

COVID-19 Pandemic: Health & Safety Strategy A Plantation-Approach for Stakeholders

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This document has been prepared for the purpose of managing COVID-19 in plantations in underdeveloped/developing countries.

Typically, plantations in these Countries possess the following unique parameters:

- 1) Situated in remote locations with limited infrastructure/supplies
- 2) Workers and staff are generally of lower-income and unable to regularly purchase personal protective equipment (PPE)
- 3) Medically-equipped point of care able to handle severe and critical cases are far away
- 4) In addition, in the event of high numbers of severe and critical cases, there may be insufficient medically-equipped facilities available
- 5) Social distancing and personal hygiene are not easily practised as living conditions are confined/limited amenities
- 6) Sole source of livelihood for workers and staff to cater for their daily necessities

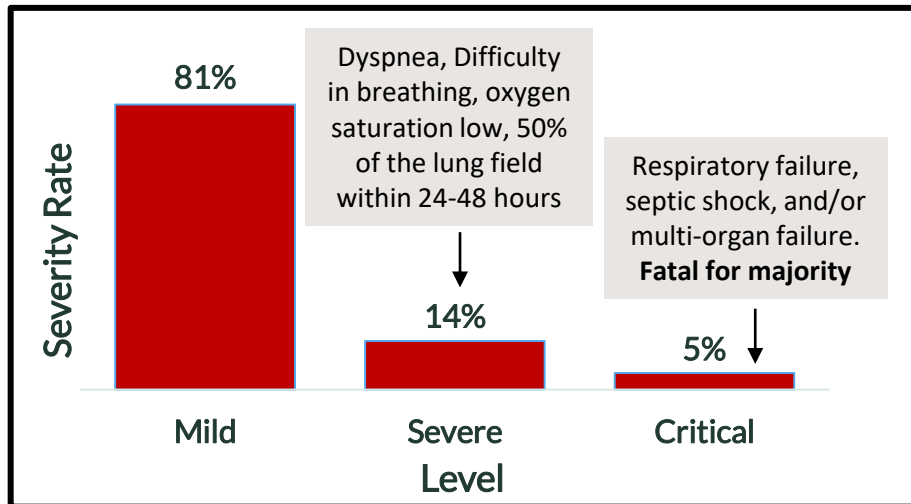
Due to the above limitations, the strategy to fight COVID-19 in these plantations should be refined and adapted to allow for effective management, protect the susceptible/vulnerable workers and Staff and ensure proper welfare and benefits to those that need it.

