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Disease 2019; US: United States; United
States Department of Agriculture; USDA;
National Agricultural Statistics Service:
NASS; CDC: Centers for Disease Control
and Prevention; SARS: Severe Acute
Respiratory Syndrome; MERS: Middle
East Respiratory Syndrome; (SARS-
CoV-2): Severe Acute Respiratory
Syndrome Coronavirus 2; FDA: Food
and Drug Administration; WHO: World
Health Organization

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U.S. Farmers Exposure to COVID-19: Ways of Prevention

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Abstract

The Coronavirus Disease 2019 (COVID-19) outbreak is a global pandemic situation that could last in communities for a long time. One-third of the U.S. 3.4 million farmers are over the age of 65. The highest risk for developing more serious complications from the COVID-19 illness are older adults and people who have severe underlying medical conditions like heart or lung disease or diabetes. U.S. health officials and the Centers for Disease Control and Prevention (CDC) recommend specific precautions for every generation, especially older adults people practice preventative hygiene measures to protect their health.

Introduction

According to the United States Department of Agriculture's (USDA) 2017 Census of Agriculture; there are 2,042,220 farms in the United States, a 3 percent decrease over 2012 [1]. The total number of U.S. producers was 3.4 million, a 6.9 percent increase over 2012. The average age of all U.S. farm producers in 2017 was 57.5 years, up 1.2 years from 2012, continuing a long-term trend of aging in the U.S. producer's population [2].

In 2017, the total number of U.S. farm producers was 3,399,834. The age pyramid across the board continues to slide upward [3].

- 1). Under 25: 50, 943 (2017), 47,337 (2012)
- 2). 25-34 years: 234, 496 (2017), 210,117 (2012)
- 3). 35-44 years: 390,345 (2017), 371, 153 (2012)
- 4). 45-54 years: 614, 654 (2017), 739, 512 (2012)
- 5). 55-64 years: 955, 354 (2017), 896, 181 (2012)
- 6). 65-74 years: 757, 936 (2017), 600, 945 (2012)
- 7). 75 years+: 396,106 (2017), 314, 829 (2012)

According to the U.S. Centers for Disease Control and Prevention (CDC) (2020) [4], "older adults and people who have severe underlying medical conditions may face a potentially life-threatening risk if infected with the novel coronavirus and may be particularly susceptible to respiratory illness, which can cause pneumonia and symptoms such as fever, cough, and shortness of breath". On February 2020, Dr. Nancy Messonnier director of the National Center for Immunization and Respiratory Diseases at the CDC said at a press briefing that the data coming out of China continue to say that older people with underlying health conditions are at higher risk for severe disease and deaths are those who do not [5].

According to the Adler report [5], "Preliminary estimates suggested that the virus, which then had sickened tens of thousands and resulted in hundreds of deaths, had a fatality rate of about 2 percent." "Findings from China, which pertained to the first 17 people to die in the outbreak, revealed that their median age was 75, and a study in the New England Journal of Medicine revealed that their median age of the first 425 people infected with the virus was 59" [5].

The aim is to focus and educate on how to prevent the spread of the COVID-19 to older adults and people who have severe underlying medical conditions through good hygiene practices. The number of U.S. young farmers is not keeping pace with the number of farmers aging, so COVID-19 preventative hygiene measures must be taken for their survival and the future of U.S. agriculture.

Coronavirus

In the Mayo Clinic "Coronavirus Disease 2019" (2020) report [6], it defines the coronaviruses as a family of viruses that can cause illnesses such as the common cold, severe acute respiratory syndrome (SARS) and the Middle East respiratory syndrome (MERS). In 2019, the cause of a disease outbreak in China was identified as a new coronavirus. The virus was identified as the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and the disease it causes is called coronavirus disease 2019 (COVID-19). In March 2020, the World Health Organization (WHO) declared the COVID-19 a global pandemic [6].

According to the U.S. Centers for Disease Control and Prevention (CDC) "Interim Recommendations for U.S. Households Suspected/Confirmed Coronavirus Disease 2019" report [5], the novel coronavirus and similar coronaviruses that cause SARS and MERS, spread from person-to-person more frequently among close contacts (within about 6 feet) via respiratory droplets. There has not been documentation of transmission of the novel coronavirus to people from surfaces contaminated with the virus but based on current evidence the novel coronavirus may remain viable on a variety of materials for hours to days on surfaces. Cleaning dirty surfaces followed by disinfection is the best practice measure to prevent COVID-19 and other viral respiratory illnesses in households and community settings [7].

According to the Mayo Clinic "Coronavirus Disease 2019" (2020) report [6], the severity of COVID-19 symptoms can range from very mild to severe. Some people have no symptoms, but people who are older or have existing chronic medical conditions, such as heart or lung disease or diabetes, may be at higher risk of serious illness. These symptoms are similar to other respiratory illnesses, such as influenza [6]. Posted below is key "COVID-19 Symptoms" information from the Mayo Clinic website on the



Coronavirus Disease 2019 (COVID-19) [6]. When exposed to the coronavirus, symptoms may appear two to 14 days after.

