**Directions for Swabbing Potato Production Surfaces for the Detection of BRR Using PCR**

The method that is used to detect the ring rot bacterium described here is similar to how criminal labs would detect DNA at a crime scene. In the case of a crime scene, an area would be sprayed with a chemical that detects human bodily fluids. An area identified with bodily fluids would then be swabbed with a sterile cotton swab, resealed, and sent to a crime lab for DNA detection. In the case of detecting BRR, a production area that is suspected of having BRR would be simply sprayed with water to facilitate removal of the target, in this case, dried ring rot bacteria. Growers should concentrate on areas that may harbor BRR, such as a difficult area to disinfect on a cutter, planter or conveyor, or a storage wall. Once the area is identified, it is sprayed with water and then swabbed. After swabbing, the sterile cotton swab is placed back into its package, re-sealed, and identified so that the sample can be traced. Once back in the lab, the sterile cotton swab is tested with PCR to detect ring rot DNA.

Materials required:

Sterile cotton swabs

One quart spray bottle (new or unused)

Deionized or distilled water

Permanent marking pen (such as a Sharpie)

Masking tape (to reseal swab sleeve)

Directions:

1. Identify the areas to be tested for ring rot bacteria. Make sure you make a map, list, or have some other method of easily identifying where the sample originated in the event there is a positive detection.
2. Moisten the area to be swabbed with deionized/distilled water. Use enough water to moisten the water, but make sure the area is not wetted to the point where the water runs or drips.
3. Remove the cotton swab from its sterile paper sleeve. Each sleeve opens as a band-aid sleeve does. Gently pull apart each side enough to expose the wooden handle. Retain the sleeve so the cotton swab can be replaced and the sleeve re-sealed.
4. The cotton portion of the swab should be rolled and slid across the area that has been moistened. Use enough pressure to ensure you are removing any bacteria that may be present but not so hard so as to leave cotton on the surface or so that the wooden handle breaks.
5. After swabbing an area, replace the cotton swab into the sleeve it came in. Gently bring the two sides of the sleeve together and seal with tape.
6. Using a permanent marker, identify where the sample was taken and make a list so that each area swabbed is recorded so that it can be identified later if there is a positive detection.
7. Send the swabs to Neil C. Gudmestad’s lab by Fed Ex or UPS using the address below.

Neil C Gudmestad

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701 231 8362 (use this phone number on form)