

The Fundecitrus experience and the Production of Narrow Public Goods

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The success of the bioeconomy, as well as of citriculture, depends on specialized knowledge. However, unlike the classic academic model, where researchers are evaluated by their peers, at the Citrus Defense Fund (Fundecitrus), they work under the indirect supervision of producers to solve immediate problems. With a broad base of associated producers and its own funding, Fundecitrus exemplifies a successful model.

In February 2023, I visited the Fund to Safeguard Citrus (Fundecitrus), a non-profit organization that seeks to promote the health, efficiency, and sustainability of the Brazilian citrus sector. To fulfill its objectives, the Fund conducts scientific research, develops new technologies, trains people, and produces information, such as harvest forecasts.

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Its headquarters is in Araraquara, in the interior of São Paulo State, and its campus is composed of low buildings, painted in shades of green and distributed along a large plot lined with trees. At first sight, I was struck by the similarity between the laboratories at Fundecitrus and those I used to see when I walked through the halls of the Massachusetts Institute of Technology (MIT). The same white and well-lit rooms were occupied by scientists conveying the same intensity of purpose in their quest for knowledge.

A closer look at the details, however, reveals a fundamental difference between the way these two entities manage their research. At MIT and other academic centers that follow the US model, research is organized around three guidelines that encourage researchers to act as intellectual entrepreneurs. But at Fundecitrus, the logic is distinct, and not easy to categorize.

At institutions like MIT, researchers advance in their careers when they publish original articles in prestigious journals. As the saying goes, it is "publish or perish." Further, the quality of research is determined solely by other researchers recognized for being experts in the topic. Known as "peer review", this guideline permeates the most diverse academic routines, from the thesis defense before a committee to the process through which one gets promoted to full professor. And third, each individual is responsible for raising the funds he or she needs to cover the costs of his or her research.

Together, these three guidelines encourage researchers to explore the marketplace of ideas in a broad, unrestricted way, each one seeking a legitimate space in which to plant their flag. At the same time, these guidelines also protect the researcher from outside influences or central control. As a friend and fellow professor at NYU once told me, "professors don't have bosses. On the contrary, each of us is the sole-proprietor of our own enterprise".

At Fundecitrus, the logic is different and it is perfectly aligned with the distinct mission of that enterprise. The success of its researchers does not depend on the number of articles they publish, but on their ability to solve the problems that afflict the sector, as defined by growers. The quality of research is not judged exclusively by other experts, but by the impact it has on farms. And research is not funded through competitive calls for proposals, but by the organization itself, which decides how to allocate its space and budget.

When seen from this angle, Fundecitrus resembles a corporate lab, similar to legendary places like Bell Labs, IBM's PARC or Google's X, where researchers are employees of a corporation. But this analogy doesn't work either. Corporate labs seek to keep all their innovations under their

exclusive domain, either via corporate secrecy or a patent, so they are the only ones who benefit. In contrast, Fundecitrus produces knowledge that is meant to be shared widely.

This kind of shared knowledge is of enormous value. In the Amazon, the lack of such readily-available knowledge help explain why bioeconomy-related companies find it so difficult to prosper. To produce the knowledge, however, is not easy. Governments don't usually have the political motivation to provide a resource that will benefit only a narrow sector. Nor do they usually have the frontline business experience to ask the right questions. In contrast, companies usually have the interest and the experience to invest, but lack sufficient incentives to provide a resource that will benefit everyone, even their competitors.

To solve these problems, the visionaries who created Fundecitrus orchestrated a brilliant sector-wide agreement. In Brazil, most citrus fruits are oranges, and most oranges are processed by three large companies that produce and export the juice. When any of these companies buy a crate of oranges, they deduct R\$0,08 from the value owed to grower, match it with another R\$0,08 from its own funds, and send the combined amount to Fundecitrus. Today, a crate of oranges goes for about R\$38, so the contribution corresponds to about 0.2% for the grower and another 0.2% for the juice producer. This “tax” rate is quite low, but the volume of oranges processed is large so the money adds up. In 2022, growers and the companies that make orange juice firms provided Fundecitrus with R\$30 million.

With so much money at stake, producers are eager to engage with the association so they can affect how the funds are spent. Moreover, the larger and more proactive producers that lead Fundecitrus have an added interest in both recruiting and reaching the smaller and more recalcitrant ones as pests and diseases do not respect property lines. As a result, Fundecitrus attracts a broad base of members, where each one pitches in with an amount proportional to its output.

To close the circle, the association adopts robust rules and procedures to synthesize the preferences of its members into a list of shared priorities, with care not to create unnecessary dissent. To this end, the entity does not allow producers and industries to discuss or try to manipulate the price of oranges. Besides being illegal under antitrust law, this type of discussion would create internal divisions difficult to mend. As explained by Dr. Antonio Amaro, who helped create Fundecitrus, "our statute was designed to make it difficult for members to discuss prices or other commercial issues in official meetings or even around the watercooler." Operating under these parameters, Fundecitrus

creates and maintains the sector in a high performance equilibrium, where many contribute and everyone benefits.

We can imagine a parallel universe where orange producers and the processing industry cannot reach an agreement to create Fundecitrus. In this universe, the arrival of citric canker and other diseases devastate the crop. In another version of this story, sectors that could have prominence are never born or fail to thrive. Actually, you don't have to look far to find cases like this: these are the scenarios we observe in the Amazon today, where so many forest-friendly products are stuck in an undesirable equilibrium, where almost nobody contributes to generate shared, sector-specific knowledge, nobody benefits, and everyone falls behind.

The challenge is to migrate from this undesirable equilibrium to a higher performance one. This transition is not easy, but it can be done.

Fonte: [n/a](#)