**Fed4CF - Interview Extencialista Fedecafe Santa Rosa - 22-7-2022**

**I would like to confirm that you agree with this interview, which you know is anonymous, but we will use the information in our studies and publications.**

Yes, they already gave me the authorization, so I am an open book.

**Thank you very much. You can start with a short personal introduction. Who are you, and what is your role in this organization?**

My name is [name]. I am an agricultural engineer at the University of Caldas, and I have been working here at the Federation for 15 years. Well, almost most of the time I have been in the process of developing rural extension, so well... What else did you want to know?

**Is it the Federation of Caldas?**

It is the Federation... This is the Risaralda Committee, yes, well, here we are... Let's say that the Federation is made up of various committees; there are the departmental committees and the municipal committees. Well, in this case, we are in Santa Rosa, and well, this is one of the... At the national level, of all the municipalities and coffee departments, there is the extension service, so it is in charge of... Well, right now in the interview, I will answer more questions.

**So, what do you do with extensions?**

Well, what we, the extensionists, do is go to the coffee growers. It is the part of the Federation that has constant contact with coffee growers. We go to their properties, we visit them, and we basically go with several programs that, among them, is technology transfer, which is like taking Senicafé's research to them, which is the largest research center in the world. Thus, every time Senicafé has a new investigation, then we go, we make transfers, we make visits showing them the investigations, we do training with them, transfer meetings with them, which is to show them the recommendations for crop management. We also manage diverse programs. Currently, we have the Specialty Coffee program, which is where we encourage coffee growers to belong to a special coffee label, and to follow those checklists so that those who are, continue to be, fulfilling all those requirements that those labels have, and the new ones we encourage them to become associated. That is the Special Coffee program, in which we also organize visits, meetings. There is also a program called Business Management, which is a program where we help coffee growers to have their costs, to manage records, to know what their income is, what their profitability with coffee is, to write down all the bills. In other words, so that at the end of the year, they have the most important data for any company, which is its profitability, it is knowing its cost of production, it is knowing its benefit. Hence, in this program, we help throughout the entire process so that coffee growers can have their property as a company and can manage it that way. There is another program called Credit, where what we do is taking to the coffee growers the programs that the Federation does with the Ministry of Agriculture, or with the Agrarian Bank. So, what we do is also plan credit. For instance, someone needs resources to buy fertilizer, or to manage the crop. Thus, we have support credits, or renewal credits if someone needs resources to renew coffee, to harvest, to buy infrastructure, for different lines... Therefore, in this program, we basically do the planning, and so that the coffee growers have the resources because let's say that, at this time, the Federation has an agreement with the Agrarian Bank and for the coffee growers there are some rates, some exceptions in the credits issued by the bank. Hence, what we do is that, right? Basically, we are rural extensionists, we are an extension of the Federation, which goes to the properties. Let's say that at the national level, there are also constant programs that we had about incentives for renovation, to renew it is subsidized, or we also incentivize with seeds... Each municipality, depending on the resources and the agreements they make. There are also agreements in the municipalities where sometimes they are also delivered, that machines become rust, for pulping... We are in a program called Delivering Plastics, so that coffee growers have and fix their drying houses, we also deliver for drying houses, so that those who do not have them also make a new one. So, we really manage many things, but we are that part of the Federation that, as its name says, we do extension, and we have constant contact with the coffee growers on the properties. That is our job.

**Do you have an example of a topic in which you work on with coffee growers based on Senicafé research? A new technology.**

Well, let's say that even right now, we are training coffee growers who are in Specialty Coffee or Fermentation programs. Hence, they are there being taught how it should be fermented to get a quality coffee. We even, let's say, that the most palpable and most obvious case, I would say, is that we say that, in coffee, the main problem is coffee rust, and before 2008, 2007, we had most of the varieties susceptible to rust, which we can say is the hardest disease in coffee, and right now... Before, we had almost 70% of susceptible varieties at the national level, and 30% of resistant varieties. Currently, we changed, due to many things that happened. It was a very strong phenomenon in the field in 2010, 2011, 2012, we felt the need... Well, let's say that Senicafé brought out a variety resistant to rust, which is the *Castillo* variety, and a little while ago it brought out a variety called Senicafé-1. So, what we did was bring that technology because the issue of rust is very expensive, and we began to transfer this new technology, and right now, we transformed that coffee area, and right now, we have 85% of varieties resistant to 15% of susceptible varieties. Thus, that is one of the visible changes, but as I told you, we normally bring new technologies. For example, right now, even in the meeting, they are going to talk about this program, which is about how long they have to ferment the coffee in the tank. So, let's say that we are constantly making this transfer, and well, it can be seen in the results we have obtained with coffee growers at the national level.

