



the Spawm Run

journal of the south african mushroom farmers' association

MARCH 2019

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FROM THE EDITOR

Unemployment in South Africa is a concern and is the cause of many ills in our country, but I recently had an interesting conversation regarding the exact opposite problem that is besieging Europe and many other first world countries ... a shortage of labour.

This lack of manpower is having serious effects on the economic growth in these countries and particularly on mushroom farms where the labour intensive task of picking the mushrooms is a bottleneck to development and expansion.

“Necessity is the mother of invention”, and this shortfall of hands is driving the investment of time and resources into solving the problem. Our feature article is a glimpse of the efforts to tackle this issue.

Permission kindly granted by the author and the Canadian Mushroom Growers Association - this article was originally published in the December 2018 issue of Mushroom World.

On the note of solving problems, please catch up on the feedback on the Pink Punnet initiative and the impact our industry is having on the lives of ordinary people by injecting some hope and dignity into an otherwise traumatic situation.

With the national elections just around the corner, I am sure many South Africans, too, are hoping that it will somehow be a turning point for the country and their lives, and while it is unlikely that such a single event will change anything in the short term I do believe that the hope itself may be a catalyst for change and inspiration...

Let's see.

Nathan Jones
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- Parq Vancouver

SAVE THE DATE!

For the first time ever, Mushrooms Canada will be hosting BOTH the

International Society for Mushroom Science Congress and North American Mushroom Conference

DETAILS

When: May 30 - June 3, 2021

Where: Parq Vancouver

Vancouver, British Columbia

Are you interested in helping to plan this exciting event?

If so, contact the Mushrooms Canada office

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Professor Carolee Bull visits South Africa

*Professor Carolee Bull (Penn State University) visited South Africa and presented a paper on bacterial blotch of mushrooms (*Agaricus bisporus* (Lange) Imbach)*

Siyoum, N and Korsten, L

University of Pretoria, Department of Plant and Soil Sciences and Department of Science & Technology/National Research Foundation, Centre of Excellence Food Security, Pretoria, South Africa.

Professor Carolee Bull, department head of Plant Pathology and Environmental Microbiology and director of the Microbiome Center at Pennsylvania State University visited South Africa and the University of Pretoria (UP) in January 2019. During her stay, she visited the Highveld Mushrooms farm and Sylvan on the 14th of January accompanied by the UP mushroom team, Prof Lise Korsten, Dr Nazareth Siyoum, Ms Zama Zulu and Ms Kololwetu Cetyiwe. In addition, she spent the first week at the Centre for Microbial Ecology and Genomics (CMEG), University of Pretoria. At the centre, she presented a workshop for postgraduate students, "How to Be Your Own Best Mentor". More information about the workshop can be found at <https://bullpennblog.wordpress.com/> under the Mentorship tab.

The following week Prof Bull attended the Southern African Society for Plant Pathology (SASPP) conference at Club Mikonos and presented a research paper describing the diversity of pathogens causing bacterial blotch on *Agaricus bisporus* in Pennsylvania. In this research paper, Prof Bull and her colleagues presented their research work focusing on the sampling of multiple farms where they identified a wide variety of fluorescent pseudomonads that cause bacterial blotch. Although *Pseudomonas tolaasi* is most often isolated, a large number of unnamed species have been demonstrated to cause the disease. The group used the sequences from named and unnamed species as published in Hesse et al. 2018 as the taxonomic framework for their work. They use both MLSA and Whole Genome Sequences in their work. They will soon be publishing this research and a review paper dealing with bacterial blotch on mushrooms.

The University of Pretoria's Mushroom Research team has initiated a similar study on the diversity of *Pseudomonas* species associated with bacterial blotch of *A. bisporus* in South African mushroom farms. Currently, future collaboration with Penn State University regarding the *Pseudomonas* project is under discussion.



Prof Lise Korsten, Ms Kololwetu Cetyiwe, Ms Zama Zulu, Dr Nazareth Siyoum and Prof Carolee Bull (left to right) during a trip to Sylvan and Highveld Mushrooms



Dr Nazareth Siyoum, Mr Nathan Jones, Prof Carolee Bull, Ms Zama Zulu and Ms Kololwetu Cetyiwe (left to right) at Highveld Mushrooms.

Reference:

Hesse, C, Schulz, F, Bull, CT, Shaffer, BT, Yan, Q, Shapiro, N, Hassan, KA, Varghese, N, Elbourne, LDH, Paulsen, IT, Kyrpides, N, Woyke T and Loper JE. 2018. Genome-based evolutionary history of *Pseudomonas* spp. *Environmental Microbiology*, doi: 10.1111/1462-2920.14130.



