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FRUIT FLY MANAGEMENT, AND DECISION-MAKING UNDER THE UNCERTAINTY OF THE COVID-19 CRISIS

"TO EXCEL, YOU NEED THE COURAGE TO FAIL"

When the COVID-19 crisis broke out, with its "new normal," the Biofeed management team decided that we would not let that crisis stop us from achieving our targets and fulfill our goals.

This, even if it meant taking greater business and professional risks and doing things in an 'unconventional' manner.

Here is a story of one such event, where we extended our efforts and took risks well beyond what we would do under normal circumstances.

This story is about the SUCCESS of management and leadership in COVID-19 times.

When nothing you planned is possible to execute, and the tomorrow is difficult and uncertain.

Agricultural activities follow the seasons of the year. In the case of Biofeed, we are working with orchard owners who need to protect their produce from fruit flies.

Not the trees, nor the fruits or the fruit flies cares about the COVID-19 crisis.

They have their natural rhythm and missing a week or a month may mean missing a whole season, translating into a year activity.

In 2020 Biofeed was set, with its Senegalese partners, to perform regulation trials and a demo of FFCTZ (*Fruit Fly Certified Trade Zone*) program, which requires my presence in Senegal.

What do you do when the skies are closed, and you don't know when they will be open again and when or how you can start the **seasonal** planned activity?

Fruit fly control is one of the most demanding and strict when it comes down to the need to apply it on time and in a perfect way.

In 2020, I was facing a situation where, due to COVID-19 restrictions, I wasn't able to arrive in Senegal for five months (February to mid-July).

No activity was possible, we could execute nothing we planned, and the mango harvest season (our target) was fading away.

The way and style you react in such an uncertain and unfavorable environment is clear leadership, managerial, and professional dilemma.

I hope that the following story will inspire you to see how you can change your future through courageous and goal-oriented management to achieve the success you wish.

BACKGROUND: MANGO IN SENEGAL

Senegal exports mangoes, but due to fruit fly infestations and chemical residues, the export is under constant threat of a total *Export Ban*.

Together with our local Senegalese partners, we defined in 2019, a detailed activity plan for 2020, which included, among others, a demonstration of effective fruit fly control in a FFCTZ demo program.

But then the Corona (COVID-19) crisis broke out, and in an instant, everything came to a halt. Nothing was clear or predictable from that moment and on.

FEET ON THE GROUND

Past Biofeed experience has taught us, in a hard way, the importance of being present in the field when carrying out a cooperation/project, and especially during the first year of joint activity with a new partner. This is regardless of who the partner is and his professional level.

The high level of professionalism, together with long experience and deep commitment in such a project, taught us to have a physical presence of a Biofeed professional representative, which is often myself, during any first implementation and critical activities.

Being present at any 'first step' became mandatory under all scenarios!

COVID-19 INFLUENCE; ANOTHER WEEK, ANOTHER MONTH

With the outbreak of the crisis, flights were stopped instantly, even before we had time to make the minimum necessary preliminary visits, field training, face-to-face meetings, and deployment of the control and monitoring array in the field.

What do we do now, as a leader?

We discussed the possible ways with our Senegalese partners and **together** decided to wait for the flights to resume.

At first, it was deceiving, and seemed like the “New Normality” without flights is only for a week or two.

But when weeks turned into months, we understood that we might completely lose this year.

Finally, at the end of July, some flights resume.

Thank God, I say to myself, and make the necessary arrangement to go to Senegal.

Equipped with a COVID-19 Test (Negative result), and along with 20 other passengers on a giant Boeing plane, I boarded the first flight to Senegal.

Nineteen hours later, I landed in Dakar, Senegal's capital, which was over-crowded than usual, with families preparing for the Tabasky (Aid D'al Kebir) holiday gatherings.

My first action was to go and to see the proposed area for the FFCTZ demo model.

