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1	<p>Conventional <i>vis -a- vis</i> Biotechnological Methods of Propagation in Potato: A Review</p> <p>Anoop Badoni* and J. S. Chauhan**</p> <p>Seed Biotechnology Laboratory, Department of Seed Science and Technology, Faculty of Agriculture, Chauras Campus, H. N. B. Garhwal University, Srinagar- 246 174, Uttarakhand, India</p> <p>*Research Scholar, Young Scientist (UCOST), **Assoc. Prof. and Head of Department *For Correspondence: annabadoni@yahoo.co.in</p> <p>ABSTRACT: The present review is based on the findings on <i>in vitro</i> culture of potato. Because of many problems in conventional method of potato cultivation, it is necessary to develop a suitable method of propagation through biotechnology, which is a better alternative. In all potato growing regions the availability of high quality tuber has been the most demanding over the conventional clonal propagation that favors disease build-up, which drastically reduces crop yield. However, the recent advances in tissue culture and the flexibility of organ development in potato, allows alternate methods of propagation through <i>in vitro</i> techniques. In the absence of chemical control of viral disease, meristem tip culture is the only effective method available till date to eliminate virus infections from potato cultivars. This technology has ensured greater availability of diseases free seed for cultivation, which ultimately helps in boosting overall potato production in the country. In view of the above, a protocol have developed for sterilization of explants and found the suitable hormonal combination with MS medium for <i>in vitro</i> shoot regeneration, multiplication and rooting in potato cv. <i>Kufri Himalini</i>. For development of sterilization protocol two important sterilant sodium hypochlorite and mercuric chloride compared with different durations of 2, 5 and 8 minutes. For shoot proliferation and rooting the sterilized explants were cultured on MS medium, supplemented with different hormonal combinations i.e. MSGN1 (0.1 mg/l GA₃ and 0.01 mg/l NAA), MSGN2 (0.1 mg/l GA₃ and 0.03 mg/l NAA), MSGN3 (0.1 mg/l GA₃ and 0.1 mg/l NAA), MSKN1 (0.01 mg/l Kinetin and 0.1 mg/l NAA), MSKN2 (0.001 mg/l Kinetin and 0.1 mg/l NAA) and MSKN3 (1 mg/l Kinetin and 0.1 mg/l NAA). The observations were recorded after 10, 20 and 30 days to observe the non-growing cultures, infected cultures, healthy cultures, length of stem and number of nuds on stem. Result showed that amongst the two sterilants i.e. NaOCl and HgCl₂, NaOCl was found better for controlling the infection and had not any adverse effect on explants even in long duration. The lower concentration of auxin (0.01 mg/l NAA) with Gibberelic Acid (0.1 mg/l) was found best for the development of complete plantlets and for multiplication from meristem tips. [Stem Cell. 2010;1(1):1-6] (ISSN 1545-4570).</p>	<p>Full Text</p> <p>1-6</p>

2	<p style="text-align: center;">Potato Seed Production of Cultivar Kufri Himalini, <i>In vitro</i></p> <p style="text-align: center;">Anoop Badoni* and J. S. Chauhan**</p> <p style="text-align: center;">Seed Biotechnology Laboratory, Department of Seed Science and Technology Faculty of Agriculture, H. N. B. Garhwal University, (Chauras Campus), Srinagar- 246 174, Uttarakhand, India *Research Scholar and Young Scientist (UCOST) *Assoc. Prof. and Head *For correspondence E-mail- annabadoni@yahoo.co.in</p> <p>Abstract: The nodal cuttings of potato cv. Kufri Himalini was cultured in MS medium consisting three different hormonal combinations of GA₃ and NAA (MSH1- 0.25mg/l GA₃+ 0.01 mg/l NAA, MSH2- 0.25mg/l GA₃+ 0.03 mg/l NAA and MSH3- 0.25mg/l GA₃+ 0.04 mg/l NAA) for shoot and root proliferation. After 35-40 days of incubation, shoots in MSH1 (0.25 mg/l GA₃ and 0.01 mg/l NAA) reached 8.28 cm with 9.4 nodes and 11.9 cm root length, higher then all the combinations. For tuberization three concentration of BAP (8 mg/l, 10 mg/l and 12 mg/l) were used with MS liquid medium, the plantlets were shifted to tuberization media and data were reported for the number of microtuber on per original shoot, average weight of microtuber and number of eyes in each microtuber. Formation and development of microtubers were least with 8 mg/l and higher in 10 mg/l BAP concentration, while with the increasing concentration, BAP inhibit the average number, weight and eyes number of microtubers. [Stem Cell, 2010;1(1):7-10] (ISSN 1545-4570).</p>	<p style="text-align: right;">Full Text</p> <p style="text-align: right;">7-10</p>
