

Eyomdumba:

February Explains The Physiochemical Response of Grains



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As it is becoming more important for scientists to recognise the value of indigenous languages in learning and teaching, it is equally relevant for education experts to note the pros and cons of direct translation of English to isiXhosa and vice versa. The isiXhosa translation of swelling to English is ukudumba. The correct scientific term for flowering is tasselling in the context of crop science. Tasselling is an important indicator of good pollination and optimum enzyme activity for the early stage of seed development. Xhosa speaking people refer to February as Eyomdumba. Note the scientific context. This phenomenon refers to the optimum phase of seed setting and development in major grain crops when tassels (flowers) are highly visible in the whole field. Grains form the major staple diet for humans. They are also important as animal feed in commercial agriculture. Here is how plant science relates isiXhosa meaning of umdumba “*Sperm cells of flowering plants are non-motile and thus require transportation to the egg apparatus via the pollen tube to execute double fertilization. During its journey, the pollen tube interacts with various sporophytic cell types that support its growth and guide it towards the surface of the ovule. The final*

steps of tube guidance and sperm delivery are controlled by the cells of the female gametophyte. During fertilization, cell-cell communication events take place to achieve and maximize reproductive success.” (Dresselhaus and Franklin-Tong, *Molecular Plant*, Volume 6, Issue 4, 2013: 1018-1036, ISSN 1674-2052, <https://doi.org/10.1093/mp/sst061>).

Therefore, we need to investigate what is the indigenous language pedagogical significance of the terms “double fertilisation”, “gametophyte”, “sporophytic”, etc? There is established evidence to show that even a small upward change in temperature can cause a significant disruption in biochemical and physiological processes of grain crops. This can lead to poor yields of staple crops, food insecurity, high food prices and even famine. We need to understand the complex vernacular meaning of plant physiology and biochemistry of grain crops. February may be the best time for work integrated learning in the higher education sector. We can take students to the field to witness Eyomdumba phenomenon in the context of plant biochemistry, physiology, and the bigger picture of how human and animal survival depend on climate chance.