

## Coronavirus (COVID-19) Impact on the Food Industry

by Dr. David Acheson, The Acheson Group (TAG)



virus will infect a person if it comes into contact with nose, eyes or mouth. So, if you are operating a food service facility you should undertake a deep clean if infected individuals are known to have been in your establishment. It appears that the virus can survive on a surface for a day or two and in carpet or fabrics for up to a week. However, current data indicates that the virus is destroyed by bleach and hydrogen peroxide, so it does not appear to be resistant to the usual cleaning agents.

The second is what to do if someone in your workforce has been to China or has become infected with COVID-19. Our advice is simply to work closely with the local health departments and follow CDC advice. Obviously, you want to control spread and if we see more cases in the U.S. I suspect that there will be a lot more information and advice on how to prevent spread. The good news is that currently spread appears to be occurring through fairly close contact.

The third point is the impact of COVID-19 on your supply chain given the huge impact on China. As we have seen from the beginning, the Coronavirus outbreak has had significant impact on imports from China, and because of the unprecedented measures the Chinese and other governments are taking to

*(continued on page 9)*

The numbers of individuals infected with the Novel Coronavirus (COVID-19) continues to climb on a daily basis as do the numbers of deaths associated with the virus. TAG has had many of our clients reach out to ask what should be done to prepare for a growing number of cases in the United States.

As we look at this situation and advise our clients on how to prepare for more cases in the U.S. we think about several different impacts.

The first is whether there is any evidence that virus is able to transmit via food. The short answer currently is that the virus is not being transmitted via food or water. But we do know that in some cases infected individuals get diarrhea and that the stool samples have the virus present. Thus, there is a possible fecal-oral transmission route. Keep in mind that the

Thanks to Dr. David Acheson of the Acheson Group (TAG) who has given TSL his written permission to re-publish this story.

### INSIDE THIS ISSUE

- Coronavirus (COVID-19) Impact on the Food Industry /1
- Message from the CEO /2
- Handwashing Tips /3
- Yams are More Than Great Food /4
- Hot Off The Press /6
- Jamaica Teas /7
- Biennial FDS Registration Renewal Tips /8
- TSL Training Schedule /10

Reprinted with permission from: [www.achesongroup.com/post/coronavirus-impact-on-the-food-industry](http://www.achesongroup.com/post/coronavirus-impact-on-the-food-industry)

Technological Solutions Limited (TSL) is located at:  
Unit #31, The Trade Centre, 30-32 Red Hills Road Kingston 10, Jamaica.

Our Training Center is located at Unit #14, The Trade Centre • We are also based in Trinidad & Tobago.  
Opening Hours : 8:00 am - 4:30 pm

# Message from the CEO

## Looking Forward to Greater Partnerships in 2020



**André Gordon, Ph.D., CFS**  
Chairman & CEO

**W**e are well into the first quarter of the year and we are pleased to present you with our first TSL Connect for 2020 in which we share with you crucial information relating to the food industry.

Recognising the devastating effect that the Coronavirus is having around the globe, we have made it the subject of our lead story in this issue which emphasizes the impact that the virus could have on the food industry. We are grateful to The Acheson Group, a food safety consulting group, led by former FDA Associate Commissioner

for Foods, Dr. David Acheson, for granting us permission to re-print their story "Coronavirus Impact on the Food Industry".

Additional features in this issue, includes the story of yams- the familiar tubers with many great unsung benefits. Our client feature highlights the company **Jamaican Teas** and its increasing success, largely due to its excellent product and adherence to international standards and other required measures. We also feature: FDA Registration Renewal, hand washing tips and highlights of our upcoming publication "*Food Safety and Quality Systems in Developing Countries, Volume 3,*" which is a practical resource for companies in developing countries which are seeking to supply food products to developed country markets.

