

**Aim** To investigate how light intensity in storage conditions effect the rate of catalase activity within living potato tissue.

### **Planned method**

As stated within my research, the production of the glycoalkaloid solanine increases within potato tissue when exposed within light. This also accumulates the production of chlorophyll, which is why the potato goes green in colour. However, certain types of light cause this as an effect in different ways. As the aim of this investigation is to see how the production of chlorophyll, and increased concentration of solanine effects the rate of catalase activity as a result of light exposure, it is important that the type of light used for the storage conditions is one which causes these effects to a high level, so that a significant change in rate can be observed. This therefore means that an incandescent or an ultraviolet light source cannot be used for the experiment. It is therefore most appropriate to use a fluorescent light source, such as a fluorescent lamp.

To measure light intensity

**confounding variable** – varies systematically with the independent variable, clouding one's ability to ascertain true relationship between the IV and DV.

Hydrogen peroxide and its decomposition products are not systematic poisons but contact with hydrogen peroxide can be irritating. Concentrated vapors cause discomfort in the mucous membranes and the eyes. Contact of the eyes with hydrogen peroxide is particularly dangerous because corneal burns can occur very rapidly. Therefore, safety glasses or, preferably, goggles should always be worn when handling concentrated hydrogen peroxide. If, however, any hydrogen peroxide does get in the eyes, flush eyes thoroughly with water and consult a physician promptly.

Contact with moderate concentrations of hydrogen peroxide will cause whitening of the skin and stinging sensations. The whitening is due to the formation of gas bubbles in the epidermal layer of the skin. The stinging, in most cases, subsides quickly after thorough washing, and the skin gradually returns to normal without any damage. Highly concentrated hydrogen peroxide can cause blistering if left on skin surfaces for any length of time.

In addition to eye protection, rubber gloves and suitable protective clothing such as aprons or coveralls made of polyester acrylic fiber, polyvinyl chloride, polyethylene, or neoprene should be worn when handling concentrated hydrogen peroxide. Protective clothing, which lacks fire resistance, must be washed thoroughly with water should it come in contact with hydrogen peroxide. If allowed to dry in the fabric, the chemical may cause fire, particularly if the clothing is soiled.