**The Breakdown of Starch by Diastase**

**Technician Guide**

Diastase available form NCBE; £11.50 for 100cm3

**Prepare Starch-agar plates as follows**:

2g Agar to 100cm3 of 0.2% starch solution. Allow 20cm3 per plate. Autoclave. Pour plates when cooled to 55oC

**Do Barley Seeds Contain Starch?**

***Preparation***

* Soak barley grains (20 per group) for 48 hours beforehand, then half them longitudinally.
* Boil half of the halved grains for 15 minutes.
* 1% diastase solution
* 3 starch agar plates per group
* Oven or incubator at 30oC

***Materials required per group***

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| --- | --- |
| Halved germinating barley grains  Halved and boiled germinating barley grains  1% diastase solution  3 starch-agar plates  1 plastic pipette  1 cork borer  1 pair forceps  1 water-proof pen | *For day 2:*  Iodine solution |

**The Effect of Temperature on Enzymes**

***Preparation***

* Diastase solution and boiled diastase solution (boil for 20 minutes,

then cool prior to use).

* 4 starch-agar plates per group
* Oven or incubator at 35oC

***For each group***

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| --- | --- |
| 1% diastase solution  boiled diastase solution  small beaker of distilled water  4 starch-agar plates  2 plastic pipettes  1 cork borer  1 pair forceps  1 water-proof pen | *For day 2:*  Iodine solution |

**The Effect of pH on Diastase**

***Preparation***

* Oven or incubator set at 30oC
* buffer solutions: pH 4, pH 7, pH 10
* buffer solutions + diastase: pH 4, pH 7, pH 10
* 1 starch-agar plate per group

***For each group***

|  |  |
| --- | --- |
| Buffer solutions  buffer solutions + diastase  1 starch-agar plate  6 plastic pipettes  1 cork borer  1 pair forceps  1 water-proof pen | *For day 2:*  Iodine solution |