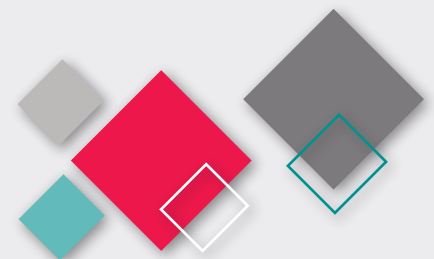
We invite you to look out for us at the **Expo Jamaica** at the National Arena between April 30 to May 3, where our booth will show our range of services. The TSL team looks forward to welcoming you.

We continue in our expansion to serve you better and will keep you up to date on collaborations with overseas partners.

Throughout 2020 and in the new decade we wish for you continued success and growth.

### Our services include:

- Comprehensive Laboratory Services
- Systems Auditing and Assessments against multiple regulatory requirements (BRC, GAPEU, FDA, HACCP, GFSI, FSMA others)
- Export Market Access & Development
- Thermal Process Evaluation, Development & Validation
- Traceability and Recall Systems Design
- Plant and Facilities Layout and Design
- Research & Product Development
- Tailored Technical and Specialist Training
- Food Safety and Quality Systems Implementation and Training



# Proper Handwashing

By Rochelle Williams

Technical & Regulatory Compliance Manager

One of the best ways to protect yourself and your family from illnesses is by practicing good handwashing techniques. In order to prevent the spread of illnesses, including COVID-19, here are some tips:

## Wash your hands:

- before, during and after the preparation of food
- before consumption of food
- before and after caring for a wound or cut
- before and after caring for someone who is ill (including those experiencing vomiting and diarrhea)
- after using the toilet or changing diapers
- after blowing nose, coughing or sneezing
- after handling garbage
- after touching animals, animal feeds or animal waste (including pets)

Clean hands will prevent the transmission of pathogens from person to person. To be effective, the following hand washing procedures should be done in the order indicated to ensure that hands are properly cleaned:

1. Wet hands with clean, running water
2. Apply soap to wet hands
3. Lather hands by rubbing them together with the soap.
4. Scrub hands for a minimum of 20 seconds. To make it even easier to time the procedure, it is suggested singing the happy birthday song twice. Be sure to get in between fingers, under nails and the back of hands.
5. Rinse hands well under clean, running water
6. Dry hands with clean, single use towel or air dry. Use the towel to turn off the tap and discard it in the waste bin.

Depending on your next activity a hand sanitizer may or may not be used. If used, apply to the palm of one hand and rub over all surfaces of both hands until your fingers and hands are dry. This usually takes about 20 seconds. Sanitizers reduce the number of microorganisms on hands in many situations, including if you do not have access to hand washing facilities (e.g. while you are on the road). Sanitizers, however, do not get rid of all types of microorganisms and may not be as effective when hands are visibly

dirty or greasy. Sanitizers may not remove harmful chemicals from your hands. It is therefore encouraged that sanitizers are used after properly washing your hands for the best results.

A common handwashing reminder sign is shown adjacent left. Facilities are encouraged to provide reminders at each handwash station to encourage proper handwashing by employees, especially in the food industry.

Picture source: <https://sites.google.com/site/handwashing27/contact-us>



# Yams are More Than Great Food

*Dr. Wendy-Gaye Thomas*  
Group Technical Manager

**W**hen Jamaica's sprint King Usain Bolt broke the world record, crossing the finish line in 9.58 seconds in the Beijing Olympic Games, he set the sporting world ablaze. Sports journalists set about investigating the reason for his speed. Whether Usain's father was serious or not, it was reported by one Reuters journalist that when asked why he thought his son ran so fast, his response was: **"Hey, reporter person! Guess what, I definitely think it was the yams!"** referring to the popular yams grown, sold and exported in volumes from Usain's birthplace- the parish of Trelawny.