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Automation offers a Future for Mushroom Production

Self-willed Belgian brothers grow mushrooms just a tad differently

by Rudolf Mulderij (rudolf@agf.nl)

Dark, moist and 'bunk beds'; these are the characteristics of an average mushroom nursery. Belgian company Districhamp is doing things completely differently. The nurseries are bathed in light, the air isn't too moist and bunk beds are nowhere to be found. The Delbeke brothers have their own vision for the mushroom production, in which automation should play a large part.

Perhaps the brothers, who run the company together, are a bit self-willed. The nursery in Pittem, Belgium, does practically everything slightly differently than a lot of other production companies. They're hardly young anymore, they're seasoned mushroom growers. The three brothers started in the mushroom production in the late 1970s, each with their own production company. "In the 1990s, the sectors came under a lot of pressure, that's why we decided to bundle our sales, and enter the market directly," says Paul Delbeke. Because of that, the brothers had a larger volume and a wider range of packaging at their disposal. At first,



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only the sales were bundled. Since 2004, the production has also been completely housed in Pittem in West-Flanders. Around 100 tonnes of white mushrooms are currently grown per week, partly for industry and partly for the fresh market.

Dutch pressure on prices across the border

Recently, a lot could be read in Dutch media in particular about the difficult position of mushroom growers. “I think pressure is even higher in the Netherlands than it is here,” Paul says. “But that report wasn’t framed properly. It could be that a supermarket promotes mushrooms below cost price, but in the end, it’s the average price of an entire year that matters.” The effects on the Dutch market can be felt by the neighbours to the south. Dutch growers are looking for sales options in Belgium. “Most of the Belgian supermarkets are sticking with Belgian origins,” he continues. Because of that, domestic mushrooms are still one step ahead of import.

Eastern European competition is also felt in the Belgian sector. Yet Paul sees opportunities for the Western European production. “Cost prices are lower in Eastern Europe, due to lower wages in particular, but we can be distinctive with a fresh product of great quality. In Eastern Europe, they’re having problems because of longer transportation times. They don’t have quick delivery times, nor last minute orders like we have.” Within some hours after the harvest, Districhamp’s mushrooms can be put on transport. White mushrooms for a customer in Southern France, for example, is



placed on transport the same day as it’s picked. For customers closer to home, the lorries also depart before the end of the day. “Everything has to be done quicker than in the past. Product was brought to the auction in the evening back then, and it would be auctioned of the next morning. Things can’t be done quick enough nowadays. A good dialogue with the buyers is very important to guide sales. This is to the advantage of the customer, but it’s even more in the interest of quality. Good quality sells itself.”

One-layered beds: picking more pleasantly

Besides white mushrooms from their own production, Districhamp also supplies oyster mushrooms, shiitake and chestnut mushrooms that are bought from other growers. Other varieties can be supplied on demand to customers spread across

Belgium, France, the UK, Germany and the Netherlands. The company is specialised in growing larger sizes. According to Paul, products like the miniature mushroom don’t have much of a future in Western Europe, because the production isn’t profitable (too few kilos per square metre and picking costs are far too high).



“Our goal is once again levelling out the competitive position of Belgian growers by making focused investments, which decrease the difference in cost price with Eastern European growers.” When Paul opens the door of one nursery chamber, it’s immediately noticeable that the room isn’t filled with racks. Six beds, each with one layer of white mushrooms, fill the room. “We grow exclusively on one-layered beds,” Paul explains. “It’s much calmer and more pleasant for the pickers. There are no shadows, and at the same time, it’s more ergonomic. As soon as you enter the chamber, you get a good view of everything in the room at once.”

Low disease pressure and automation

Growing on one-layered beds has more advantages. Firstly, the pressure of diseases is lower. “Pesticides aren’t often used in the production of mushrooms, but we use none at all,” Paul continues.

“That’s our trump card.” According to Paul, the nurseries are more sterile than with multiple-layered production, because the production takes place in two different rooms. “We don’t have to disinfect the rooms or steam them to death after the production.” This results in a lower energy bill, which had already been reduced due to the solar panels on the roof. Besides, the heat of the cooling compressors is used to heat the nurseries, resulting in an additional reduction of costs.

However, the low disease pressure is also a result of the production. “We grow according to a short schedule of two spans,” he explains. The mushrooms are harvested semi-automatically. Four people are enough to harvest one bed. A narrow conveyor belt is placed alongside the bed that’s being harvested. Two pickers start on one side of the bed each, and they work towards each other. The large mushrooms are picked and placed on the conveyor. At the end of the belt, the stems are automatically removed, after which two workers place the mushrooms in punnets.