BACKGROUND OF COVID-19

What is COVID-19

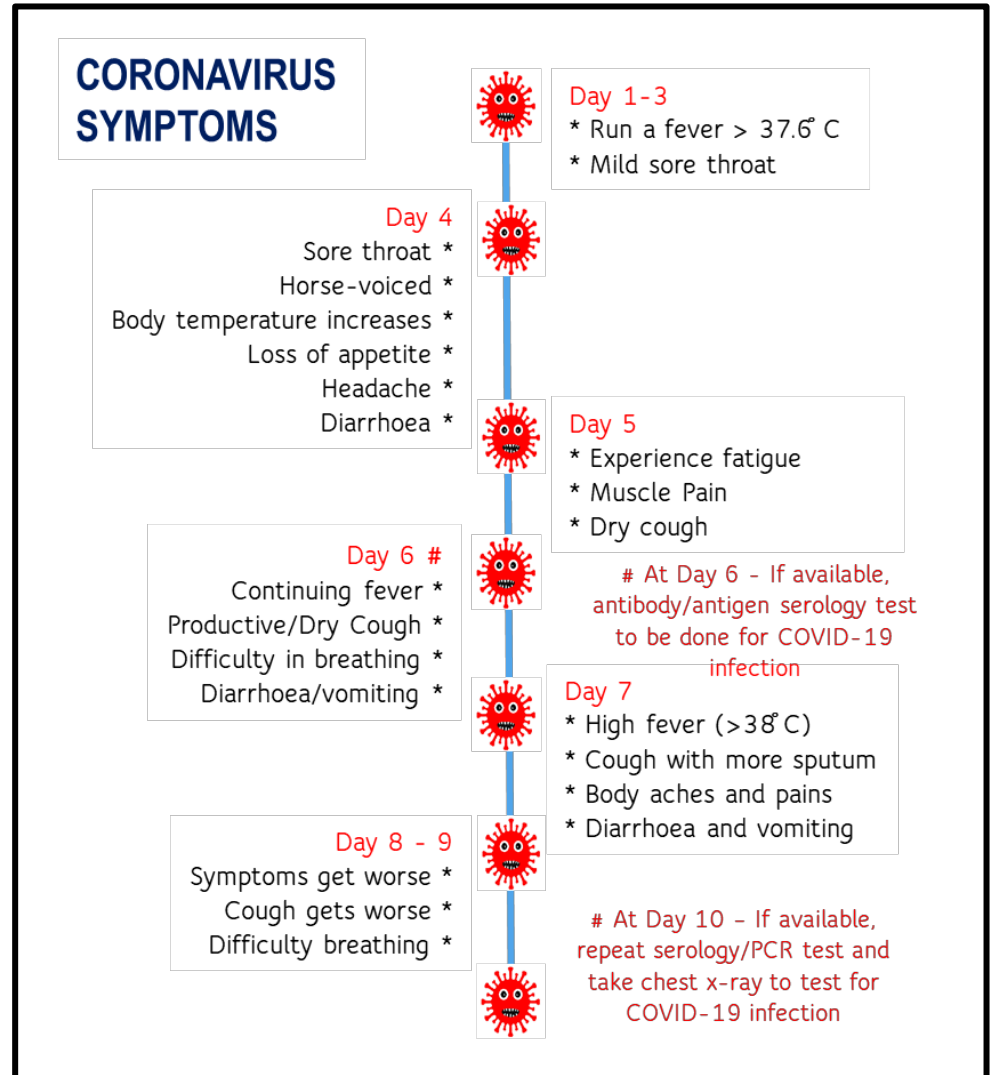
It is a novel Coronavirus that causes severe upper and lower respiratory tract infection. The World Health Organisation (WHO) has labelled this disease as a global pandemic. The virus is designated as “COVID-19” which stands for **CO**rona **V**irus **D**isease 2019.

Severity Rates for those tested Positive



Source: Chinese Centre for Disease Control and Prevention and WHO-China Joint Mission on COVID-19 (24/2/2020) on 75,465 patients

What are signs/symptoms of COVID-19

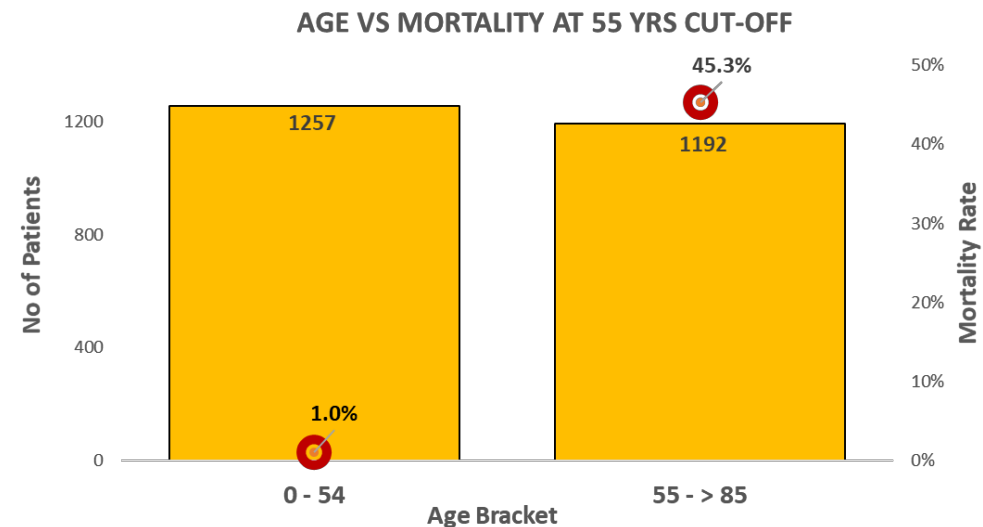
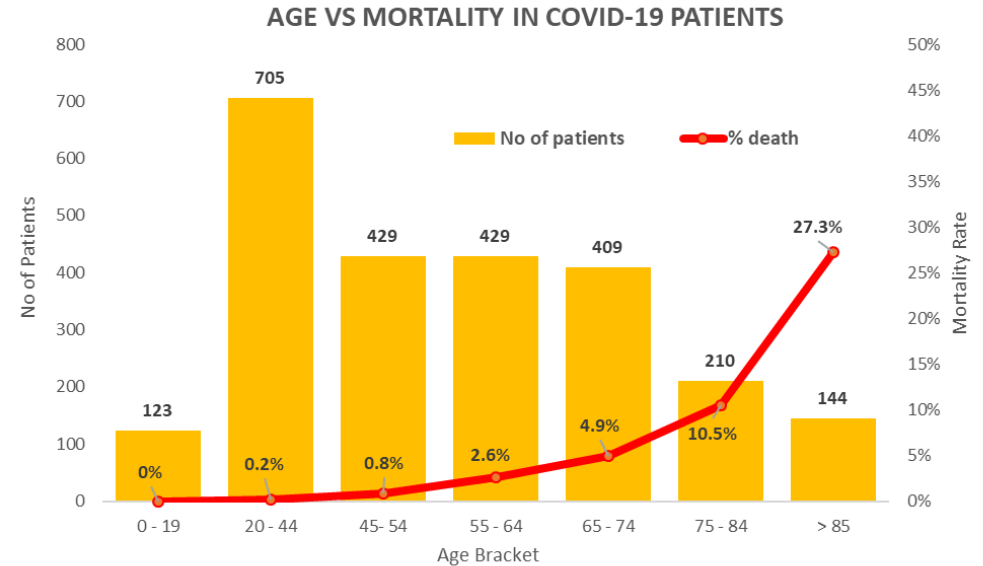


