

REPORT ON 36TH FARMERS' DAY EXHIBITION AND THE VISIT TO MUSHROOM FARMERS WITHIN BONO EAST AND ASHANTI REGIONS OF THE REPUBLIC OF GHANA



By

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PART ONE

This report is in two folds: Part one and part two. Part one covers the exhibition on the farmers' day and part two covers the visit to mushroom farmers.

1.0 Farmers' day exhibition

1.1 Introduction

Over the years, the significance of National Farmers Day celebration in Ghana is reiterated. Despite severe constraints on farming and food production, the Ghana government over the years has kept faith with farmers to encourage them to produce more. National Farmers Day in Ghana is celebrated on the first Friday of December each year to recognize the contributions of farmers and fishers in the country. Farmers Day was instituted in 1985 by the Ghana government after the industries showed a 30 percent growth in 1984.

1.2 The 36th National farmers' day

During the National Farmers' Day, the Government of Ghana gives special awards to deserving farmers and fishermen based on their practices and output. Also, a National Farmers Forum takes place for award winners to meet with policy makers.

1.3 Exposition on the theme for the 36th National Farmers' day

The history of the National Farmers' day dates back to 1985, it was instituted by Government in recognition of the vital role farmers and fishermen play in the Ghanaian economy. The secretary for Agriculture at the time was Commodore (RTD) Steve Obimpeh. This was to emphasize the highly commendable output of farmers and fishermen in 1984 (about 30% growth registered), after the bad agricultural years in 1982 and 1983.

The first Friday of December every year has been set aside on the National calendar as a public holiday to celebrate this important contributions. This year's theme was;

'Ensuring Agribusiness Development under COVID-19 Opportunities and challenges', the theme for this year reflect the important role of agriculture sector to the economy amidst Covid-19.

1.4 Objective(s) of CSIR-FRI exhibition team:

- ❖ To let our farmers understand the value chain of their farm produce.
- ❖ To assist the general public to appreciate the role of CSIR-FRI in National development.
- ❖ To assist the youth to develop the concept of entrepreneurship in Second cycle institutions

1.4.1 to let our farmers understand the value chain of their farm produce

The CSIR-FRI team exhibited various research by products such as Plantain fufu (made from plantain and cassava), Kokonte (made from raw cassava), maize cereal mix (made from maize, soybeans and groundnut), rice cereal mix (made from rice, soybeans and groundnut), maize grits (made from raw maize/corn) groundnut paste, made from roasted groundnut.

The participants were taken through CSIR-FRI mandate which is to conduct applied market oriented research into problems of food processing and preservation, food safety, storage, marketing, distribution and utilization, and national food and nutritional security in support of the food industry and also to advise government on its food policy.



Figure 1.0: showcasing CSIR-FRI technologies to the general public



Figure 2.0: explaining FRI training modules to participants



Figure 3.0 CSIR-FRI team showcasing value added products at the 36th Farmers' day in Techiman

1.4.2 to assist the general public to appreciate the role of CSIR-FRI in National development

In the quest to explain CSIR-FRI technology to the general public, one innovation that caught the attention of the participants and other exhibitors is mushroom cultivation technology. The success story over the years was made known to them. Most of the participants took keen interest in the skill. They were therefore advised to take advantage to be trained by CSIR-FRI.

Mushroom value added products were introduced to the participants these were mushroom kebab, syrup, pie, dried and canned mushroom in different sauces.

Participants had the opportunity to taste and enjoy the mushroom kebab made with fresh mushroom. Individuals and corporate bodies had the opportunities to have first-hand information about business opportunities in CSIR-Food Research Institute.



Figure 4.0: Mushroom kebab stand

1.4.4 To assist the youth to develop the concept of entrepreneurship in Second cycle institutions

The domains of learning can be categorized as cognitive (knowledge), psychomotor (skills) and affective domain (attitudes). To develop healthy Adolescent Cognitive domain, one must include adolescents in discussions about a variety of topics, issues, and current events. Encourage adolescents to share ideas and thoughts with adults. Encourage adolescents to think independently and develop their own ideas. Assist adolescents in setting their own goals.

In line with the above, students in second cycle institutions were brought on board to appreciate what goes on in CSIR-FRI that could affect their career goals.

The students were made to understand that entrepreneurship is the order of the day. Thenceforth, they should consider the need to be self-dependent in future in terms of job creation.

The students were taken through various training modules such as fruit juice/jams training, mushroom cultivation technology, food processing, HQCF training, chocolate making, just to mention but a few in CSIR-FRI that could enhance their future career. They were therefore admonished to take their studies seriously so that they can get opportunity to be attached to the Institute as an intern, National service persons or as a permanent staff.



Figure 5.0: Explaining FRI's training modules to students.

The students had the opportunity to ask questions on courses to study in future to be able to achieve their heart desires.

