TTC 染色（植物）实验报告

一、实验器材及试剂

1、实验器材

名称	厂家	型号
恒温水浴锅	姜堰市无力医疗器械厂有限公司	TL-42OD
标本瓶	Servicebio	G6008-40ML
徕卡刀片	上海徕卡仪器有限公司	LEICA 819
解剖镊		
照相机	佳能	70D

2、主要实验试剂

试剂名称	厂家	货号
TTC 粉末	Sigma	T8877
固定液	Servicebio	G1101-500ML

二、试剂配制

TTC 溶液：1.0 g TTC 粉末加入 1000 mL 纯水，溶解混匀备用。

三、新鲜组织切片制备及染色实验步骤

1、取材：将种子用装有 20 mL 自来水的标本瓶浸泡着，于 35℃的水浴锅中 2-6 h 或适当延长浸泡时间至种子充分吸胀。

2、TTC 染色：取 20 mL 的 TTC 染液于标本瓶中，提前于 35℃的水浴锅中避光预热 30 min。用镊子取出种子，剥离种壳或种皮，将种胚纵切成均分成两瓣，置于 TTC 染液中于 37℃的水浴锅中避光染色 0.5-1 h，染色 30 min 后，每隔 10 min 观察一次组织块的着色，当种胚出现红色且红色不再变深或者变多时即可。

3、拍照：染色完成后，用镊子将组织块夹住，倒干净标本瓶中的 TTC 溶液，沿着瓶壁缓慢倒入 20mL 固定液，锡箔纸包裹标本瓶于暗处常温保存 24 h 后，拍照保存结果。

四、染色判读

组织正常区呈红色，梗死区呈苍白色。

五、注意事项

1、TTC 染液需要放置 4℃避光保存，可保存一个月，使用前先复常温。

2、染色过程中需要避光，染液见光易分解，染好的种胚颜色见光也会褪色。

3、染完色后尽快拍照保存实验结果。

TTC Staining (Plant) Experimental Report

1. Experimental Equipment and Reagents

1.1 Experimental equipment

Name	Manufactor	Model
Constant temperature water bath	Jiangyan Tianli Medical Instrument Factory	TL-42OD
Specimen bottle	Servicebio	G6008-40ML
Blade	Shanghai Leica Instrument Co., Ltd	LEICA 819
Dissecting forceps		
Camera	Canon	70D

1.2 Main experimental reagents

Reagent name	Manufactor	Article number
TTC powder	Sigma	T8877
Fixative	Servicebio	G1101-500ML

2. Reagent Preparation

TTC solution: 1.0 g TTC powder dissolved in 1000 mL pure water, and mixed well, in reserve.

3. Experiment Steps

3.1 Soak Seeds in a specimen bottle containing 20mL tap water, and place them in a water bath at 35°C for 2-6h, or extend the soaking time until fully imbibition.

3.2 .The specimen bottle containing 20 mL TTC dye solution was heated in a water bath at 35°C in the dark for 30 min in advance. Bring out the seeds with tweezers, peel off the seed shell or seed coat, split the seed embryo into two parts, and place them in a TTC dyeing solution in a water bath at 37°C and stain for 0.5-1 h in the dark. Afetr 30 min, observing the coloring of the tissue every 10 minutes, until the red of seed embryos is no longer darker or more.

3.3 After staining has been completed, clamp the tissue with tweezers, and empty the TTC solution in the sample bottle, and then pour 20mL fixative solution along the bottle wall. Finally, wrap the sample bottle in foil to store it in the dark at normal temperature for 24 hours, and then take photos to save the results.

4. The Results Were As Follows

The normal area of tissue was red, while the infracted area was pale.

5. Precautions

5.1 TTC dyeing solution needs to be stored at 4°C and away from light. It can be stored for one month, but should be recovered to normal temperature before usage.

5.2 It is necessary to avoid light during the dyeing process. The dyeing solution is easy to decompose when exposed to light, and the color of the dyed seeds will also fade when exposed to light.

5.3 Take pictures as soon as possible after staining to save experimental results.