Automation will become more and more important in the next few years. “If you don’t invest in automation, you’ll only be in more trouble in the coming years,” Paul expects. “Automation will also become necessary for multiple-layered production.” The picking costs are about 40 per cent of total costs. “If we can cut this in half, the difference with Eastern European competition will disappear, and we’d have an advantage. That’s our challenge for the next few years.” The three brothers won’t be standing still, they’re looking for ways to automate and optimise the harvest even more. The next step is a new machine that allows the knives cutting off the stems to be adjusted in height, resulting in less waste. But the brothers are also looking into the options of using robots. For now, the return and the final product of the harvesting robots is still insufficient for the fresh market, but Paul says they’re working on an alternative with “promising” results. “This conversation is definitely to be continued!”

More information:

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Important Dates on the Mushroom Calendar

2019

25 - 29 March 2019

MYCELIA GROUP TRAINING ON SUBSTRATE AND MUSHROOM PRODUCTION

Mycelia School, Mycelia's premises, Nevele, Belgium

<https://www.mycelia.be/en>

2019

8 - 12 April 2019

SHORT COURSE COMPOSTING (AGARICUS)

Delphy Mushrooms,
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2019

23 - 24 April 2019

RUSSIAN MUSHROOM DAYS 2019

Moscow, Russia

2019

29 April - 4 May 2019

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2019

14 - 17 May 2019

SHORT COURSE EDIBLE MUSHROOM

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- ERYNGII - NAMEKO - MAITAKE)

Delphy Mushrooms, Horst, The Netherlands (2 days) &
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2019

22 - 24 May 2019

DUTCH MUSHROOM DAYS

The Brabanthallen,
Den Bosch, The Netherlands

2019

19 - 22 September 2019

The 10th INTERNATIONAL MEDICINAL
MUSHROOM CONFERENCE (IMMC10)

Nantong, China

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2021

30 May - 3 June 2021

20th INTERNATIONAL SOCIETY FOR
MUSHROOM SCIENCE CONGRESS (ISMS XX)
and NORTH AMERICAN CONFERENCE (NAMC)

Parq Vancouver,
Vancouver, Canada

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**2018 HITS AN ALL TIME HIGH :
R606 850 RAISED**

*by Riana Greenblo,
Riana Greenblo Communications*



Mushroom and Chicken With Nut Cream and
Wholewheat Spaghetti with Basil

WHY SAMFA CONTINUES TO SUPPORT THIS CAMPAIGN

While the research and clinical trials are ongoing, one clear fact has come to light: Women who eat an average of 1 mushroom per day (10g) reduce their chances of breast cancer by 64%. Eating mushrooms would be an easy intervention. It could provide a cost-effective whole-food option for cancer risk reduction.

- Dr Shiuan Chen, Director, Department of Surgical Research, City of Hope.

CAMPAIGN PERIOD: September 26 – October 31, 2018

PRIMARY CAMPAIGN OBJECTIVES

1. To give more South Africans more reasons to love, buy and eat fresh cultivated mushrooms
2. To remind them that their favourite, most delicious ingredient is also a winner in the “healthy” department and to emphasise the Superfood status of mushrooms with a specific focus on its breast cancer fighting properties
3. To increase mushrooms sales

CAMPAIGN BENEFICIARIES

1. Reach for Recovery's Ditto Project: The Power of Pink campaign funds 90% of this project aimed at buying silicone prostheses for financially challenged women
2. All South Africans who purchase mushrooms to the benefit of their own health

RESULTS

Thanks to the generous support of South Africans and SAMFA's campaign partners Pick n Pay and MPact, 2018's campaign raised a staggering R606 850. This takes the total amount raised in support of Reach for Recovery's Ditto Project since the first campaign in October 2010 to just over R4million rand!

Since February 2011, the Ditto Project has donated silicone prostheses to over 5000 women affected by breast cancer; changing the lives of around 700 women every year.

Tapas Button Mushroom with Ricotta,
Nut and Greens Filling (vegetarian)



HOW DOES THIS CAMPAIGN IMPACT ON INDIVIDUAL LIVES?

Margaret Onemu who received her prosthesis after a mastectomy says that her prosthesis gave her so much more than just her confidence back, *"I love myself and my life again. I have my gorgeous appearance back and I am part of society again!"* As an expression of her appreciation for the amazing work Reach for Recovery Ditto Project did for her, she trained as a volunteer herself. Since May 2018 Margaret has been extending the same loving, practical care she received to other women affected by breast cancer.