Whether or not the root tuber can be given any credit for Usain's spectacular performance is a moot point. However, yams are considered by many as one of the most delicious tubers. Right here in Jamaica it is definitely a favourite and its versatility spans a wide cross section of cooking methods such as being roasted over coals with salted fish, boiled in soups, grilled or cooked and cubed to make salads.

A root vegetable, yams have been around for eons and they have a long history of use as an alternative medicine. Modern researchers are examining possible health benefits of wild yams that include relief from muscle cramps, rheumatoid arthritis and symptoms of menopause and diabetes prevention.

Yams belong to the Dioscoreae or morning glory family and the name originates from the African word "nyami," meaning "to eat".

Yams are native to Africa and Asia, with most of the crop coming from Africa. They are related to lilies, and can be as small as a regular potato or jumbo in size (some grow five feet long!). There are up to 18 different varieties of yam cultivated in Jamaica, and they all have a unique taste, flavour and texture. Some are dry, some waxy, some soft, and some sweet, starchier and drier.

## Health Benefits of Yam

Although they're considered to be a starchy vegetable, yams are made up of complex carbohydrates and dietary fiber allowing for slow uptake to keep blood sugar levels even, giving it the nod as a low glycemic index food. The vitamin A in yams helps to maintain healthy mucous membranes and skin, heightens night vision, supports healthy bone development, and provides protection from lung and mouth cancers.

Yams are a good source of vitamin C, 27% of the daily value for fighting infections such as colds and flu and quick wound healing, anti-aging, strong bones, and healthy immune function. It also provides good amounts of fiber, potassium, manganese, and metabolic B vitamins such as vitamin B6 (pyridoxine; 16% of the daily value), thiamin (vitamin B1), riboflavin, folic acid, pantothenic acid, and niacin. Copper, calcium, potassium, iron, manganese and phosphorus are body-beneficial minerals found in yams.

Chinese, Korean, and Japanese medicine have made use of yams for eons because they contain allantoin. This compound speeds up the healing process when applied as a poultice to boils and abscesses but is also used to stimulate appetite and relieve bronchial trouble.

Unless they're peeled and cooked, yams may contain toxins such as dioscorin, diosgenin, and tri-terpenes, so handle them with care.

The outer bark of wild yam is high in saponins and related compounds, which may help lessen inflammation, balance your gut flora and prevent carcinogenesis by acting as an antioxidant and anti-inflammatory agent.

Saponins include dioscin, diosgenin and dioscorin, the latter of which one study, among other things, says "They exhibit antioxidant, antihypertensive, immunomodulatory, lectin activities and can

protect airway epithelial cells against dust mite allergen destruction. "Saponins have properties that combat inflammation and apparently help relax and otherwise treat several conditions involving your abdominal and pelvic muscles, as well as arthritic and rheumatic conditions.

### Diosgenin paved the way in the creation of the first contraceptive pill.

Over 200 million prescription drugs a year are sold that contain derivatives of this herb in them. Diosgenin is used to produce contraceptives, treat menopause, premenstrual syndrome, sexual problems, high blood pressure, prostate hypertrophy, testicular deficiency, impotency, just to name a few.

From this herb the pharmaceutical industry also indirectly produces cortisones and hydrocortisones.

Yams are grown throughout Africa, but Nigeria is the world's most prolific producer, exporting up to 70% of the world demand. Information from RADA reveals that the variety of yams being exported in large quantities are yellow, negro and sweet yam. The major export markets, in order of size, are USA, UK, and Canada.

Because of the worldwide demand for yams, growers and exporters of the products need to pay keen attention to requirements of agencies such as the US Food and Drug Administration (FDA), the Canadian Food Inspection Agency (CFIA) and the European Union which require that all producers or handlers of food for export to their countries be fully compliant with stringent regulations. Jamaican firm, Technological Solutions Limited (TSL) has been instrumental in helping several Caribbean countries to address many export challenges. Among them are the FDA requirement of comprehensive prevention-based controls across their food supply chain to prevent or significantly minimize the likelihood of food borne illnesses occurring.

