

Sample collection procedure for GRRC race analyses of wheat rusts 2012

Updated July 6th, 2012

We accept to take in samples of yellow rust (*Puccinia striiformis*) for race analyses according to an agreement between ICARDA, CIMMYT and Aarhus University. Annual priorities of sampling areas and numbers are made by staff representatives of CIMMYT (Ravi Singh, David Hodson) and ICARDA (Kumarse Nazari) and GRRC. Samples submitted without prior confirmation by GRRC cannot be expected to become analyzed. We also accept samples of stem rust (*Puccinia graminis tritici*) as agreed upon with the Borlaug Global Rust Initiative and the phase II of the Durable Rust Resistance in Wheat Project (DRRW), 2011-15.

Submission of stem rust samples

1. For submission of stem rust samples you should follow the guidelines developed in the phase I of DRRW project using sealed tubes containing silica gel to keep moisture low.
2. Alternatively, follow the guideline for submission of yellow rust samples which are given below:

Submission of yellow rust samples

Take 3 - 5 leaves/stems from each plot where you wish a sample, younger (upper) leaves are usually better than older leaves (more viable and green). Whenever possible take leaves/stems with clearly separated lesions/postules. Fold leaves separately and put them individually in glycine bags or similar to promote rapid drying and to avoid curling, - pustules should be inside the folded leaf (photo below).



Press leaves while they dry 12-24 hours at room temperature. Put together samples from a single plot/site into a SINGLE paper envelope and label with unique ID number. After drying, each envelope must be sealed with tape. To increase diversity, we recommend taking samples from different locations and varieties (e.g., some heavily infected and some light infected), up to 20-25 sites/varieties (i.e., up to 25 envelopes with 3-5 individual leaves).

Before sending samples to GRRC, you should put additional two layers of sealed envelopes (increasing in size). Each new envelope layer (absolute clean from rust spores) must be added in physical separate rooms, and handled in a lab bench/clean environment using separate lab coats and clean gloves. The final package must be wiped using 70% ethanol to avoid spread of spores during transportation – avoid to store in a fridge at any point due to high humidity – **NEVER** use plastic bags.

We can only guarantee processing incoming samples according to available (limited) resources. State clearly outside the envelope: "**scientific material without commercial value**" to avoid unnecessary delays in the customs.

We must receive a request by email prior to submission of samples. If we have sufficient capacity, we will send an import permit stating that GRRC can receive your samples, the permit to be enclosed along with sample submission. Information about details of collector (person), host variety, sampling date, location, disease severity in each plot from where samples are taken must be given (sheet is enclosed). This information should be sent electronically in Excel format or similar, **using all of the following email addresses:**

- Ellen.frederiksen@agrsci.dk
- AnnemarieFejer.justesen@agrsci.dk
- mogens.hovmoller@agrsci.dk

In addition, you should include this note and our note of acceptance of wheat rust samples "GRRC Letter of import statement", by which we accept the samples of wheat rust from outside Denmark.

Samples must be sent by courier to: Ellen Frederiksen, Dept. of Agroecology, Science and Technology, Aarhus University, Forsøgsvej 1, DK-4200 Slagelse, Denmark