SPECTRUM OF ILLNESS SEVERITY vs. AGE

Key take-home points:

- Data from the Centre for Disease Control and Prevention (CDC), COVID-19 Response Team, USA, indicated a relationship between mortality rate vs. age profile. Data of 2,449 patients correlated with that from China which suggested that deaths occurred primarily among adults aged ≥ 60 years and especially those with serious underlying health conditions
- When we compared the mortality rate of patients 55 years and below vs. those 55 years and above, we observed a significant difference of 1% compared with 45.3%, respectively
- **From this analysis, we recommend a strategy of separating our workforce based on susceptibility of the disease i.e. age profile and underlying health conditions**

Source: CDC, Morbidity and Mortality Weekly Report, Vol. 69 (18/3/2020)



RISK MANAGEMENT STRATEGY

Specifically, the primary means COVID-19 is transmitted to the plantation is through the following:

- *Travellers from other Countries and/or States and/or Towns; and*
- *Thereafter transmitted within local communities in/around the plantation*

Based on the above, we are recommending the following lines of defence to deal with COVID-19:



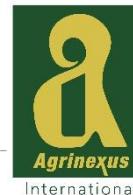
SURVEILLANCE RESPONSE – Strict monitoring and preparedness

If your State and/or closest Town/City has imposed strict movement control and there is **no reported COVID-19** cases, then implement and enforce heightened surveillance. This can be by tightening your entry policies, practise basic hygiene standards and start preparing for the eventuality of a potential transmission through the local communities.

TARGETED RESPONSE – Defence and Attack

Once the **COVID-19 disease has entered** the local communities in/around the plantation, then the probability of the virus entering the plantation will be high. A well-planned and comprehensive strategy must be immediately adopted i.e. allowing only the low risk workforce to work, implementing stay-home for the aged and those with underlying health conditions, enforcing quarantine procedures where necessary and rigorous testing.