COVID-19 signs and symptoms can include as follows:

- 1). Fever
- 2). Cough
- 3). Shortness of breath or difficulty breathing

Other symptoms of the COVID may include as follows:

- 1). Tiredness
- 2). Aches
- 3). Runny nose
- 4). Sore throat

Posted below is “How to Protect Yourself” information from the U.S. Centers for Disease Control and Prevention (CDC) Coronavirus Disease 2019 (COVID-19) website [4]. It provides some preventative hygiene measures recommendations. For additional information, go to the U.S. Centers for Disease Control and Prevention (CDC).

Know How it Spreads

- 1). There is no vaccine currently to prevent coronavirus disease 2019 (COVID-19).
- 2). The best way to prevent illness is to avoid being exposed to this virus.
- 3). The virus is thought to spread mainly from person-to-person.
 - i. Between people who are in close contact with one another (within about 6 feet).
 - ii. Through respiratory droplets produced when an infected person coughs or sneezes.
- 4). These droplets can land in the mouths or noses of people who are nearby or possibly be inhaled into the lungs.

Steps to Protect Yourself

Clean your hands often

- 1). Wash your hands often with soap and water for at least 20 seconds, especially after you have been in a public place or after blowing your nose, coughing, or sneezing.
- 2). If soap and water are not readily available, use a hand sanitizer that contains at least 60% alcohol. You should cover all surfaces of your hands with hand sanitizer and rub them together until they feel dry.
- 3). Avoid touching your eyes, nose, and mouth with unwashed hands.

Avoid close contact

- 1). Avoid close contact with people who are sick
- 2). If COVID-19 is spreading in your community, please stay away from others. Especially people at higher risk of getting sick.

Take steps to protect others

Stay home if you're sick

- 1). Stay home if you are sick, except for getting medical care.

Cover coughs and sneezes

- 1). Cover your mouth and nose with a tissue when you cough, sneeze, or use the inside of your elbow.
- 2). Throw used tissues into the trash.
- 3). Immediately wash your hands with soap and water for at least 20 seconds. Clean your hands with a hand sanitizer that contains at least 60% alcohol, if soap and water are not readily available.

Wear a face mask if you are sick

- 1). If you are sick: Wear a face mask when you are around other people (e.g., sharing a room or vehicle) and before you enter a health care provider's office. If you are not able to

wear a face mask (for example, because it causes trouble breathing), then you should do your best to cover your coughs and sneezes. People who are caring for a sick person should wear a face mask if they enter your room.

- 2). If you are NOT sick: You need not wear a face mask unless you are caring for someone who is sick (and cannot wear a face mask).

Clean and disinfect

- 1). Clean and disinfect frequently touched surfaces daily such as tables, doorknobs, light switches, countertops, handles, desks, phones, keyboards, toilets, faucets, and sinks.

- 2). Use detergent or soap and water before disinfecting, if the surfaces are dirty.

To disinfect as follows

Use an appropriate EPA registered household disinfectant on the surface.

Options include as follows:

Diluting your household bleach.

To make a bleach solution, mix:

- 1). 5 tablespoons (1/3rd cup) bleach per gallon of water
- OR
- 2). 4 teaspoons' bleach per quart of water

Follow the manufacturer's instructions for application and proper ventilation. Always check to ensure that the product is not past its expiration date. Remember to never mix household bleach with a cleanser such as ammonia or any other cleanser. Unexpired household bleach properly diluted will be effective against coronaviruses.

Alcohol solutions

Ensure the solution has at least 70% alcohol.

Other common EPA-registered household disinfectant products

Following the manufacturer's instructions for all cleaning and disinfection products (e.g., concentration, application method and contact time, etc.) is an effective measure against COVID-19.

Future Prospective

According to Western Regional Center to Enhance Food Safety at Oregon State University Food Innovation Center [8], the CDC, FDA, and USDA are not aware of any reports at this time that suggest COVID-19 can be transmitted by food or food packaging. Current evidence shows the biggest risk of transmission of COVID-19 is being around symptomatic individuals. Food businesses should be following employee health policies and local health department recommendations to keep these individuals home [8].

Depending on the severity of the outbreak in your community, a COVID-19 outbreak could last for a long time. In response to the spread of COVID-19 and the measures being taken to address it, local health officials have compiled resources to keep our older adults informed and aware of relevant policies and best practices. The U.S. Centers for Disease Control and Prevention (CDC) and other public health officials may recommend community actions designed to help keep people healthy reduce exposures to COVID-19, and slow the disease spread. In case of an outbreak of COVID-19, a household plan creation can help to protect your health and the health of those you care about [9].

Conclusion

One-third of the U.S. 3.4 million farmers are over the age 65, long regarded as retirement age and nearly a million more of them are within a decade of that milestone, according to the USDA data results from the 2017 Census of Agriculture [10]. The outlook on the future of U.S. agriculture is in a crisis as a farmers age gap widening. To protect older farmers preventative measures must be taken against the spread of COVID-19.

COVID-19 may not cause severe symptoms in many people who contract it. However, elderly/older adults and people may be severely affected if they have preexisting conditions like diabetes, heart disease, and lung disease [11]. The CDC and other U.S. health officials are providing updated guidance and information on this rapidly evolving situation. By practicing everyday preventative hygiene measures, these precautions may help to prevent the spread of the virus and save lives.



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