

## ***Interactive comment on “Semi-automated roadside image data collection” by Neal Pilger et al.***

### **Anonymous Referee #2**

Received and published: 15 January 2020

This paper describes the development of a mobile agricultural practice inspection system using images taken from the side of a motor vehicle. Such a system seems to be of some applicative interest for agricultural administration and statistics. However, there are many on-board shooting vehicles and the development of a new one, in itself, is not a very original contribution. Moreover, the paper, although pleasantly styled and easy to read, is actually quite poorly written and ultimately unclear.

For example, reading the abstract and the introduction, one might think that the method produces data useful for the calibration or verification of remote sensing methods, but this is not the case. In reality, the proposed system is more of an alternative to remote sensing and high-altitude aerial imagery. One might have expected to see a comparison between the results of the system and those of the alternative methods, but this is

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not the case.

Later in the paper, it is understood that the system is supposed to replace a traditional surveying method, by operators on board of vehicles. One might therefore expect to see a comparison, in terms of efficiency (acquisition & processing time) and quality of the result, but again, this is not the case.

The only experiment shown compares interpretations (apparently purely visual) made on images taken in the fields (in vertical view) with images in oblique view obtained with the help of the proposed mobile system. Finally, the effect of the angle of view in this experiment is largely evaluated, rather than the system itself.

The experimental protocol is not well described. Someone unfamiliar with the classification methods used by the operators (especially for oblique views) has difficulty understanding them and there is no bibliographic reference on this point. One of the practical interests of the system would be to automate the analysis task, but this is not discussed at all, which is a pity.

The only equation in the paper is wrong or, at the very least, poorly commented on. A speed being the ratio of a distance to a time, SA, defined as the ratio of a speed to a distance, cannot be a time, but rather a frequency. In addition, it is disturbing to talk about shutter actuation because one would tend to associate this term with the speed at which the shutter closes. This one, with the speed of the vehicle and the aperture of the diaphragm, condition the motion blur present in the images: vibrations are not the only possible sources of image quality loss. By the way, what is the type of camera shutter (global or rolling shutter)? It is not clear how the field of view is estimated. Are the cameras geometrically calibrated?

It would still be interesting to argue a little more about the justification for the choice of carrier. Rather than a land vehicle, with the drawbacks that this entails (oblique viewing, vibrations, etc.), one could have considered imagery by drone, Ultra-Light plane or helicopter. This also makes it possible to pass under the clouds, and that

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would especially offer very interesting efficiency, while remaining in vertical sight.

From a paper structuring point of view, it is annoying that the purpose of the work only appears at the bottom of page 3. It would be better to state them at the beginning of the introduction, before giving details of the application, making a critical inventory of the existing means of inspection and positioning the choices made. In addition, it is usual to end the introduction by describing the structuring of the paper (announcement of the plan).

For all these reasons, I cannot support the publication of this paper, at least in its present state.

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Interactive comment on Geosci. Instrum. Method. Data Syst. Discuss.,  
<https://doi.org/10.5194/gi-2019-20>, 2019.