OTHER CAMPAIGN BENEFICIARIES

Whilst 95% of the funds go to the funding of silicone prostheses, 5% goes towards making up care bags containing support items and information. Each year ±3000 additional women in under-privileged communities receive personal hospital visits from the 169 formidable volunteers of Reach for Recovery, all of them breast cancer survivors themselves. They hand out the bags and share their knowledge and experience with post-operative breast cancer patients; a particularly important aspect of the work they do in areas where knowledge is scarce.



Back row left to right: Ross Richardson (SAMFA) Martmari van Greuning (SAMFA) Gareth O Connell (Pick n Pay) Bruce Main (Mpact)

Front row left to right: Margaret Onemo, Stephné Jacobs, MinahSookane, Beulah Jankelowitz, Shirley Gottschick



February 1, 2019

Dear Power of Pink Partners - Ross, Gareth, Bruce, Riana & Mia

Our Heartfelt thanks and sincere appreciation for the sterling management and marvelous contributions to the 'Power of Pink' campaign that culminated into a generous cheque handed to us on January 31, 2019. Reach for Recovery is absolutely delighted at the amazing amount of R606 850 received at what has become our favourite day of the year!!

On behalf of RFR and the many women who received renewed hope and confidence along with their new prosthesis, we accept your kindness gratefully and with a thankful heart.

Our Ditto Project helps women come to terms with their changed body images, giving them comfort and dignity in a calm and understanding manner. With

this new donation, we'll be able to supply more than 600 silicone prostheses to women who would not be able to afford these healing gifts of hope themselves.

For the past 52 years, Reach for Recovery has played an important role in its mission to provide emotional care and practical support to breast cancer patients during their scary and distressing journeys. We are so grateful for your involvement in our efforts to assist women on their road to recovery.

Warm thanks for embracing Reach for Recovery and its Ditto Project – we look forward to another successful partnership this year.

Sincerely,

Stephné Jacobs

Chairperson Board of Management

www.reachforrecovery.org.za

20 Questions with Chris Lovemore, Snowcap Mushrooms

How did you get into Mushrooms?

When I was young, my father had 2 small illustrated books. 1 called Edible Mushrooms and the other Poisonous Mushrooms of S.A. We used to walk on the farm discussing which ones we should avoid and which ones to eat. Luckily we got it right! Then in about 2005, I met Peter Leach in Knysna, who was a neighbour, and one thing lead to another and together with Mike Wishart, we started Snowcap Mushrooms in PE in 2007.

How many years have you been in Mushrooms?

12 years.

What is most difficult task you have had to undertake while in Mushrooms?

Dealing with a 5 month compost blow-out in 2018.

What is your greatest strength/talent?

Tenacity.

What is your favourite pastime?

Mountain-biking, sailing, travelling - especially the bushveld.

If you could change one personality/character trait you have, what would it be?

To be calmer under pressure.

As a student, what did you want to do or be after your schooling?

I was interested in Law, but more as a business skill than a profession.

What was the most significant event in your whole career so far?

Resurrecting a school with my wife on our farm that caters today for 180 township kids.

What do you feel is your greatest achievement in life?

Juggling the demands of various businesses and a large family, while staying fairly sane!

If budget was unlimited what car would you drive?

An electric landcruiser with 1000km range.

Who has had the greatest influence in your life and why?

My father. He started a construction business by fixing up a bugged bulldozer and then lived in the Karoo building farm dams and roads. It grew into a national company. At some point at its height, it employed 5000 people. When he retired, he still owned a bulldozer which he operated and maintained himself.

What is the craziest thing you have ever done?

Rented a 44 foot Cat in Seychelles without any qualification or experience and skippered it out of the harbour during a tropical cloud-burst.

What are you addicted to?

Coffee.

Do you have a nickname and if so what is it and why?

No, but was called Savage at school due to the connection with my father's business.

What is your favourite movie?

The Rescuers.

What cheers you up?

A slightly underdone lamb chop off the braai.

If you could be or were to describe yourself as an animal, what animal would it be and why?

A Black Eagle - majestic creatures that command the skies and live on the top of remote mountains.

What is your greatest fear?

My children driving.

What is your favourite meal?

Portuguese-style prawns.

What is the best life advice you have been given?

Attitude determines altitude.



A close-up, macro photograph of a mushroom gill, showing the fine, parallel ridges of the gill in a warm, brownish-gold tone. The lighting creates a soft glow on the right side, highlighting the texture of the gill.

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