Many multilateral agencies, such as Caribbean governments, regional organizations and companies, have retained TSL to assist them in growing exports from the region. It has focused on improving competitiveness within firms, sectors and along value chains by addressing quality, food safety, production efficiencies, industry practices and improving market access and expansion by assuring compliance of Caribbean products with international regulations.

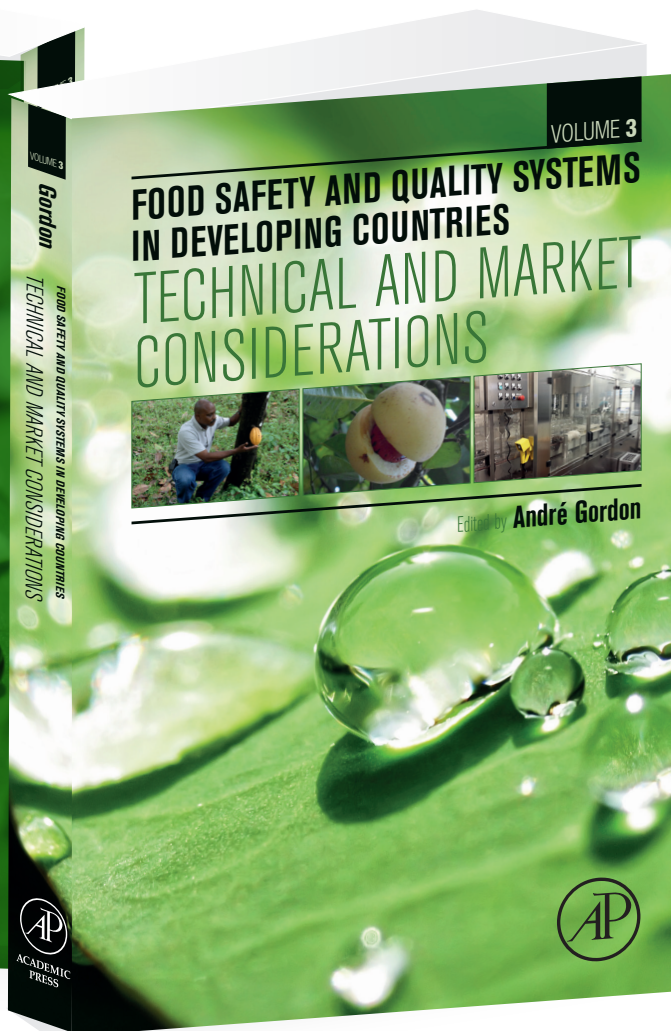


**HOT  
OFF THE  
PRESS!**

**W**e are pleased to share with you the news of the publishing of the final in the series: *Food Safety and Quality Systems in Developing Countries Volume III...Technical and Market Considerations*. The series, is edited by Dr. André Gordon and was published by **Academic Press (AP)**, an imprint of **Elsevier**, one of the largest publisher of scholarly journals in the world.

Every manufacturer should have this, and other publications in the series, as a guide to approaching and addressing the opportunities or challenges that developing countries face, gaining and expanding market access into developed countries.

We invite you to place your orders by contacting the TSL office.



## Jamaican Teas: Strengthening the Brand by Meeting International Safety Standards

**W**hen you savour the aroma in a cup of tea, you are in fact drawing on a very old tradition. People have been enjoying tea possibly longer than any other beverage, with the first mention of tea being noted in Chinese written documents dating back over 5000 years. Since that time, cultivation has spread to other Asian nations, particularly India and Sri Lanka, and East African countries. Consumption has spread globally, with tea being the second most widely consumed beverage after that other morning favourite, coffee.

Teabags are a more recent invention, appearing in the early years of the 20<sup>th</sup> Century as a more convenient way to enjoy the brew. While a considerable number of Jamaicans still appreciate their own “draw” or the un-bagged tea, the convenient teabag has become a fixture here as in other countries. The Jamaican appetite for tea, partly a holdover from our Colonial period, has created opportunities for providers of the favoured types (only a few of the over 3000 listed types are regularly sold here).

