



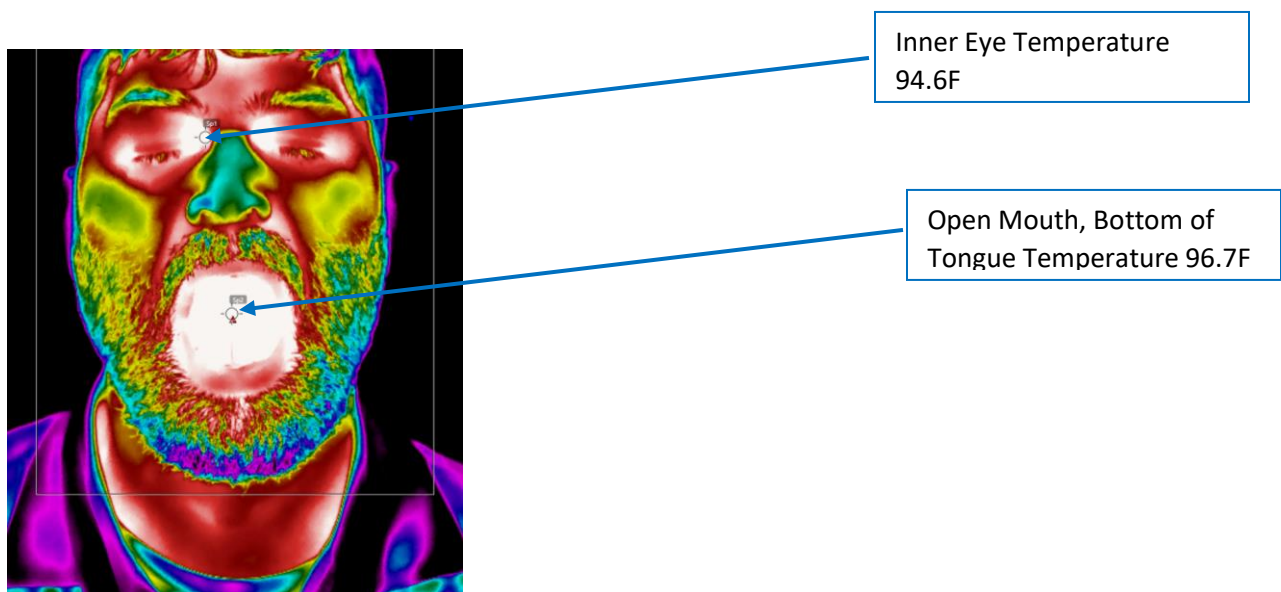
On Wednesday April 1st, RFC assisted with validating and developing a scanning protocol to identify individuals entering the plant with a suspected EBT (Elevated body Temperature) a precautionary screening method for COVID-19 & INFLUENZA.

RFC helped develop the following procedure to utilize the FLIR E40 Smithfield Foods | Mason City, IA has on site.

1. Allow camera to warm up and acclimated for 20 minutes.
2. Adjust Camera Parameters as follows;
 - Relative Humidity % (Can be identified utilizing local weather app/site)
 - Ensure Emissivity is set to 0.97
 - Adjust T-reflect to adjust for ambient radiation
 - Adjust atmospheric temperature for current temperature.
 - Confirm camera distance settings & testing distance from subject to camera
 - Make sure a box tool is selected that envelopes the subjects entire face, with a high temperature marker.

(These settings should be adjusted & confirmed as the environment changes, every 1 hour at minimum to avoid accuracy drift or as ambient temperatures & settings change)

With the subject standing in front of the camera, their high temperature was analyzed at the inner corner of the eye. Next the subject was asked to open their mouth and lift their tongue. During this time the operator is looking for a temperature exceeding 99.5F (adjust with a ~1F safety margin looking for a temperature of 100.4F or above)





These results were validated with an in ear thermometer. Utilizing that tool, the subjects temperature at the same time was taken and observed to be 97.2F on the digital in ear thermometer, with a variance of 0.5F for the open mouth temperature and a variance of 2.6F with the corner of the eye temperature.

(It should be noted that many thermal imagers & digital thermometers have a variance of 1% or higher.)

It's recommended that this procedure is used and the highest temperature of the two is used as the decision maker for additional screening with a precision thermometer.

During the testing, the Fluke IR tools on-site were checked for validation of their effectiveness compared to both the RFC T640 thermal imager, the Smithfield E40 thermal imager, & the digital in ear thermometer. The closest temperature we could achieve to accurate was a variance of 2.7 degrees taking the temperature with the mouth open method at a distance of 6". & 10 degrees or more when scanning the forehead from 1 foot. Both of these required major emissivity adjustments and could produce flawed data due to the spot size and design of this unit. Due to the potential for contamination, this method should be reviewed heavily.

Other recommendations based on initial panning discussion/visit yesterday include;

- Tripod mount for camera to provide for a consistent distance for screening & camera setting data. (If a tripod mount cannot be sourced, RFC/RPMS can help 3D print or provide 3D print file)
- Remote monitor to put operator 6 feet way from subject.
- Possible use of temporal temperature scanner with a sanitization process/procedure to test subjects when an Elevated body Temperature is identified.

For any questions, comments, concerns please call or email;

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