

# A Seed Image is Worth a Thousand Words

*A New Tool for Seed Growers, Cleaners, Dealers and Others*

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## The need for seed images

There are many reasons why people need images of specific seeds, samples or seed collections. For example, after the seed lab tests a sample, a test report is provided, but the client needs to see what the contaminant seed looks like. Words and numbers don't help much. As people plan their cleaning process or re-clean the lot, an image of what they need to separate can be critical. This is especially important in small-seeded crops, such as grasses and clovers, and less familiar crops such as native species, where seeing unique and fine features is necessary to make decisions.

In the past, when the lab reported undesirable seeds, some customers called us and asked what the seed looked like. We learned that you could spend hours on the phone trying to describe the seed and still not communicate its key features. Sometimes the lab would ask the caller to come by in person to see the specific seeds found in their sample, only to realize that the customer was five hundred miles away! We realized it was time to help our customers in a new way by providing an image conveying these key features.

## The value of situation-specific images

To be of value, the image has to represent the seeds that are present in the sample that is being examined. While the seed images in books or the specimens found in seed collections are very useful for seed identification, they do not represent the exact and specific conditions and features of the seeds found in samples. Seeds are biological products which can vary from sample to sample for many reasons. This is why the image has to represent the individual sample.

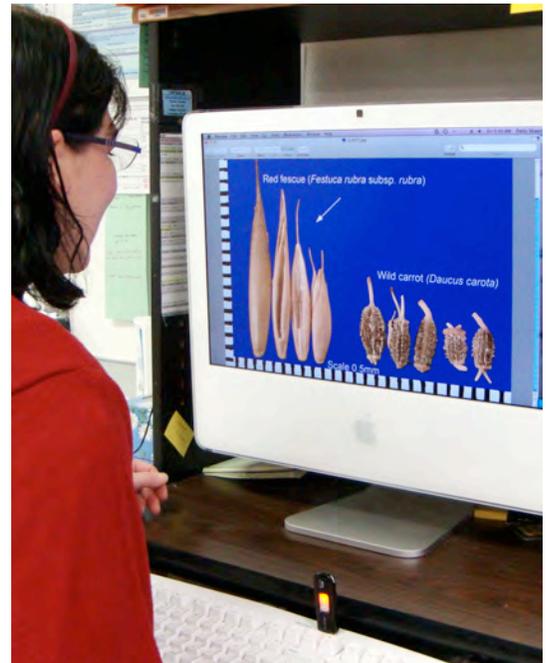


Figure 1. Images are high quality and large enough to be easily viewed and studied on a computer screen.

Since its initial experimental use, we have made many images for a range of clients. Some may be planning their cleaning process, others may be trying to figure out how to re-clean and still others may simply want to know what is present in a specific handful or seed collection. The variation from image to image is a testimony to the specificity of each situation.

### Example: Single contaminants that vary from the crop seeds

Figures 2 and 3 show a single kind of contaminant with clear physical differences between the crop seed and the undesirable seed. Each image includes a scale to interpret size, shape and other differences. Note that there are several seeds of the crop species to illustrate the range of seed sizes. These features can help the user to decide if, or how, these seeds can be separated.



Figure 2. Wild carrot seeds found in a red fescue sample.

*The contaminant seems very different in surface texture and length but has similar width to the crop seeds.*



Figure 3. Rough hawkbit found in a creeping bentgrass sample.

*The great difference in length between the two species means that this separation should be quite easy and result in very little loss of bentgrass seed.*

### Example: Contaminant is similar in size and shape to the crop seeds

Image 4 illustrates a situation where there is very little difference between the crop seed and the undesirable material, and mechanical separation is likely impossible. By seeing this image a grower may realize the value of contaminant prevention in the field.

Figure 4. Downy brome (a noxious weed) found in a sample of tall fescue.

*It is likely that even with the best equipment these seeds cannot be separated.*

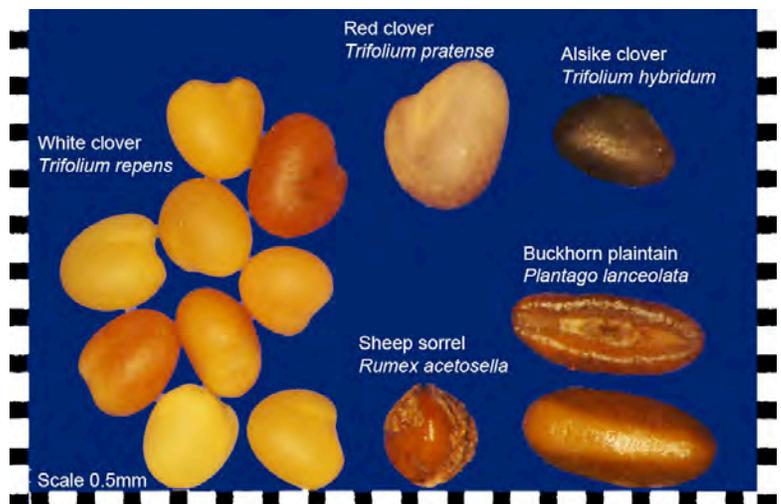


### Example: Multiple contaminants

Figure 5 illustrates a variety of cleaning challenges. An image like this one can help a cleaner and grower to communicate and plan preventive and corrective measures. Good communication and planning of specific actions simply based on words would be difficult if not impossible. An image like this solves that problem.

Figure 5. Multiple contaminants found in a white clover sample.

*Although it may be possible, based on size and shape, to clean out the red clover and buckhorn plantain, it will be almost impossible to clean out the sheep sorrel and alsike clover.*



## Example: Sample diversity

Figure 6 illustrates a different situation where the customer may want to see all the seeds present in the sample, or perhaps wants to show a diversity of seed kinds present in a collection, a natural stand, or re-vegetation project.



Figure 6. Variety of crops and weeds present in a Shasta daisy sample.

## Ordering seed images

The OSU Seed Lab creates custom digital images according to each customer's specific request. Often, customers request to see specific contaminants alongside the crop. As illustrated by the examples, many types of images are possible. Turnaround time is typically 1-2 business days, and images are delivered by email or fax. Emailed images are sent in the common JPEG format and sized to view on a monitor or print as a full-size page.

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