The company Jamaican Teas Limited was founded in Jamaica in 1967. It initially produced only black tea under the Tetley brand as well as providing contract manufacturing arrangements.

Today, with over forty different types of teas, the company is the largest producer of teas in the Caribbean with over 50 percent of its revenues represented by exports to other Caribbean markets the United Kingdom, United States and Canada. Teas are also produced on a contract basis for a number of other Caribbean and North American companies.

“Our mission” says CEO John Mahfood, “is the developing and offering of quality products that provide great value but also reflect the highest standards of safety and purity in manufacturing. Efficiency, customer satisfaction and visionary and participatory leadership continue to be the guiding principles in all we do.”

Those principles are embodied in all the products, but particularly in the Caribbean Dreams line, which is the company’s flagship collection. Caribbean Dreams presently boasts over 20 flavours, from the “woody” zest of ginger to the sweet floral overtones of chamomile. In addition to capturing attention on the local market, the Caribbean Dreams line is increasingly finding favour overseas. Recently the company launched its premium fruit flavoured range of teas under the Caribbean Dreams Select brand.

As the Head of Marketing and Food Safety Charles Barrett explains, sustaining and growing the reach of the brand is reliant on meeting established standards of safety, such as the HACCP food safety management system. For invaluable assistance in that regard, Jamaican Teas turned to Technological Solutions Limited (TSL), the premier provider of ISO 17025 –



# Biennial FDA Registration Renewal Tips

By Rochelle Williams

Technical & Regulatory Compliance Manager

**S**ection 415 of the Federal Food, Drug, and Cosmetic Act (FD&C Act) [21 U.S.C. § 350d] mandates that food facilities are required to register with US Food & Drug Administration (FDA) to renew their registration in each even-numbered year, during the period beginning on October 1 and ending on December 31, 2020, being one such year. Technological Solutions Limited (TSL) wants to share some information/tips with you regarding the process. Bear in mind that if a registration is not renewed by 11:59 PM on December 31st, the registration is considered expired and will be removed from your account.

## Why are food facilities required to register with the FDA?

By registering, you help the FDA to determine the location and source of potential bioterrorism or foodborne illness outbreak incidents and enable the FDA to quickly notify facilities that may be affected. The requirement for registration was brought about by the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (which amended the Federal Food, Drug and Cosmetics Act, FD&C Act) and requires US-based and other facilities that manufacture, process, pack or hold food for human or animal consumption in the United States to register with the FDA.

The Food Safety Modernization Act (FSMA) then amended the act to require facilities to submit certain additional information to the FDA and to renew registration every other year.

## What facilities are exempt from registration?

As indicated by the FDA, any establishment that meet the definition of a primary production, secondary activities farm, retail food establishment, restaurant, or non-profit food establishment does not need to be

registered with them. The definitions of these terms can be found in 21 CFR 1.227.

Additionally, other entities like certain fishing vessels, facilities from which foods undergo further processing/manufacturing at another facility outside the US, facilities that are regulated exclusively throughout the entire facility by the U.S. Department of Agriculture under certain statutes are not required to register with the FDA. Further details are outlined in 21 CFR 1.226.

Mixed type facilities must be registered with the FDA, i.e. those facilities that undertake both exempt activities as well as some covered by the registration requirement. An example of this is a farm that also undertakes activities outside of the “farm” definition.

## What happens if a facility does not renew their registration?

That facility's registration will be considered expired and the facility will be considered as having failed to meet the registration requirement. Failure to register a food facility is prohibited under the FD&C Act and the facility's registration will be cancelled.

## Does the registration include assurance that the facilities can be inspected by the FDA?

Yes, both US-based and other facilities registrations include assurance that the FDA can inspect the facility from time to time in a manner authorized by the FDA. (TSL can help you to prepare for inspections.)