SURVEILLANCE RESPONSE – STRICT MONITORING & PREPAREDNESS



Risk Mitigation Steps	Person-In-charge	Reporting/Action
<p>1. Form Surveillance Committee which must include the GM/CEO, Health, Safety & Environment (HSE) Officer, HR Officer, Higher Management and BOD representation</p>	GM	Conduct weekly meetings + Minutes to be circulated
<p>2. Disease Monitoring – Daily tracking & reporting of disease outbreak at local level from reputable website (eg. CDC, MOH, etc). Also establish contact with Plantation’s Visiting Medical Officer (VMO) - if not available, to establish a contract</p>	HSE Officer	Daily to Surveillance Committee (email/WA)
<p>3. Morning Attendance/Muster Every worker and Staff attending work, the following to be performed:</p> <ul style="list-style-type: none"> • Temperature to be measured (refer App 1) • Hand sanitisation to be done (refer App 2) • Headpersons/Supervisors to monitor symptoms of workers (refer App 3) <p><i>(If temperature >37.6° C, Worker/Staff denied entry and details to be indicated on the respective Control Form/Muster Chit/Attendance Book. These individuals to be sent home)</i></p> <p>Advice on the following preventive methods to all workers and Staff; including:</p> <ul style="list-style-type: none"> • Personal hygiene, social distancing & respiratory etiquette (refer App 4) 	Headperson/ Supervisor	Daily to HSE Officer – those denied entry and sent back to be recorded in a Report Book

SURVEILLANCE RESPONSE – STRICT MONITORING & PREPAREDNESS



Risk Mitigation Steps	Person-In-charge	Reporting
<p>4. Those sent home i.e. with $>37.6^{\circ}\text{C}$ or any other symptoms will be monitored on a daily basis. If anyone displays specific and/or exacerbate symptoms to COVID-19 by Day 7, immediate notification will be posted to the Surveillance Committee. Those with negative symptoms will be monitored until Day 7 and thereafter allowed to resume work</p>	<p>HSE Officer</p>	<p>Monitoring of symptoms on daily basis & liaise with Medical Consultant</p>
<p>5. Identification and segregation of workers who are susceptible i.e. > 55 years of age with underlying health conditions. This set of workers to be grouped separately for fieldwork activities</p>	<p>Headperson/ Supervisor</p>	<p>Inform GM on details eg. names, work location, etc</p>
<p>6. Entry to Plantation: Visitors from outside the Plantation/surrounding villages to be prohibited entry unless approved otherwise by the GM/BOD. For those allowed entry, temperature to be measured and if $>37.6^{\circ}\text{C}$, to be denied entry. Those visitors allowed entry and from high-risk areas/Countries, to be self-quarantined for a minimum of 5 days and provided with masks, gloves and hand-sanitisers. Only if void of COVID-19 symptoms should the visitor be allowed to enter</p>	<p>HSE Officer/Chief Security Officer (CSO)</p>	<p>Details of allowed visitors to be recorded + provided to the Surveillance Committee</p>
<p>7. Ensure a clean and hygienic work environment through regular disinfection/fumigation of the building premises, Office and equipment (refer App 5)</p>	<p>HSE Officer</p>	<p>Surveillance Committee</p>