**What do you consider the biggest challenges in coffee production for producers?**

That question is very good. The largest challenges, from my point of view, would be the workforce first. Workforce let's say that... and not only coffee growers, but farmers nationwide. Farmers are 40 to 50 upwards, so we have to look for policies that encourage young people to stay on the properties, and that they will not be lost here. This is a very big challenge not only for the Federation, but for the entire government at the national level, for all the entities because we are seeing, even at this moment, there is a shortage of labor in the field. And well, that would imply that, that the farmers have good conditions, have good health, that they have access to a pension, that they have access to what a person normally has in the city, right? Hence, I think that a lot of work must be done to encourage that. That is one of the challenges, let's say, the biggest we have. Well, based on that, we have one that is technology-based, right? How do we make up for that deficiency in manpower with the help of technology? Thus, I also think that this is a very important challenge, like... Just as Senicafé has brought out, let's say that the latest research brought out a coffee beaker, which is a machine that, by vibration, drops the coffee and collects it in some canvas. That is a very interesting technology, and I think we have to continue with it because our conditions are a bit particular since coffee growing in us is a dependent practice, where, at least here, we have had in these last two years the phenomenon of *la niña*, and that means that the blooms are not concentrated, but the blooms are very scattered. So, the collections are very scattered. Therefore, sometimes, they are conditions that suddenly hinder some things that are already being done, but I think that this is another challenge, how to continue to implementing technologies for that. I don't know, trying to solve the workforce problem using technology.

**Is it a subject that Senicafé is researching?**

Yes, Senicafé specifically brings us technologies. Let's say daily... And they are training us. We constantly have the page, and well, we have researchers who sometimes visit us and have conversations with them. So, we are constantly in training because we have to progress with them, and because that is what we bring to the coffee growers.

**Do you work with other researchers? Not only Senicafé, but also other universities?**

We only... Senicafé does work with other entities, yes, but we are a little strict with that issue because many times, there are some things that they released, but they are very patchy. So, Senicafé gives us the reliability that they use all the research method to get what they get. In other words, they don't get something overnight, but they have their scientific method to get all that. We, basically with what Senicafé tells us, with that, we make the technology transfer because, as I told you, one finds, and one, well, reads other things that are being done, but since it does not have the scientific method, it has no validity. Hence, that is the reliability that Senicafé gives us.

**Therefore, to work on new projects and new technologies, is it important to work together with Senicafé?**

Senicafé, yes, has agreements with universities, with other universities that do research, but, for instance, if someone from a commercial company comes here and says: "Look, I have this product that is superb", well, we say: “Wait to listen to what Senicafé says. Let’s see if it really is that good.” So, when Senicafé says: "No, we tested these agrochemicals, and this one didn't work." So, there we already have, let's say that the certainty that the recommendation that we are going to give to coffee growers is going to be: "Don't use this because what this man says is actually a lie." Thus, that gives us like that confidence.

**You have said that another challenge is pensions and the welfare of farmers. Is it an issue that the Federation works with?**

Well, we also work on that. We… Let's say that when there are government programs and all that, we create spaces to inform the coffee growers. A little while ago there was a program that is for coffee growers who had not reached a pension and who could save, and with that, the government gave them 20%. So, yes, many times with government programs, or with an institution, we make agreements and try to ensure that everything reaches the population of coffee growers. I think so because in that program, well, even here we include many coffee growers in many meetings. Therefore, we also work on this type of issues. What happens is that, I think that indeed, there should be more support from the government. And let's say right now, right? With the issue of fertilizers being so complicated, there should be a program that subsidizes part of the issue of fertilizers. It does seem to me that there should be more policies for the farmer, so that, as I tell you, they would have the same facilities that a person in the city can have; that they have access to health, that they have access to the internet, that they have access to a pension, that they have... Let's say that they have a school. I hope that they have a higher education, that they are paid. Hence, I think it could work. Still more policies to incentivize that.