## Can the FDA suspend a registration?

Yes. If the agency determines that food manufactured, processed, packed, received or held by the facility has a reasonable probability of causing severe adverse health consequences or death to humans and animals (a SHACOHDHA risk) and that the facility either created, caused or was otherwise responsible for the reasonable probability, or know of the reasonable probability, or had reasons to know of the probability and operated as normal, the registration can be suspended.



### Does Technological Solutions Limited provided support for facilities who need to renew registration?

Yes. TSL has been assisting firms over the years to renew their registration with the FDA, thus keeping a current registration status. Unlike other firms that offer this service, TSL ensures that firms have full access to their account after registration. From there, you are able to change the access and control your account completely, giving access to authorized persons, as required. Do not be held hostage by other firms, when

you can control your own account for additional activities to be done for your facilities e.g. product filing, updating registration, etc.

As of January 2020, no registration renewal will be accepted in paper-based format; this must be done electronically.

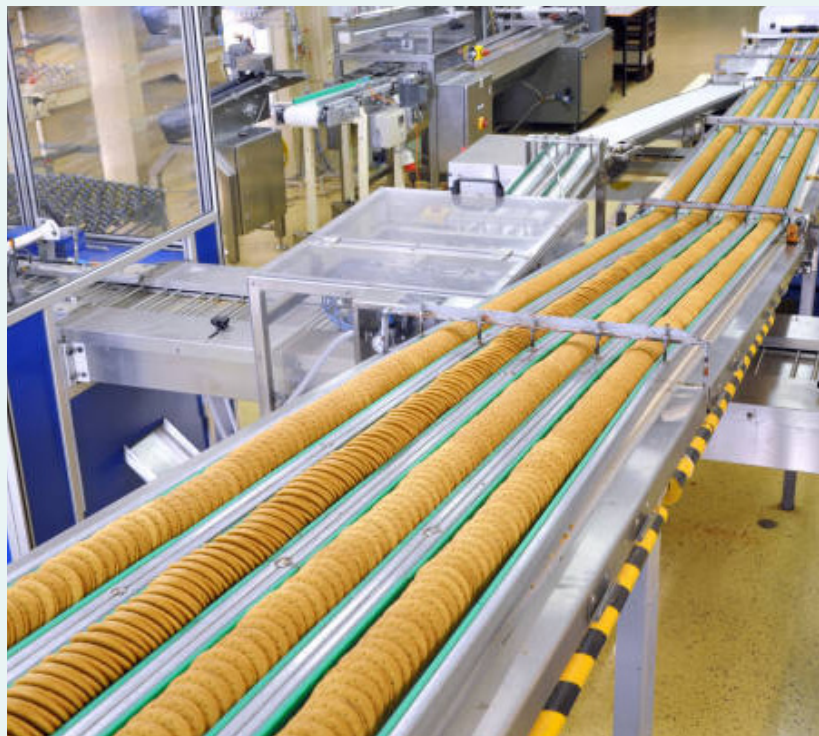
Applying for this service as early as August guarantees that your registration will be one of the first sets submitted in October. The cut off date for application will be communicated in future editions of TSL Connect.

### CORONAVIRUS IMPACT *(continued from page 1)*

control the outbreak, there have been significant disruptions to supply chains around the world. This can be particularly critical if you have been using a China supplier as your sole source for a product or ingredient.

The country's lockdown on the Hubei area, extending of the Lunar New Year holiday, and shutdown of many factories and businesses is impacting the availability and movement of goods as well as people. It does seem, however, that such actions are serving to help contain the virus. As stated by safety and security solutions provider NC4, most cases outside of mainland China have been imported infections. There have been scattered cases of local human-to-human transmission, but most are directly linked to imported cases, and it is not believed that the virus is actively spreading in local populations outside China.