SURVEILLANCE RESPONSE – STRICT MONITORING & PREPAREDNESS



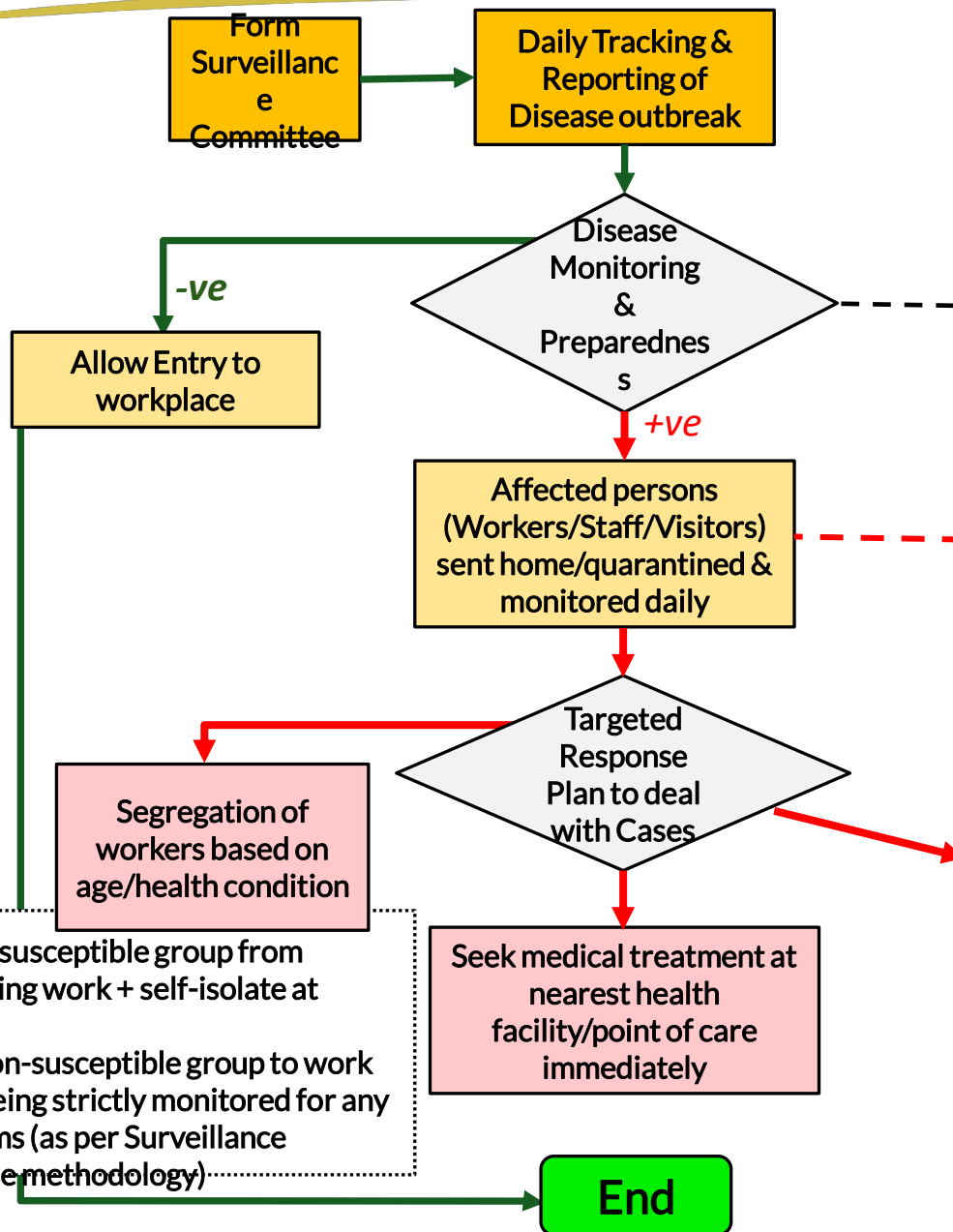
Risk Mitigation Steps	Person-In-charge	Reporting
<p>8. Consider alternate communication methods e.g. virtual meetings in place of face to face meetings, group chats etc. Defer large meetings or events and have small meetings outside in open air if required. Implement staggered breaks to minimise large congregation of workers</p>	<p>HSE Officer</p>	<p>Surveillance Committee</p>
<p>9. HSE Department to prepare and ensure the following:</p> <ul style="list-style-type: none"> • Sufficient amount of industrial-grade ethyl-alcohol/ethanol (>96%) and dilute to a stock of 70% (Caution: The ethyl-alcohol/ethanol is flammable and must be kept in air-tight containers in an area with ample ventilation) • Surgical masks (refer App 6) and latex gloves primarily for healthcare workers and patients • Approved drugs for treatment and best supportive care (drugs & equipment) • Respiratory ventilator (if possible) • Isolation ward/room with beds 	<p>HSE Officer/Hospital Assistant/Chief Nurse</p>	<p>Surveillance Committee</p>