**Hence, is a government contribution necessary?**

I think so, quite a lot because it is a sector that... Let's say that even here... Here, in this area, the properties have general services; There are areas of the country where the properties do not have this service, they do not even have water. There are times when they don't have electricity. So, I think that we are, compared to other regions… Well, but I do see that access to a pension is almost zero, access to education. There should be more incentives for rural people to study. The internet issues. When the pandemic started, we had to make that change and then when we realized that, regarding the countryside, the issue of internet coverage is quite bad because the guys are almost studying with a cell phone, looking for the signal where it arrived, so it was through it their homework was sent with, how to investigate... Therefore, there we saw that there is actually a big deficiency.

**At the Federation, are you also working on the issue of waste?**

Yes, of course, Senicafé, as I told you, is in charge of this research topic, and we even look at that topic at each meeting or each visit. There are even programs. In the part of Senicafé, they pass us the research results of how the handling of these by-products should be, what should be done with the pulp, what should be done with the honey water, how the treatments are carried out for the water management... So, well, let's say that we take the transfer to the properties, and we say "Look, you need... I hope you have a decomposition pit for the pulp, I hope you don't waste so much water on pulping, or you don't waste water on the transport of the pulp, but do it without water, or do only the four rinses”. So, we work a lot on that topic, with the consumption of water, the management of by-products, and sometimes, there are also programs where we help to have septic systems. So, we go to the properties and install the septic system, but we are always with that training and with that... as I told you, every time Senicafé research further on the subject, it tells us more about the treatment of that waste, and the environmental part in general.

**Therefore, do most coffee growers now use for manure or compost? Most producers now use the pulp, for example, to leave it on the ground as compost?**

Yes, well, for the management of the pulp, we recommend digging a pit on the property and then put there the pulp so that it decomposes and that serves as fertilizer. They use it as organic fertilizer to fill seedling bags, but we have realized that it also works for... That also has other uses, such as what James does, who makes coffee husk from coffee, which is delicious. Thus, I would say that the majority makes compost with it, but that has more uses, as we have seen that some have been able to take advantage of it, and it seems very good to us. It is in constant research because even with honey waters there are also some advances that talk about what to do with... Well, we recommend... Above all, regarding ​​contamination, that these waters, from the first and the second wash, they are the most polluting, so we say: “No, pour these waters back into the pulp so that it is more concentrated, and the treatment of water is easier and less polluting.” So, yes, we are exactly performing that function of doing that training.

**I am going to show you an image of the concept we work with. It is called BioHub. The idea is that there are different communities here that produce biomass that is not used now, for example, coffee waste, and we are investigating if it is possible to send it to a biorefinery, where it is converted into different products. We are investigating a technology that can produce four different products. One is a biocrude, which in the end can be used as biofuel in the maritime sector, which is the objective of our study. A biocarbon or a biochart is also produced.**

Is this done with all properties’ waste, regardless of what they produce?

**We are investigating if that is possible because well, here in Colombia we are looking at the coffee pulp, the cocoa husk, but we have also seen that there is a lot of banana, which produces a lot of waste. Thus, we are investigating if all of that can be put together in that biorefinery and produce different things that can be used here in the region and can also be sold to a final market. And biocrude can be used for fuels in the maritime sector, but it can also be used to produce other products.**

It is very interesting! Biofuel and biochar. Only two?

**It also comes out as biogas, and water, wastewater that can be used in this plant for power generation.**

Excellent!

**We are investigating whether such a system is possible in this region, with what waste, and well, what benefits should be generated for it to be beneficial for the region. This is the idea, that it is not only beneficial for the end user, but also to contribute something in that region.**

I don't know if you knew anything about coffee having a parchment, a little shell. And that parchment, that *cisco* is used for the silos.

**Oh yes, I have seen it in some properties. It is also a residue.**

Also for biofuel. But no, everything that uses that to the maximum, everything about coffee, excellent. Excellent.

**Which benefits can it generate for the region, for the producers, or should it generate?**

What should generate this type of technology?

**Yes, to benefit the region.**

Well, I think everything. First, because that would give additional income to families. Second, on the environmental side, there would no longer be so much pollution and all that waste management would be encouraged, which has a very strong environmental impact on the communities. No, I think it is very good, especially because right now, we are in a place where we have to do something for the planet, and we have to try to emit... Pollution. Therefore, everything that is in progress, perfect.