3	<p style="text-align: center;">Micropropagation of <i>Hedychium spicatum</i> Smith using <i>In Vitro</i> Shoot Tip</p> <p style="text-align: center;">Anoop Badoni¹, Chetna Bisht² and J. S. Chauhan¹</p> <p>¹Researcher, Young Scientist (UCOST), Department of Seed Science and Technology, Faculty of Agriculture, H. N. B. Garhwal University, (Chauras Campus), Srinagar- 246 174, Uttarakhand, India For Correspondence: e-mail- annabadoni@yahoo.co.in</p> <p>²Research Scholar, High Altitude Plant Physiology Research Center, Faculty of Agriculture, H. N. B. Garhwal University, Srinagar- 246 174, Uttarakhand, India</p> <p>¹Associate Professor and Head, Department of Seed Science and Technology, Faculty of Agriculture, H. N. B. Garhwal University, (Chauras Campus), Srinagar- 246 174, Uttarakhand, India</p> <p>Abstract: <i>Hedychium spicatum</i> Smith is a medicinally important species of the genus <i>Hedychium</i> commonly known as Vanhaldi, Palashi and Kapurkachari. This species occurs in subtropical and temperate Himalayan region between 1500 m and 2700 m altitudes. In the present study MS media supplemented with different growth regulators such as Kinetin and IAA were used for shoot elongation and root formation from <i>in vitro</i> shoot tip. Shoot elongation and rooting percentage (80%) was reported highest on medium with 5.0mM/l Kn and 1.0mM/l IAA. After rooting the complete plantlets were transferred to sterilized soil pots for acclimatization. About 40-50% plantlets survived well. [Stem Cell, 2010;1(1):11-13] (ISSN 1545-4570).</p>	<p style="text-align: right;">Full Text</p> <p style="text-align: right;">11-13</p>
4	<p style="text-align: center;">Sorption studies of lead ions onto activated carbon produced from oil-palm fruit fibre</p> <p style="text-align: center;">*¹Olugbenga Solomon Bello, ¹Mary Adelaide Oladipo, ²Abimbola Modupe Olatunde</p> <p>*¹Ladoke Akintola University of Technology, Department of Pure and Applied Chemistry, P. M. B, 4000, Ogbomoso, Oyo State. Nigeria ²University of Ibadan, Department of Chemistry, Ibadan, Oyo State. Nigeria. Corresponding author +2348035685435. E-mail address: osbello@yahoo.com</p> <p>ABSTRACT: The batch sorption removal of Pb²⁺ from aqueous solution using treated oil palm fruit fibre was studied. The adsorption equilibrium and kinetic studies of Pb²⁺ on such fibre were then</p>	<p style="text-align: right;">Full Text</p> <p style="text-align: right;">14-29</p>

	examined at 25°C. Adsorption isotherms of Pb ²⁺ on the activated carbon produced from treated oil palm fibre were determined and correlated with common isotherm equations. The equilibrium data for Pb ²⁺ adsorption fitted well to the Langmuir equation more than the Freundlich equation with maximum monolayer adsorption capacity of 588.24 mg/g. The batch sorption model, based on a pseudo-second-order mechanism, was applied to predict the rate constant of sorption, the equilibrium capacity and the initial sorption rate with the effects of the initial solution pH and fiber dose. The adsorption capacity at equilibrium increases from 75.48 to 439.06 mg g ⁻¹ with an increase in the initial lead concentration from 100 to 500 mg l ⁻¹ . Equilibrium concentrations were evaluated with the equilibrium capacity obtained from the pseudo-second-order rate equation. The adsorption data was found to fit the pseudo second order model more than the pseudo first order model. [Stem Cell, 2010;1(1):14-29]. (ISSN 1545-4570).	
5	<p style="text-align: center;">Renal Stem Cells Research and Applications</p> <p style="text-align: center;">Hongbao Ma, Yan Yang</p> <p style="text-align: center;">Brookdale University Hospital and Medical Center, One Brookdale Plaza, Brooklyn, New York 11212, USA. Ma8080@gmail.com</p> <p>Abstract: This article is to try describing the renal stem cells in animal and to explore the methods to either repair or regenerate a damaged kidney with stem cells. For this purpose, the 3 sections are concerned: (1) Isolation of stem cells from animal embryo and/or other resources (such as adipose and renal tissue). (2) Embryonic stem (ES) cells differentiate into renal stem cells and/or renal progenitor cells. (3) Renal stem and/or progenitor cells differentiated from ES cells are used for renal repair and/or regeneration. The stem cell treatment can be the most hopeful technique on the renal repair and regenerate. [Stem Cell. 2010;1(1):30-51] (ISSN 1545-4570).</p>	<p style="text-align: right;">Full Text</p> <p style="text-align: right;">30-51</p>
6	<p style="text-align: center;">Haemocoelom excludes embryonic stem cells and asexual reproduction in invertebrates?*</p> <p style="text-align: center;">P. Murugesan ^a, T. Balasubramanian ^a and T. J. Pandian^b</p> <p style="text-align: center;">^aC. A. S. in Marine Biology, Annamalai University, Parangipettai – 608 502</p> <p style="text-align: center;">^bC. A. S in Genomics, School of Biological Sciences, Madurai Kamaraj University, Madurai – 625 021. murugesan74@rediffmail.com</p> <p>Abstract: The terms embryonic and adult stem cells are explained. Previous studies on identification, description and isolation of the embryonic stem cells in different invertebrate groups are briefly summarized. Most invertebrates, which reproduce asexually, have retained the embryonic stem cells in their adult body. A hypothesis is proposed for the possible exclusion of embryonic stem cells and thereby asexual mode of reproduction by the coelom in arthropods and molluscs. [Stem Cell. 2010;1(1):52-57] (ISSN 1545-4570).</p>	<p style="text-align: right;">Full Text</p> <p style="text-align: right;">52-57</p>