TARGETED RESPONSE – DEFENCE & ATTACK



Risk Mitigation Steps	Person-In-charge	Reporting
<p>1. If there are any positive cases reported from:</p> <ul style="list-style-type: none"> • Villages in/around the plantation • State/City close to the plantation <p>Then the mitigation strategy will move from Surveillance to Targeted Response. At this stage there may be a large number of patients seeking medical assistance at the plantation’s point of care facility. This may be overwhelming and challenging and hence may require additional assistance from other quarters</p>	GM, HSE Officer	Surveillance Committee
<p>2. If there are any positive cases reported from:</p> <ul style="list-style-type: none"> • The 7-day quarantine period for those workers with symptoms • Newly discovered cases (visitors, etc) <p>The following needs to be immediately done:</p> <ul style="list-style-type: none"> - Report the case to the Surveillance Committee & VMO - Report the case to your National/Local Centre for Disease Control (*telephone number to be on hand by person-in-charge reporting*) - Quarantine patient at a specific isolation ward/room in the plantation - Patient to wear a surgical mask. If possible, all workers/Staff to wear face masks - Perform contact tracing analysis on the patient - Patient to avoid any contact with fellow employees - Seek medical attention at the nearest health facility/point of care immediately - Accompanying person should also wear a surgical mask - Point of care personnel (Doctors, nurses) should be with protective gear, PPE 	GM, HSE Officer	National Centre for Disease Control, Daily reporting to Surveillance Committee + Minutes circulated

COVID-19 SURVEILLANCE & TARGETED RESPONSE STRATEGIES



1. **Temperature Monitoring**
2. **Perform Hand Sanitisation**
3. **Symptoms Monitoring, eg:** Fever, Breath shortness, Sore Throat, Cough, Malaise feeling
4. **Preventive methods, eg:** Personal hygiene, Social distancing, Respiratory etiquette, Regular disinfection/fumigation, Virtual meetings/staggered breaks
5. **Preparedness steps, eg,:** Sufficient stock sanitisers/ disinfectants, Surgical masks, latex gloves, PPE, Approved drugs for supportive care

By Day 7, if:

- (1) Person displays specific and/or exacerbate symptoms to COVID-19, immediate notification will be posted to Surveillance Committee
- (2) Those with negative symptoms to be allowed to resume work

Risk Mitigation Steps:

- Report case to Surveillance Committee, Report case to National Centre for Disease Control, Quarantine patient at specific isolation ward/room in the plantation, Patient to wear surgical mask, If possible, all workers/Staff to wear face masks, Perform contact tracing analysis, Patient to avoid any contact with anyone, Complete lockdown – no travel in/out

Notes:

- Accompanying person should also wear a surgical mask
- Point of care personnel (Doctors, nurses) should be with protective gear, PPE

Notes:

- Restrict susceptible group from performing work + self-isolate at home
- Allow non-susceptible group to work whilst being strictly monitored for any symptoms (as per Surveillance Response methodology)

APPENDIX 1

GUIDELINES FOR TEMPERATURE SCREENING

- Non-contact infrared thermometer equipment (calibrated) should be used to measure the body temperature of all workers and personnel
- Person-in-charge performing checks:
 - Hand sanitised using alcohol-based hand sanitiser
 - Wear mask
 - Aim thermometer at centre of forehead (free of hair, etc) and stand within distance range of 3-5cm
- Person-in-charge should timely report and respond in case of ill personnel found with symptoms including fever ($\geq 37.6^{\circ}\text{C}$), fatigue or dry cough, etc.,
- The affected person to be sent home for self-isolation
Note: At this point, the fever could be a symptom for many other diseases and not specific to COVID eg. Malaria, bacteria-infection, common flu, etc.



GUIDELINES FOR HAND HYGIENE

- Wash hands with soap and water or alcohol-based hand sanitiser after any contact with respiratory secretions
- Remove any jewellery before hand wash procedure. Rinse hands under running water
- Lather with soap; cover all surfaces of the hands and fingers using friction. The thumbs, back of hands, inside of palms and wrists should be washed for at least 30 seconds
- Rinse under running water. Turn off faucet without recontaminating hands
- Ethanol 70%-based hand sanitisers may be used to decontaminate hands that are not visibly soiled. Apply to palm of one hand and rub hands together, covering all surfaces of hands and finger, until hands are dry



COVID-19 SYMPTOMS



Fever



Sore
throat



Cough



Shortness of
breath



Muscle
aches



Diarrhoea

Incubation period is presumed to be between 2-14 days after exposure, with most cases occurring **within 7 days** after exposure.

When symptoms of **throat soreness and cough occurs, this is when the rate of transmission is most potent.** Viral load is high and the rate of introduction to the next unprotected person will be high.