PART TWO

2.0 VISIT TO MUSHROOM FARMERS AT TECHIMAN, NKORANZA, KUMASI AND ITS ENVIRONS.

CSIR-FRI for many years has contributed immensely to the mushroom production in the sub-region. The Institute's research unit of the former National Mushroom Development Program (NMDP) is now the Mycology Unit under the Food Microbiology and Mushroom Division. It has been conducting research into all areas of mushroom growing technology, mushroom biotechnology, and environmental implications. It also collects and maintains pure cultures of indigenous and exotic mushrooms in a National Mycelium Bank. It investigates efficient methods for processing and preserving mushrooms of both local and exotic strains. It also produces and supplies improved mushroom spawn to growers for commercial cultivation and carries out training programmes and extension services for farmers.

From October, 2020, FRI sales point started receiving calls from our customers all over the country with complains over the recent oyster mushroom spawns purchases they made. In responding to that, management tasked the team comprising Miss Justina Thompson (Products and Services Section, Mr. Richard Takli (Mushroom Section and Mr. Thomas Najah (Business Development Section) with the following objectives:

- ❖ To ascertain the actual problems confronting the mushroom farmers
- ❖ To determine whether or not the problem is coming from CSIR-FRI
- ❖ To see to it that those challenges are reduced to the barest minimum.

The team's first point of call is at Mr. Owusu's farms in Techiman. Mr. Owusu grows over ten thousand (10,000 bags)



Figure 6.0: Staff of CSIR-FRI arriving at Mr. Owusu's farm in Techiman



Figure 7.0: FRI staff indicating mistakes on the part of the farmer to him

One of the major challenges identified here is lack of basic hygienic practices. Mr. Takli the Technologist pointed to Mr. Owusu that the cropping house was not hygienic and that can cause contaminations to the compost bags. It was also realised that some of the compost bags were exposed to high light intensity.

The farmer complained that he was not getting high yields as expected. Here Mr. Takli explained that current climate change is the cause of this occurrence. He explained that due to temperature fluctuations, the mycelia grow rapidly on the surface but not at the middle. So one has to keep the compost bag for at least eight (8) weeks before one can open it. He demonstrated this by cutting a compost bag into two halves for the farmer to appreciate.



Figure 8.0: FRI staff cutting a compost bag into two halves

Ventilation was poor, roofing of the cropping house was nothing to write home about. He was advised to use jute sack instead of black polythene as the later absorbs much heat.

It came to light that Mr. Owusu had a one- day training from ‘Otek’ FM. The client said he would be happy to have an in service training from Food Research Institute.

PAUL ASANTE, NKORANZA 0242757490

The second point of call was at Nkoranza, Mr. Paul Asante's Farm.



Figure 9.0: A tete-a-tete discussion with the mushroom farmer

Mr. Asante's main complain was that after his first harvest, there was no growth again.

It was therefore clear that there was poor ventilation and hence the cropping house was very hot. He surprisingly covered the compost with plastic sacks. It also came to light that most of the spawns Mr.Owusu bought were not from FRI. We traced the source to one Grace Akwadaa and her husband who did their National Service at CSIR-FRI in 2015. The team therefore advised him to always order his spawns from FRI.

KWAME EFFAH- NKAWESO –TECHIMAN

The team visited Kwame Effah at Nkwaeso, a suburb of Techiman Municipality.



Figure 10.0: The back view of Mr. Effah's cropping house

❖ Challenges

Compost Bags are either not fruiting or will not fruit after first harvest.

The team identified the cropping house not to be conducive for cropping. There is no ventilation, the inside of cropping house is very hot. The source of spawns was not known. His knowledge in mushroom farming was low. It took him a day to learn mushroom cultivation from Otec FM in Kumasi.

The farmer was taken through hygienic and good farming practices as far as mushroom business is concerned.

The farmer was made to understand that climate change affects the growth of fresh mushrooms. There was a demonstration to prove to the farmer that even though the compost bags are about six weeks old, there was still the need to keep for two extra weeks. This is because the weather enables the mycelia to grow fast but will remain on just the surface.



Figure 11.0: Showing to the farmer that, the compost bag is not ready for opening.



Figure 12.0: Team's secretary busily taking records of the proceedings



Figure 13.0: the team issuing out ten 10 bottles of spawn to Mr. Effah

RICHARD ALSO AT NKAWESO, TECHIMAN



Figure 14.0: Condition in Richard's cropping houses

Richard's farm was not different from the rest in terms of problems. Bags were not fruiting etc.

The basic problem the team identified among other things is the unhygienic nature of the cropping houses and environment. As seen in **fig 14.0**. Everything was a mess. The farmer was not practicing good hygienic protocols. The farmer learnt Mushroom cultivation from Ghana Permaculture Institute. Ten bottles of mushroom spawns were given to Richard to use and give feedback to CSIR-FRI as soon as possible as shown in **Fig 15.0** below.



Figure 15.0 the ten bottles of mushroom spawns donated to Richard

REV. DAVID IN TECHIMAN



Figure 16.0: Rev. David's cropping house



Figure 17.0: Showing the man who picks spawns from Rev. David

The team realized that the surface of their compost bags was very hard, they were therefore advised to scrutch the surface and water regularly as a result of climatic change.