**Do you see obstacles and challenges to organize this new value chain?**

No, no obstacles, the obstacles are made by oneself. I think that there is a lot of material to work on, there is a lot to do. No, I think there are no obstacles to that. On the contrary, there is a lot to work on, a lot to do, and I think that we have been using these by-products for very little. I think that using them in the best way, that would reduce pollution a lot, and well, as I was saying, it would be an additional income for everyone. Hence, it seems that we have to continue working, and we have to continue looking for what options there are with those by-products, to continue researching on that.

**Do you think the Federation can have a role in this?**

Of course, because we... Well, the Federation covers the entire coffee chain, and in our part, which is the process of developing extension, we are who go to the properties. We are the ones who are really in contact, let's say constant, with the coffee growers, and every time we give a training, we recommend something environmental, that has a very strong impact on them. And if we are all in this same objective, then surely, we are going to have very good results.

**Because in your experience, how is it? Are the producers open to changes, to new technologies, or to changing their practices? How is that going?**

We, let's say that, from experience, adoption occurs at different levels. I would say that there is a group of coffee growers who adopt very easily. Then, the others don't, the others already say: “I already have it”. There are others that are not so fast, so a meeting is needed, then a demonstration of the method... Those are... And there are others who are still even later in terms of adoption, who already need, for instance, to see the neighbor, or already see most of the community. We know from experience that there are different levels of adoption, and that there are different groups of coffee growers who adopt technologies or not, and that is the process that we do, but with all of them, and well, with everything we do, we already know how... By what methods to reach, and what must be done so that the technologies are easy to adopt. That requires time because, as I told you, there is a population of coffee growers that do not adopt so fast, and they need time to be convinced that it really is a good technology.

**But are there also producers who do adapt quickly and can be an example?**

Yes, I think that when one trains on some new technology, especially those who are just starting out, they are the first, they are the ones who really show the benefits, then one already knows: “We are going to do this method demonstration here, this tour, or we are going to show them what it is like and let them see." When they see, for instance, that the neighbor, they are seeing that it is working, there are already many... Let's say that they are not so easy to convince of the adoption. So, that's key, starting with those coffee farmers who are fast adopters, and they also take care of showing on their properties to the neighbors, to those who are there in the village, to their friends, that the technology really works.

**Now most of the producers do the processing, the fermentation, the drying on their property. We are thinking of moving it, as a collection center for all the coffee cherries. Not the dry coffee, but the cherry coffee, and if the pulp is paid, the processing is made in a central place. What do you think of that idea and whether it will work here?**

Well, we have centers... Belén has a processing center. There are therefore several coffee growers who bring their coffee, and it is processed there. I think there is a market for everyone. It is what normally happens, there are coffee growers here who sell their coffee, they sell it as wet coffee, there are some who sell dry coffee, there are some who sell coffee already processed, with their brand and everything, and they sell it right away... There are some coffee growers who sell it already, even by cups. Thus, I would say that there is a population for everything. Obviously, a central processing plant is very good because there you have all the technology and everything. And that helps a population. I think that there are populations with which you can work on this type of thing. Besides, because there, you could take advantage of all those by-products and everything. I think so, there are coffee growers for that type of programs. As I told you, there are different coffee growers that have their process, well, and that's fine, even here, especially in Santa Rosa, there are more than 200 brands of coffee, 150... It's a lot of coffee, and very good coffee. You can even find here almost two or three coffees per block, and we have already changed that a lot. Lately, well, here you could get a coffee and the coffee was the one from the […], but not right now. You go to a café, and you pay well for high-quality coffee. Let's say that it is no longer the 500-peso coffee, but that you already pay for good coffee, and we are learning to drink our own coffee and to drink quality coffee. I think so, a lot has been done, at least here, that issue has changed a lot.

**In the end, we want to understand the different actors who now have a role in the sector, but that may also have a role in a new value chain as well. We want to understand their position. So, we prepared this table, with different actors and their position in terms of power that they have, if it is high or low, power to make decisions, and the interest that they may have in a new value chain, if it is high or low. So, here are the actors who have high interest, high power, here high interest, low power. I would like to ask you how you see this block and the position of the actors, if it is okay, or if we have to change the position.**

Coffee growers... Here it would be coffee growers.

**Coffee growers, yes.**

Let me take a good look at the graph. [Mumbling while reading]. Roasters not there?

**It is also another question if there are missing actors. So, is an actor missing?**

Of course. And all the multinationals that buy all the coffee must be there. They should be high power, low interest.

