

Comparison how different Azuki Bean Experiments Results Between on Ground and in Space, Cooperate with SSAF2013

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The problems of Global Human Population Increasing and Poor Environment issue, we are concentrates to study several directions to improve its such looking for new area in space to planting food for future and study how possibly technical innovation to support the space conditions. There is much different result once no gravity condition as we call Microgravity.

We interesting in how human future life planning in Future Space also approach to The Foods for Human is very important. By JAXA-KIBO and NSTDA (National Science and Technology Development Agency) had promoted the specific program to understanding in space biology, investigated that opened chances to Asia-Pacific Student to join the activities same period with KIBO - astronauts by down load linked Video which explanation by Astronaut on KIBO Module of ISS .We had attend the Space Seed for Asian Future 2013 project. (SSAF2013). It was a great opportunity for Asian Student and us when we got the Azuki Bean seeds for our own experienced and learnt how different experiment result comparison between on Ground and in Space.

We proposed the probability three of hypothesizes that capable to confirm how gravity shown it effect to gravitropism and Photoprism to Azuki Bean seed germination, the first hypothesis was compared between on ground and in space of Azuki bean growth which keeping same direction of bean seed's hilum (Sprouting end face-up) while germinate in dark. We believe that root of Azuki bean on ground experiment will Positive – Gravitropism Responds while shoot will Negative– Gravitropism Responds. In space shoot will disoriented respond while root will negative gravitropism.The second hypothesis was compared between on grown Adzuki Beans growth which Different Direction of bean seed's hilum ((Sprouting end face-down) while germinate in dark. We believe that root of Azuki bean on ground experiment will Positive – Gravitropism Responds while shoot will Negative– Gravitropism Responds. In space shoot will disoriented respond while root will negative gravitropism but take more long time to above ground. The third hypothesis was compared between on ground Azuki bean growth which keeping same direction of bean seed's hilum (Sprouting end face-up) while one set germinated in dark and other one in light. We believed that in dark experiment set shoot will Negative Gravitropism Responds but not bending respond to directional light source while in light experiment set shoot Negative –Gravitropism responds and bend in respond to directional light source.

Methodology for this research had four experiment conditions, we had studied about how different of Gravity Effect, we then prepared similar as space experiment - set of 9 of Azuki Bean Seeds keep same sprout face – up and laid on sponge and water filled in fit it inside clear container and closed clear lid wrapped by aluminum foil keep in national light condition and control temperature 22 to 23 degree C. We were adding the other of two sets same as above mention but different on direction of Azuki Bean Seeds 's Sprout face – down and horizontal to record how effect with Gravitropism on ground. Last of set of experiment we were investigated similar as the first set one but only without wrapping by aluminum foil, to study how Photoprism effect on ground experiment.

Azuki Bean Seeds which had received from JAXA-NSTDA were the controlled population to study how effect of Gravity and Light Science Experiments

Panyarat High School English Program and Student Home were selected for research location

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The result appearance record had confirmed correctly of all of hypothesizes which our investigated had involved several branch in Biology: Anatomy, morphology and physiology. Furthermore the research should have the benefits for how to studying of innovation food space for human in future.