

# Introduction

## Outline

1. Potato: The crop (2 Paragraphs)
  - i) Overview context of the crop
  - ii) Evolutionary history
  - iii) Potato as a universal field crop
2. Breeding potato (2 Paragraphs)
  - i) Initial hobby breeding
  - ii) Development of potato breeding into 20th century
3. Lack of genetic improvement in potato (2 Paragraphs)
  - i) Less progress in potato relative to other crops
  - ii) Replication in early generations
  - iii) Impact of polyploidy
  - iv) Large selection surface
4. Potential Technologies for breeding potato (2 Paragraph)
  - i) Discuss alternatives to clonal potato breeding
  - ii) Technologies such as MAS, QTL mapping, genomic selection
5. Genomic driven Hybrid breeding
  - i) Conversion to hybrid breeding
  - ii) Seizing other tools and technologies used in hybrid breeding
  - iii) Utility of TPS based cropping systems and supply chains
6. Statistical modelling needed to drive change in potato
  - i) Conducting and evaluation of single-trials in potato
  - ii) Genotype data
  - iii) Phenotypic and genotypic data for large hybrid populations
7. Introducing chapters
  - i) Short summary of the following chapters