or leather or promoting yeast-based vanillas or flower fragrances)? Why or why not?

We do but only if it aligns with our effective altruist vision and helps people/animals/the world. So from what I know, finding an alternative for flower fragrances does not take priority when over a trillion animals are being killed annually for seafood alone. In other words, it's just an effective altruist calculus which factors in suffering and to my knowledge, vanilla and flower fragrances just don't crack that priority list. I understand though (and have heard rumors) as to why other organizations may support entities like these, for political reasons, etc. but I'm just disinterested in sacrificing the effective altruist values of CAS.

Suppose it will take 40, 50, or even 100 years for cultured meat to reach cost-competitiveness. Is there still a strong case that donating to CAS is a cost-effective use of the movements resources right now?

No, but this question seems to set up in an illegitimate binary. I think the time to wide-scale commercialization ought to correlate with the quantity of funding, as I agree, much will happen outside of NGOs. So if it was 100 years away, no, I don't think this would be a productive use of effective altruist funding, though I also highly doubt this will be the case, and because it's probably less than a decade away and funding (not particularly significant) can help accelerate this timeline, this indeed could be a productive funding area. (This is why I started CAS in the first place!)