# Tef Improvement Project (by Zerihun Tadele)

**December 17, 2018**

## Research

1. **Mutagenized population**: About 2500 M2 mutagenized populations were generated from recently released tef variety called Dagim. Screening for diverse traits of importance will soon be carried-out using conventional and modern techniques.

2. **Candidate tef lines**: Tef lines tolerant to lodging, acid soil and soil salinity tolerant: candidate lines obtained from these screening have been sent to EIAR for crossing to high-yielding and locally adapted cultivars.

3. **Basic studies**: the mechanism of drought and waterlogging of selected tef lines is being investigated by two master students in the group. The evolution of tef and the possibility of transferring useful traits from wild related species to tef has been studied by another master students.

4. **Breeding and variety release**: candidate lines for selected traits have been hybridized to improved cultivars and the progenies have been evaluated at multiplication in Ethiopia. In addition to the release of the first lodging tolerant Tesfa variety in 2017, two new varieties are in the pipeline to be released in mid-2019.

## Other developments

1. **SNIS project**: comments to pre-proposal (Associate member)

2. **SDC project**: city region food system (Advisor to the Ethiopian Project)


4. **SFIAR (Swiss Forum for International Agricultural Research)**. At the SFIAR members meeting in Bern on December 10, 2018, I discussed with Michel Evequoz, SDC representative to CGIAR, about the importance of orphan crops and the need for scientific research on these largely neglected crops. Based on the suggestion of ME, I wrote email explaining the need for funding orphan crops.

## Participation at international conferences in 2018

<table>
<thead>
<tr>
<th>Title of the presentation</th>
<th>Date</th>
<th>Conference name and venue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orphan Crops Improvement: the Need for Concerted Efforts</td>
<td>06.09.2018</td>
<td>Food for Future Conference, Cologne</td>
</tr>
<tr>
<td>Food Security and the Future of Plant Breeding</td>
<td>06.09.2018</td>
<td>Panelist, Podium discussion, Cologne</td>
</tr>
<tr>
<td>Lodging and Drought Resistant Tef</td>
<td>31.08.2018</td>
<td>Scientific Innovation in African Agriculture, Ghent</td>
</tr>
<tr>
<td>Application of Mutation Breeding to the Improvement of Understudied Crop Tef</td>
<td>28.08.2018</td>
<td>International Mutation Breeding Symposium, Vienna</td>
</tr>
<tr>
<td>Discussion on Tef value-chain</td>
<td>13.06.2018</td>
<td>Stakeholders meeting at Debre Zeit, Ethiopia (Moderator)</td>
</tr>
</tbody>
</table>
Publications in 2018


**Scientific contribution:** Guest Editor of Planta Journal; Book Editor on Grasses (Intech)
Tef Pelleting training and optimization by Benny Brämberg
(01.10.2018 - 05.10.2018)

Weighing ingredients
Manual liquid application to pelleter
Manual powder application to pelleter
Drying pelleted seeds
Investigating pelleted and dried seeds
Sieving dried seeds
Visits to tef fields (October 4 and 5, 2018)

- Variety screening near Debre Zeit
- Tesfa variety (left) in farmer’s field
- Farming system in Minjar area
- Candidate varieties in Minjar farmer field

Visits to Melkassa mechanization (October 5, 2018)

- Animal-drawn tef planter
- Front-back tef planter
Visit to Chefe Donsa area, Gimbichu District (28.11.2018)

Farmer’s field, Kersa community, Chefe Donsa, Gimbichu

Chefe Donsa sub-station, under Debre Zeit Agric. Research Center, EIAR