The concern about supply chain is significant for the food industry, particularly the hidden dangers of having to rush into sourcing from other places that you may not have time to fully assess; the difficulty in getting product from overextended suppliers outside of China; the lack of ingredients that come only from China due to economics; and even any planned travel to China to inspect a provider's facility or bring on a new supplier. And that doesn't even factor in the impact on businesses that have their own facilities in China.



So, what can and should you be doing?

Of high importance at this point is reviewing your *entire* supply chain for any products, ingredients, or supplies from China, particularly those for which China is your sole source. NC4 is projecting that the current closures in China are likely to be extended again, so even if you are fully stocked in a product or ingredient today, we don't know how long the restrictions will last. And once the businesses and borders reopen, it will take time to get back to up to speed and fill back orders.



**TECHNOLOGICAL SOLUTIONS LIMITED**  
**TRAINING SCHEDULE**  
**MARCH- MAY 2020**

DATE	COST	COURSE TITLE	COMMENTS
<b>MARCH</b>			
19	US\$250	<b>EU Good Manufacturing Practices Practical Considerations for the Cannabis Industry</b>	This programme is designed for personnel from companies intending to export cannabis products to the European Union.
	US\$200	<b>Introduction to SQF &amp; SQF Updates Version 8.1 vs 9</b>	Food Manufacturing personnel whose company desires to meet SQF requirements for implementation.
26	US\$250	<b>Exporting Jamaican Products to the US, Canada and the UK</b>	This programme provides guidelines and practical information for companies exporting or intending to export products to the United States, Canada and the UK.
<b>APRIL</b>			
8	US\$150	<b>Food Safety &amp; Sanitation for Maintenance Practitioners</b>	This programme is designed specifically for personnel and companies responsible for providing maintenance services in the manufacturing, food services, exporting, distribution and hospitality sectors.
9	US\$200	<b>Mitigating Legionella Risks &amp; Food and Water Safety for the Hospitality Industry</b>	This programme is designed for personnel in the Hospitality Industry including those involved in maintenance, water sport, Environmental Health and Safety and Food Safety - <b>Kingston</b>
15-16	US\$500	<b>Packaging &amp; Labelling</b>	This two-day workshop will provide participants with an overview and knowledge exchange on current regulations as it relates to packaging and labelling of their products for the United States (US), Canadian and European Union (EU) Markets.
22	US\$150	<b>Food Safety &amp; Sanitation for Pest Control Practitioners</b>	This programme is designed specifically for personnel and companies responsible for providing Pest Control services in the manufacturing, food services, exporting, distribution and hospitality sectors.

DATE	COST	COURSE TITLE	COMMENTS
<b>APRIL</b>			
<b>23</b>	<b>US\$150</b>	<b>Good Manufacturing Practices, Sanitation &amp; Hygiene</b>	All personnel employed to a manufacturing or processing facility which supplies food, drinks or medicinal products for human or animal consumption.
<b>MAY</b>			
<b>4</b>	<b>US\$200</b>	<b>Mitigating Legionella Risks &amp; Food and Water Safety for the Hospitality Industry</b>	This programme is designed for personnel in the Hospitality Industry including those involved in maintenance, water sport, Environmental Health and Safety and Food Safety - <b>Ocho Rios</b>
<b>5 - 6</b>	<b>US\$600</b>	<b>Food Fraud and US FSMA Food Defense Rule</b>	Over two days participants will be provided with information on the FSMA Food Defense Rule and what constitutes Food Fraud. Measures to minimize or prevent them and the development of Food Defense Plans will also be discussed.
<b>13</b>	<b>US\$250</b>	<b>EU Good Agriculture and Collection Practices</b>	This programme is designed for all personnel employed to facilities which grow, supply, transport, or distribute fresh produce for sale in the European Union.
<b>14-15</b>	<b>US\$750</b>	<b>Effective Implementation of Food Safety &amp; Quality Systems (Vo. 2)</b>	This unique Case Study and reference material driven programme will demystify Food Safety and Quality Systems implementation. Participants will be supplied with copies of this path-breaking book which will be the backdrop of this unique programme
<b>19</b>	<b>US\$250</b>	<b>Exporting to Third Country Markets</b>	This programme provides guidelines and practical information for Guyanese companies exporting or intending to export products to the United States, Canada and the UK.
<b>27-28</b>	<b>US\$600</b>	<b>Effective Product Development for Technical &amp; Marketing Professionals (Hands on)</b>	This high-level tailored programme provides unequalled theoretical and practical hands-on training in effective product development approaches that minimize risks and significantly increase the chances of success. Case studies of effective new product development will be a part of the programme.