A NIGHTMARE STARTING POINT

On July 27th, I got to the field, the first thing I did was talk to the farmer, who is telling me that; "*due to fruit fly infestation, there is no export after July 15th. **But now it is the end of August. At this time, the fruit fly infestations rise to 70% and even higher.***"

Once again, I say, "Thank God," when I see many fruits still on the trees, thanks to late bloom.

That means we would be able to have late-season fruit fly control for the fruits that will be harvested at the end of August, just 3-4 weeks ahead.

Naturally, the late, rainy season, is far more challenging for fruit fly control. Usually, the fruit fly population rises during this period, and with it, the fruit infestation increases.

Furthermore, we typically start control 3 to 6 months before harvest, when the fruit fly population is low, and it is easier to keep it down. It is evident that now the fruit fly population is high.

The above presents an additional unexpected personal and professional challenge, especially when applying a new methodology.

After having a long meeting with the farmer, I went to the orchard itself, to the plots scheduled for the FFCTZ model program.

Wasting no time, we start deploying the *FreeDome* units in the FFCTZ program.

While doing so, I note that **all (100%) mature fruits are heavily infested** by *Bactrocera dorsalis*.



Mango infested by hundreds of fruit fly larvae.

We also deploy monitoring traps (U-traps), which we will visit the day after and count 2000 flies.

I think to myself, this is when the fly population is on the rise, still not in its peak. "*Not simple*" is an understatement for the situation; it is more like "*extremely negative*."



A *U-trap* on a rainy day with 2000 flies trapped in 24 hours.

The real field conditions I have met were in complete contrast to the perfect way "*things should be done*" when you start a new program in a new country, and risk is always the highest.

I can easily see significant considerations to convince me **why not** to start any activity this year:

- Late control array deployment,
- A short time before harvest,
- Extremely high fruit infestation (100%)
- High fruit fly population (2000 flies trapped per day).
- Small FFCTZ model area of only 21 hectares surrounded by highly infested commercial orchards.
- Very rainy season.

All the above point out to one thing; we can expect things to worsen.

LEADERSHIP AND MANAGERIAL DECISIONS ARE NEVER EASY

The reality I saw and confronted in Senegal is far from anything we planned up-front just a few months earlier, before the COVID-19 crisis.

Nevertheless, this is real life, and I have to decide now; **do we postpone** the program and make it "as planned" next year, or **do we continue** now under unplanned and unfavorable conditions?

I understand that it is a race against time before Senegal will be under *Export Ban*.

Once under *Export Ban*, everything will be far more difficult for all. Hence, we must show an additional, more stringent protocol, which will bring hope for a better future.

I know that regardless of the results, we can learn a lot for the future by carrying on our planned program, even at the expense of less appealing results.

I decide to take the risk to continue with the program and take the blame if things are not the way we expected.

With all the changes taking place and the abnormal control program, of course, I had to set new expectations.

Our re-calibrated expectations were basic and low at this stage, in my professional perspective, to have a **similar infestation** in the FFCTZ (unsprayed) plots as we will have in the commercial (sprayed) plots.

With this unprecedented starting point, which for us is more like a nightmare, I left Senegal on August 1st, and make my way back to Israel, and... to 2 weeks COVID-19 home isolation.

At some point, early in my home-isolation, just shortly after I landed back from Senegal, I am feeling a bit sick and realize I caught an influenza virus of some sort.

Naturally, I rush to take a COVID-19 test.

While I am waiting, together with my worried team and family, for the COVID-19 test results, I am contemplating all the risks involved in doing business in such pandemic times.

Was the risk worse? We are risking our reputation. I am risking my family's health!

Had I taken the right decisions for me personally and for the company?

Fortunately, good news comes from the lab, affirming I am COVID-19 negative.

DOING THE BEST WE CAN

Finally, the two weeks of COVID-19 isolation are over. I am happy to meet my team face-to-face in the office.

But before too long, we get a message from our local partners in Senegal, "*in a week time harvest begins.*"

That is sending me back on the road, or more like 'to the plane.'