**Low interest?**

Well... There is everything because we also make agreements. But coffee roasters are in the sector. The picture is cool, how did you do it? Based on what?

**Based on, well, what we have read, another experience in Spain, which is another context, but... And what do you think of the position of the Coffee Federation?**

The Federation, high power, and high interest. Yes. Basically, we always work on that topic. So, you classified it well on high power, and high interest. We are constantly at it, the cooperatives too, the coffee growers too, Senicafé obviously. I don't understand why you placed Senicafé with low power.

**Do you think it has more power?**

I think so because look, what I told you right now, Senicafé, for instance, when they released the *Castillo* variety coffee, that coffee came out in 2006, and we are in 2022 and almost the entire coffee area has changed because of that technology. So, it is great power, it is important... The power is big because if it hadn't been for Senicafé, we would have susceptible varieties, and we would produce I don't know how much coffee, but much less. So, well, there, I would put Senicafé with high power. About academia, you say that it has high interest, low power... Clearly, yes, because of the... I would leave that one there. Biomass Collector... Well yeah, basically, I would just give those two criticisms to the graph. Apart from the coffee roasters, who are not there, who are an important actor. I would also be missing the part of the importers, since many people already export coffee, even in small quantities, and they are also actors who should be there, who should...

**In this new value chain from waste as well?**

Yes, of course. They should be there. For a few years, quality coffee growers have been encouraged to export coffee in small quantities, and many of them export, and that is an export niche that should still be worked on. It is not a very broad niche, but it exists. It should also be there.

**The associations? We have them here, but where would you put them?**

Those are fundamental too, the coffee associations. Here I would put them in... Here there are many associations, even the Federation supports them. Here we have an association called *Asorrosa*, which is the association of small farmers in Santa Rosa, and they also... Well, they work a lot on the marketing issue. So, it is also an actor who should be there, for me, but I don't know if I would consider it to have high power... Well, yes, because there are many associations at the national level. Let's say that there is at least one, and it is interested, the interest must also be high because the associations also work closely with us. I would also put it there.

**How do you work together with the associations from the Federation?**

For example, what I was telling you here about *Asorrosa*. *Asorrosa* is an association that began with few coffee growers, and that tried to create a niche for marketing special coffee with some coffee growers. So, what did we do? We began to train producers and gave them everything so that they could found the association. Thus, it is an association that started almost with nothing. You go to the *Asorrosa* association, and they already have their stand, they have a roaster, they already have a taster, they do business with other buyers, people come... We obviously helped start that association, and all the coffee growers who are there are obviously coffee growers, who are constantly being trained by us to get a good coffee and to encourage only those who are already there continue to be there, but also new coffee growers also reach this type of market. Hence, we do have a lot of influence with the coffee associations.

**How do you see the position of the government? National and regional government.**

That question, at this time, is very difficult to answer because you know that we entered a... Some new rulers entered, so we don't know what is going to happen. We all hope, obviously, that the situation is... I feel that they are going to be a high power. Let's just say I don't know why you put it here, on low power, it should be on high.

**High power, but low interest?**

Yes. You are right. So, it is in the topic of interest, which we do not know. We all hope that it will be a high interest, but until... We have to give it time to know what is going to happen.

**But until now, with this government, for example, how was the interest in the sector, in the countryside?**

Well, from my point of view, the Federation constantly meets with the government, in the coffee congresses, it meets in the national steering committees. I think it is that we, the Federation, did not have relationships with the government, but things have happened that one cannot leave behind, rather we come from very difficult times. We come from times of the pandemic. Then there was the issue of the social outburst, which also did a lot of damage. So, all the economies and everything is, even the strongest economies are broken by it. One cannot say that everything is the government's fault. In recent years, very serious things have happened that have meant that obviously the resources, here today, it is understandable that they have gone to protect against the pandemic and all that. So, I am not the one to judge. It seems to me that there should clearly be some support for coffee growers, especially in that issue that they have all the social benefits that someone else has. So, what one thinks is that it gets ahead, and that this government brings benefits to the farmers.

**Thank you very much. Those were my questions. I don't know if there is anything you would like to say more.**

No. I would like you to send me information by mail about some things, about the end of the research, about the results that have been obtained. It seems a very interesting topic to me. I really like the topic, and what you are doing seems interesting to me because I think that a lot of work needs to be done on the topic of by-products. Not only in the subject of coffee, but in the agricultural world. Therefore, I find it quite interesting.