APPENDIX 4

GUIDELINES FOR PERSONAL HYGIENE, SOCIAL DISTANCING, RESPIRATORY ETIQUETTE

- Good personal hygiene should be observed at all times
- Regular hand hygiene by washing with soap and water or use hand sanitiser
- Workers/Staff to be reminded to maintain a “social distance” of more than 1 metre (3 feet) to the next person at Muster and whilst in the field
- In an office environment, personnel should keep a 2 metre (6 feet) distance from each other
- Avoid touching eyes, nose and mouth
- Implement a no handshaking policy
- Cover nose and mouth with a tissue when sneezing or coughing
- Put used tissue in a waste basket. If no tissue available, use upper sleeve or elbow instead of hands while sneezing and coughing
- Ensure sufficient amount of sanitisers are kept in/around the premises



GUIDELINES ON DISINFECTION PROCEDURES

Surfaces

- If surfaces are dirty, they should be cleaned using a detergent or soap and water prior to disinfection
- For disinfection, diluted household bleach solutions, alcohol solutions with at least 70% alcohol should be effective
- Prepare a bleach solution by mixing: 5 tablespoons (1/3rd cup) bleach per gallon of water* or 4 teaspoons bleach per quart of water**. This can be used for surface cleaning with hand sprays
- During the Targeted Response phase, more frequent disinfection and fumigation using knapsack sprayers/ blowers must be performed

* 1 Gallon = 3.8 Litres

** 1 Quart = 0.95 Litres



GUIDELINES ON WEARING SURGICAL MASKS (3 PLY)

During activities with high density of people, an added precaution will be to wear surgical masks. The intention is to limit the transmission of the virus and provide an extra barrier of entry.

- Wash hands before wearing a surgical mask and after taking one off.
- When wearing surgical mask, the following should be noted:
 - ✓ The facemask should fit snugly over the face
 - ✓ The coloured side of the mask should face outside
 - ✓ Tie all the strings that keep the mask in place
 - ✓ The mask should fully cover the nose, mouth as well as the chin
 - ✓ The metallic wire part of the mask should be fixed securely over the bridge of the nose to prevent leakage
 - ✓ If it is wet, damaged or soiled by secretions or body fluid at any time, change the mask immediately
 - ✓ Discard all used surgical masks into a plastic bag which should then be tied properly before disposing it into a rubbish bin



AUTHOR'S OPINION ON DISEASE PROGRESSION – FROM AN IMMUNOLOGICAL VIEWPOINT

- Commonly, most viruses are removed from our bodies through specific Antibodies sensitised and produced by B-lymphocytes. This is confirmed for COVID-19, since those who have been cured from this disease have shown a presence of antibodies specific for COVID-19 in their peripheral circulation. With the advent of IgG and IgM COVID-19 specific diagnostic tests, this response has been used to confirm whether a patient has been infected with the virus.
- The current scientific publications on actual cases of COVID-19 patients revealed that Age demography correlates to the disease severity. The relationship shows us that the older the individuals, the disease severity increases. It was also observed that immunocompromised or individuals with underlying health conditions, demonstrated a higher probability of disease severity and in most cases, both the older and immunocompromised individuals had succumbed to the disease.
- This susceptibility of disease progression in the older and immunocompromised individuals identified the probability of B-lymphocytes repertoire being exhausted or under-differentiated. This phenomenon was identified in some of the studies performed on cancer patients when therapeutic vaccine mimicry studies were conducted on a cohort of patients.
- The Author believes that the disease severity in COVID-19 may primarily be due to B-lymphocytes repertoire being exhausted or under-differentiated, and which may employ a different immune response resulting in hyper-reactivity and inflammation. Thus the degree of mortality is unfortunately common in the group of patients that are aged and/or immunocompromised.

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- Bioven Malaysia – CEO: Development of therapeutic cancer vaccines (EGF & TNF) with Cuban Research Centre (CIMAB). Executed Phase II/IIIB largest human clinical trials in Msia
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THANK YOU



As COVID-19 is a novel virus, the medical field has still not fully understood the virulence of the virus. Hence, this document will be regularly updated to provide current information on ways to combat this disease (refer <http://www.agrinexus.ai>).

In order for us to keep you updated on any new developments, please register your email address to yan@agrinexus.net. We also welcome any comments/feedback/suggestions you may have.