Armed with yet another COVID-19 negative test (the 3rd one in a month), and this time with 50 passengers on the plane, and much concern about what I will find, I made my way back to Senegal.

I landed in Dakar with a heavy heart, knowing that ripe fruit infestation by fruit flies is well over 50% at the end of August.

In the FFCTZ program, fruits must be very ripe by now.

On my way to the experiment fields, I pray that the fruit infestation will be as it is in the sprayed plots, not more. **If lucky**, we will have only 20% of fruit infestation.

Are we going to be lucky? There is nothing good to expect.

I arrived at the orchard to find out that at the commercial plots, due to infestation fear, the farmer already harvested, leaving behind only the very unripe green fruits.

Thank God, "our" farmer did what he promised and left untouched the fruits in the FFCTZ model area.

But now we have to deal with a new problem; how do we compare infestation when fruits in the FFCTZ program are three weeks more mature and ripe than the unripe, leftover fruits, in the commercial plots?

It is coming handy to know that the average additional weekly fruit infestation in **commercial sprayed orchards**, at this time, is about 15%. We will have to consider it when the time comes.

FINALLY, GOOD NEWS

During the last week of August, we monitor (twice) the fly population and fruit infestation in hundreds of fruits.

We do it with a big group of people, including people from the ministry of agriculture, to be sure that it is adequately done, random, and not biased.

Our findings are then confirmed with the farmer's observation.

There is no mistake; the results are shocking.



Most fruits in the commercial plots were harvested, leaving behind only green unripe fruits (left side fruit), wherein the FFCTZ plots fruits were not harvested and hence are ripe (right side fruit), with an inner yellow color, and three weeks more mature [\[>><<\]](#).

Commercial orchards – treated with sprays

No surprises here, even in the very green unripe fruits (3 weeks less mature versus the FFCTZ fruits), we find – 15% infestation. Fruits are infested only by eggs, which means it is very recent.

Suppose we extrapolate this data with the additional 15% infestation per week and double it by 3 (the lag of maturity versus the not harvested fruits in the FFCTZ treatment). In that case, we expect at this time, under regular commercial treatment, to reach a minimum of 60% fruit damage.

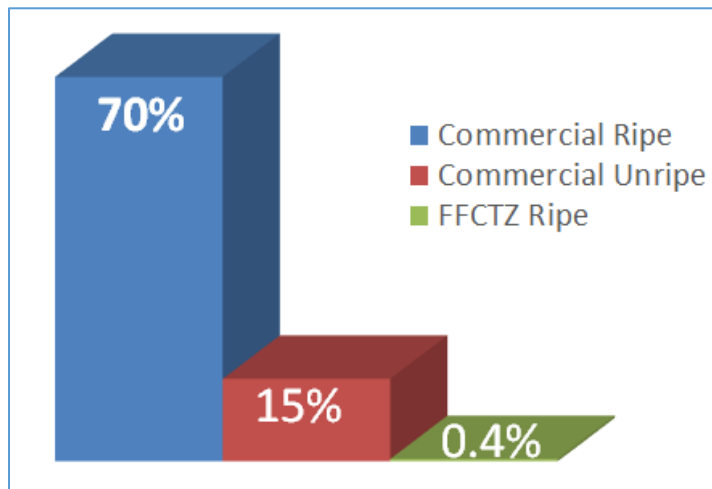
FFCTZ model treatment

According to the FFCTZ protocol, these plots were treated using the *FreeDome* solution, **without any fruit fly sprays**.

To my amazement, even though we sampled many more fruits in the FFCTZ plots than in control (nearly twice as many in the FFCTZ program), we observed **ONLY 0.4% (!!)** fruit infestation.

Again, only 0.4% infestation versus the typical 70%!

This is over 99.9% reduction in infestation versus the infestation in the Commercial Ripe and Unripe treatments!