**CORONAVIRUS IMPACT** *(continued from page 9)*

If you do need to add a new supplier quickly, do as much investigation and assessment as possible in the time you have. And make sure they can fulfill your needs, so you don't end up with further shortages and have to find another additional supplier.

Although our primary goal with these articles is to provide information and education, not be a "sales pitch," I believe this situation warrants my extending TAG's offer to assist. No one could have predicted the coronavirus outbreak or all its impacts, and having to deal with this new type of health risk and find a new product or ingredient source virtually overnight is not only challenging, it is fraught with risks. TAG has the experience, expertise, and tools to not only help mitigate supply chain risk, we can provide the insights and guidance to ensure any new (or current) supplier is in compliance with regulatory and non-regulatory standards.

Give us a call. We're here for you.

**About The Acheson Group (TAG):**

Led by Former FDA Associate Commissioner for Foods Dr. David Acheson, TAG is a food safety consulting group that provides guidance and expertise worldwide for companies throughout the food supply chain. With in-depth industry knowledge combined with real-world experience, TAG's team of food safety experts help companies more effectively mitigate risk, improve operational efficiencies, and ensure regulatory and standards compliance. [www.AchesonGroup.com](http://www.AchesonGroup.com)

**JAMAICAN TEAS** *(continued from page 7)*

accredited laboratory, technical, environmental and scientific support services. "The partnership with TSL has been extremely important and valuable for us, and quite frankly, without them some 26% of our current export market simply would not exist. They have consistently combined a high level of service and contact with the latest technology and expertise to help us become certifiably proficient in offering a safe, high-quality product to local and international markets," Barrett added.

Speaking for TSL, CEO Dr. André Gordon said the company's approach was driven by a vision of expanding the productive sector in Jamaica and across the region to improve competitiveness and grow economic returns. "Our focus is first of all to demystify science, to apply proven scientific principles and the best know-how available to help our producers operate more efficiently and to produce goods of the kind of quality and certified safety so as to create greater access to the leading markets globally - that not just our customers will benefit, but that persons in the most sophisticated settings anywhere can purchase a Jamaican or Caribbean product and know they are getting superior quality."

In addition to teas, TSL has provided technical support and training for producers of canned ackee, coconut water, energy drinks and a range of other foods and beverages as well as the hospitality and other non-food manufacturing business.

So when next you break out that pack of Caribbean Dreams teas, wherever you are, or plan to be, you can truly relax in the knowledge that it has met and exceeded all the relevant safety standards.

**TECHNOLOGICAL SOLUTIONS LIMITED**

The premier provider of world class technical, environmental and scientific support services in Jamaica and the Caribbean.

We operate a full service laboratory that is ISO 17025 accredited to offer an extensive range of analyses by the American Association for Laboratory Accreditation (A2LA).

For More information contact us at:  
Unit #31, The Trade Centre  
30-32 Red Hills Road  
Kingston 10, Jamaica.

Tel: 1.876.632.3245 or 6  
1.876.632.3210  
1.876.323249  
Email: [Biz.info@tsltech.com](mailto:Biz.info@tsltech.com)  
Website: [www.tsltech.com](http://www.tsltech.com)