SHAIBU YAKUBU/SETH/ MARY AT TANOSO



Figure 18.0: Farmers on left side and, FRI team on right side



Figure 19.0 Lectures on going within the cropping house



Figure 20.0 Showing surfaces of opened compost bags



Figure 21.0: Team indicating bad farming practices they should avoid

The roofing was bad and this can lead to contaminations. The floor was muddy and can lead to moulds. The black polythene covering the cropping house will absorb heat which is not good for mushroom farming. Forty (40) bottles of spawns were given to the four(4) farmers to share. They were advised to practice the knowledge gained from the visit and to report the result back to the Institute



**Figure 22.0: Showing the donation of mushroom spawns to Farmers
COMFORT ANTWI, BAREKESE- KUMASI**

Comfort Antwi's farm capacity is 4,000 bags. She reported to the team that she has been buying oyster spawns from the Institute but has never had problems like the recent 300 bottles she picked.

She added that she was having different types of mushroom species in her farm. When the team got to the farm, it was realised that direct sun rays at some part of the cropping house caused that. Some fresh mushrooms seemed to be darker in colour while others were light in colour. The team explained to the farmer to see to it that the cropping house is roofed well to avoid direct sun rays into the shed.

She disagreed and threatened not to take spawns from from the Institute again. The team told her to change the positions of those compost bags she claimed to be different in species to see whether the light intensity will not affect them. The team wanted to give her 30 bottles to try on but she rejected it, saying the gesture was not enough. Comfort had her training from Otec FM



Figure 23.0: Madam Comfort Antwi's farm at Barekese- Kumasi



Figure 23.1: Inside view of Comfort Antwi's cropping house

AHMMED FARM AT PEKYI NO 2, KUMASI

Ahmmmed's farm capacity was 2,000 bags He had challenges of the bags not fruiting fresh mushrooms.



Figure 24.0: Indicating Mr. Ahmmmed way of sterilizing compost bags

The team took time to explain and tutored Mr. Ahmmmed the proper ways of doing sterilization using barrels. At the cropping house, the team realized that the roofing was not good. Very thick materials were used in roofing hence too much heat in the cropping room. Mr. Takli, a Senior Technologist of the Mushroom unit took his time to let Ahmmmed know that the challenges being encountered is as a result of bad practices he is employing on the farm but not the inefficiency of the spawns from CSIR-FRI.



Figure 25.0: Mr. Ahmmed, the farmer

It was made known to the team that Mr. Ahmmed had one day mushroom training from Otec FM. He therefore pleaded with the team for CSIR- FRI to organise a training session for the mushroom growers within Kumasi enclave.

Twenty (20) bottles of spawns were given to Mr. Ahmmed to defray some of the cost incurred. He was also tasked to report to CSIR-FRI any improvement in his farm.



Figure 26.0: Showing 20 bottles of oyster spawns given to Mr. Ahmed

The team then moved to Madam Juliana's farm at Ayiduase- Deduako also in Kumasi.



Figure 27.0: Madam is about to welcome CSIR Team to her farm

Juliana's compost bags were not fruiting fresh mushrooms. She attributed it to the spawns she recently took from FRI. The team realized she rather bought the spawns from another customer who in tend took it from FRI



Figure 28.0: depicting Juliana's cropping house

Juliana complained of huge number of spoilt bags. She was therefore taken through some do's and don't's in mushroom business/farming



Figure 29.0 Spoilt and burnt compost bags



Figure 30.0: Making a point that the bags were not ready to be opened



Figure 31.0: Training the client the correct way to measure the composts' constituents

Madam Juliana also appealed to the team to get her trained properly on mushroom farming.

She was then given 35 oyster spawns to defray her cost as shown in **figure 29.0** and to report on her yields to the Institute.



Figure 32.0: spawns being presented to Madam Juliana

The team finally moved to Kenyase- Truba to meet Mr. Samuel Mensah. The capacity of Mr. Mensah's farm is 9,000 bags. He learnt mushroom farming technology from Otec Fm in Kumasi. He complained about the recent spawns bought from CSIR-FRI not doing well after inoculation. After observing his cropping house, it was realised that due to bad farm practices, he was producing some bad species of mushroom. He was therefore advised to destroy all and to fumigate the environment. He was admonished to keep the place clean at all times.



Figure 33.0: Samuel Mensah's Mushroom farm at Kenyase

The place had optimum temperature for mushroom production compared with other farmers visited. But the environment was untidy. He was therefore given 50 bottles of spawns to defray his cost.



34.0: Mr.Mensah' Cropping house



Figure 35.0: Bad species of mushroom



Figure 36.0: 50 bottles of spawns donated to Mr. Mensah

Recommendations

It came to light that none of the farmers visited had their mushroom cultivation technology training from CSIR-FRI. Most farmers either had one day training from inexperienced farmer or just some few days attachment on a mushroom farmer.

It is therefore recommended that mushroom training should be organized for farmers in Techiman, Nkoranza and Sunyani enclave at Techiman. Another training must be organized within Kumasi to capture those in Kumasi and its environ.

Conclusion

CSIR- FRI should take it upon itself to be organizing ‘ mobile ‘ training as most Farmers need it but cannot travel from their destinations to Accra.