Fruit fly infestation rate in commercial orchards treated by sprays and traps, versus FFCTZ where fruit fly control is by using *FreeDome*, a zero-spray method. **Blue** - infestation of ripe mangoes in commercial orchards at the end of August. **Brown** – same as blue but of unripe mangoes (3 weeks before ripening). **Green** – ripe mangoes under FFCTZ program.

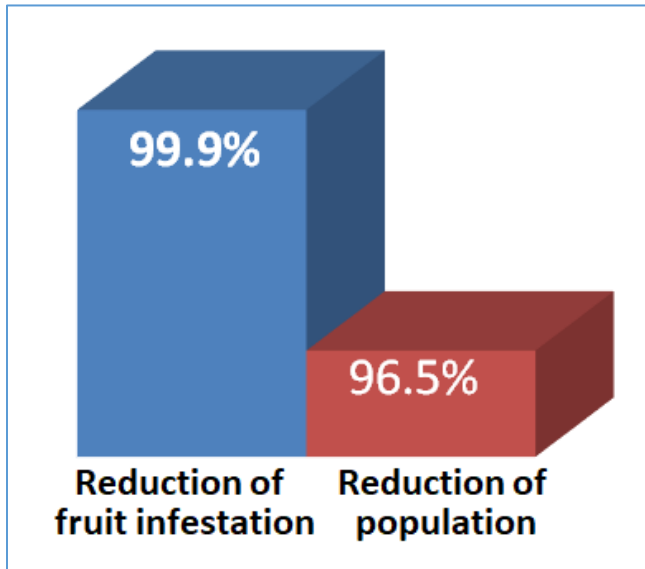
And what about the fruit fly population?

In the U-traps monitoring traps, counts went down to as few as seven flies a day!

Starting with 2,000 a day, that means we managed, in just a few weeks, to reduce the local Fruit Fly population by 96.5%!

To be sure that there is no mistake, I asked the farmer on the nearby mango farm (100 hectares), "*What is the regular fruit infestation here at the end of August?*" Without hesitation, he answered, "**Minimum 70%**".

Deep inside, I was smiling and relieved.



Blue - reduction rate of infestation in FFCTZ program in compare to Commercial orchards (ripe and unripe fruits) at the end of August 2020. Brown – reduction of fruit fly population in FFCTZ program from the beginning of August 2020 to its end (4 weeks period).

If you are a farmer who knows his numbers, you can do the math by yourself by summing the following C+D+I factors -

C - your current investment in fruit fly control.

D - your direct losses caused by fruit fly damage.

I – your indirect losses caused by losing export markets, a short export period, the need to harvest immature fruits, lack of flexibility in the time of harvest, etc.

TAKING THE RISK OF FAILING

As we enter the final stage of this mango season in Senegal, we can smile and say that we achieved a considerable and unique milestone on the way of enabling the farmers of Senegal and Africa to reach export markets, year-round and free of fear from *Export-Ban*.

But those achievements wouldn't be made possible without taking risks, and in 2020, due to the COVID-19 crises, even much higher professional and personal risks than we usually would take.

It wouldn't be possible without **personally**, being in the fields, fully understanding and grasping the situation, adjusting plans in real-time to suit the problems as I understand it, and aligned everybody's activities according to an updated plan devised collectively.

By the way, the situation described above is far from being "standard," yet it demonstrates well why we must be present in the first steps, including the implementation, during the first year/season.

Essential and critical to success is that all participants fully cooperated and accepted the changes that we proposed and were imposed by the situation upon us.

While we can't control the COVID-19 challenges, which were forced upon us and other uncontrolled factors, we can control how we react to changes, and how we behave under unexpected, harsh conditions.

We can choose to always keep safe with a 100% certainty of results, or at least we think and hope so.

Or we can embrace the change, update plans, take managerial and professional risks, and move full steam ahead, knowing that success is promised to no one but for those who work hard and dare to fail.



Marcelino, the mango grower, and Dr. Nimrod.

The aftermath of the story presented before you is that not only that we have achieved our targets and goals for 2020, but we managed to improve our cooperation and trust with our private and government partners in Senegal.