7	<p style="text-align: center;">STRONG HORSE TEA BY ALICE WALKER: A REVIEW</p> <p style="text-align: center;">Samiya Taskeen¹ and Abida Taskeen²</p> <p style="text-align: center;">¹ Hajvery University Lahore, Pakistan; Email: funnydoll5@yahoo.com</p> <p style="text-align: center;">²Lahore College for Women University Lahore Pakistan; Email: Paristan12@yahoo.com</p> <p>ABSTRACT: This review is about the history of those black skinned people who were treated like slaves in the past because it was believed that black skinned people were born to serve others in fact they are slaves who have no right to live like humans. Alice Walker in “STRONG HORSE TEA” focuses how Rannie Toomer lost her only child and how she has become the victim of white men’s exploitation who suffered from superiority complex and they considered themselves torch-bearers and civilized but in reality they are in need to be civilized and they are savage, ignorant, cruel and prejudice. [Stem Cell. 2010;1(1):58-59] (ISSN 1545-4570).</p>	<p style="text-align: right;">Full Text</p> <p style="text-align: right;">58-59</p>

8	<p>Effect of <i>Bacillus thuringiensis</i> var. <i>israelensis</i> (H-14) on <i>Culex</i>, <i>Aedes</i> and <i>Anopheles</i> larvae (Cotonou; Benin)</p> <p>Gbehou Nounagnon Achille ^{1,*}, Houssou S. Christophe², Li Yilian ³</p> <ol style="list-style-type: none"> 1. School of Environmental Studies, China University of Geosciences, Hubei province, 388 lumo Road, 430074 Wuhan, P.R China, , 008615927014830 2. University of Benin, (Abomey-Calavi), Dean of the Faculty of Human sciences Box: 526- Abomey- Calavi- Benin 3. China University of Geosciences, Department of Environmental Sciences, 388 Lumo Road, Hongshan District, Wuhan City, Hubei province, 430074, P.R.China <p>*For correspondence: achillegbbehou@yahoo.fr</p> <p>Abstract: The use of insect-specific toxins from <i>Bacillus thuringiensis</i> var. <i>israelensis</i> is forming an increasingly important component of biological control strategies that are either being implemented or planned for use in mosquito control. In terms of morbidity and mortality caused by vector-borne diseases, mosquitoes are the most dangerous animals confronting mankind. They threaten more than 2 billion people and have substantially influenced the development of mankind, not only socio-economically but also politically. In this study, the use of <i>Bacillus thuringiensis</i> var. <i>israelensis</i> crystals for controlling insect's larvae was carried out at laboratory scale. Three species of insects were tested. The operational parameters for the most efficient use and monitoring of <i>Bacillus thuringiensis</i> var. <i>israelensis</i> toxins against insect's larvae in the laboratory were discussed. [Stem Cell. 2010;1(1):60-68] (ISSN 1545-4570).</p>	<p>Full Text</p> <p>60-68</p>
9	<p>Determination Of Thermal Stability Of Oral Polio Vaccine (Opv) At Different Temperature Under Laboratory Conditions</p> <p>Muhammad T¹, SS Baba², LT Zaria², AD El-Yuguda² And IB Thilza³</p> <p>¹who National Polio Laboratory University Of Maiduguri Teaching Hospital. ²department Of Veterinary Microbiology And Parasitology University Of Maiduguri. ³department Of Veterinary Medicine, University Of Maiduguri. muhammادت6@gmail.com</p> <p>ABSTRACT: Expanded program on immunization is one of the strategic universally accepted methods for the control of childhood diseases which include poliomyelitis. In Nigeria both monovalent and trivalent oral polio vaccines are routinely used. Thermal stability was determined using 16 vials obtained from different storage facilities, had titres which ranged from log₁₀ 6.5 to 8.4. These values still fell within the normal limits recommended by WHO as minimum accepted values (P1= log₁₀6.0, P2=5.0 and P3= 5.8). It was observed that the storage facilities in all the three tier of vaccination centres had adequate power supply ranging from solar refrigerators, standby generators and the National Electricity supply. Also, polio vaccine vials have vaccine vial monitor (VVM) device which usually indicate change in color when cold-chain is not maintained. This necessitated the change of vaccine carrier when the need arose during the house to house immunization exercise. Adequate potency obtained in this study confirmed ideal storage condition of vaccines in Maiduguri. [Stem Cell. 2010;1(1):69-73] (ISSN 1545-4570).</p>	<p>Full Text</p> <p>69-73</p>