Furthermore, we received precious information about our technology and protocol, under extreme conditions, which otherwise we would never dare to experiment.

We saved time and budget for our partners.

We enabled Senegal's government to get a step closer to achieving its long-term Strategic Goal of helping its fruit exporters to safely export anytime, any volume, any crop, to any market, free of fear from *Export Ban*.

AWAITING "THE RIGHT TIME"

The right moment may never come for those who await the perfection of tomorrow. They will continue waiting for vain.

The way I choose is constant progress, even at a price that things may not be 'perfect' and precisely as I would love them to be.

Above all, it is a leadership decision that takes courage to carry the burden of failure.

Those who choose to take that path will find that over time they accomplish far more than their counterparties who were awaiting the perfect moment and taking no risks.

Doing nothing is also a risk. The most progressive organizations globally, including countries, are the ones that DO, AND DARE TO FAIL.

Strive for the best, and don't settle for less than a much better future.

Contact me if you wish to discuss your options to kick-start your economy or national scale operation using advanced economic models, protocols, and field-tested proven agricultural technologies.

Let's see how together we can take a GIANT step forward and bring high-value business and market results.

Please E-mail me to nisraely@biofeed.co.il or text +972-5423425 (WhatsApp).

For web translation and sharing with friends - [press here](#).

*For a greener world
Free of sprays
Full of joy*

See you soon,
Nimrod



P.S.

Biofeed believes in making dreams come true, and we love to collaborate with people and companies with whom we share common *Values*–

To Improve Farmers' Livelihood By Increasing Quality Production, Free of Bio and Chemical Hazards, Grown In A Safe Eco-Friendly Environment, To Enable the Consumers to Enjoy Better and Healthier Food and Life [[>><<](#)].

P.P.S.

You can learn my *WHY*, *HOW*, and *WHAT* that got me involved in a lifetime mission of #MakingADifference, and how that lead to establishing Biofeed [[>><<](#)].

P.P.P.S.

Biofeed exists for many years; our experience brought us to understand that *a full solution* must include a state-of-the-art crop protection technology combined with suitable protocols. Therefore, we tailor-made per situation a Package solution containing *Technology, Protocol, and Qualified Support*.

The Biofeed *Green Valley* INITIATIVE is based on critical Solutions, Methodologies, Protocols, and Models, which are ALL field-tested and results proven. The key elements

are:

1) **FreeDome**– the core technology for fruit fly control, which enables export quality. Used in conjunction with FFCTZ.

2) **Fruit Fly Certified Trade Zone(FFCTZ)**– a protocol to enable regulators, exporters, importers, and farmers to export produce from designated regions.

3) **Green Valley National Export Project**– this protocol is based on an Israeli model. It is designed for governments interested in adapting their country's agriculture to the 21st century.

4) **Green Valley Fruits** – quality assurance protocol with a designated fruit certification label.

P.P.P.P.S.

Who is qualified for working with Biofeed? A local partner who can take part and advance the FFCTZ initiative, with a particular focus on mangoes, e.g., fruit growers' organizations, fruit traders, exporters/importers, governments, businesspersons, food chains, etc. [[>><<](#)]

IMPORTANT! Our investment in each project is enormous. Hence, it requires us to select those projects with the highest chances of success.

P.P.P.P.S.

Additional (on-line) information –

* Join me on [LinkedIn](#) for many more posts and updates. Please press the FOLLOW button (not CONNECT) [[>><<](#)].

* Previous articles [[>><<](#)].

* The unfinished historical series [The Agricultural Gap](#); discussing the 12,000 years history of agriculture, starting with The Agricultural Revolution, moving to nowadays and the Agri-industry Revolution [[>><<](#)].

And lastly – if you have not yet read my personal story and **then early fatal accident which changed my life**, then here is the opportunity to do so [[>><<](#)].

***Change Begins With A Decision
That The Existing Reality Is A Choice
And Not A Decree Of Fate***