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BIOMEDICINES -AAKASHMONI COST-EFFECTIVE COVID-19 VACCINE: REDUCED PLANT-DISEASES ENRICHED SCIENCE TECHNOLOGY COMMUNICATIONS SOCIO-ECONOMY BIO-APPLICATIONS

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ABSTRACT
Current pandemic-novel-coronavirus, COVID-19 has been an urgency to develop, at least personalized-biomedicines as 'Vaccine', for potent cost-effective emergency-care treatments against COVID-19. So, India emphasis on the most number-one-consumption immunity-developer-nutritious-vegetables economically-important-crops, okra, is naturally infected by different pathogens, reducing production significantly. Though pesticides are the most effective means of control, but they are expensive and not environment-friendly. So, to conquer both the situations, it is reported that the biomedicines; *Acacia auriculiformis* extract or Aakashmoni or Acaciasides, is being traditionally used for controlling different diseases-forming-pathogens. Present pretreatments with the high or ultra-high-diluted biomedicines; Aakashmoni, prepared from the fruits of *Acacia auriculiformis* A. Cunn, mixed with water at an extremely low dose, were applied by foliar spray once daily for 15 days @ 10 ml/plant, against Root-Knot (RK), Yellow Vein Mosaic Virus (YVMV) and Okra Enation Leaf Curl Virus (OELCV) diseases of okra, (*Abelmoschus esculentus* L. Moench) cv.Ankur-40. The soluble root-proteins were separated by using sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE) and were scanned with a recording densitometer electrophoretic scanner, measuring the molecular weight of proteins. Pretreatments with the high or ultra-high-diluted biomedicines; Aakashmoni, highly effective in reducing different okra-diseases by synthesis of new pathogenesis-related-protein (PR-proteins), inducing their natural defense-response against pathogens-infection and enhanced their growth as well as protein content of fruits and roots.The high or ultra-high-diluted biomedicines; Aakashmoni, at an extremely low dose, not only effective against various plant-diseases, by the synthesis of new-PR-proteins, increasing natural-defense-response, but also, it may be an urgency to develop safe and an effective-potential-cost-effective-emergency-care-personalized-biomedical-drugs for emergency-applicable-treatment-methods as 'Vaccine' against coronavirus, the COVID-19, by boosting the immune system, improved biodiversity conservations, socio-economy, science and technology communication and easily-prepare biomedicines bio-applications issues, and the okra, may itself be a "Vaccine-Biomedicine", reviving human civilizations in the old form by winning against COVID-19 war.

KEYWORDS: Biomedicines-Aakashmoni, Cost-Effective-COVID-19-Vaccine, Reduced-Plant-Diseases, Enriched- Science-Technology-Communications, Socio-Economy, Bio-Applications

INTRODUCTION

1.1 Pandemic problems

The COVID19 pandemic, effects on the human civilization[1], global health, travel, economy, and the clinical research, with scientists, has been an urgency to develop vaccines against coronavirus [2] due to recent unusual viral pneumonia [3] forming the fifth endemic coronavirus, leaping from animals to humans [4] which is very closely related to the animal-human virus [5], genetic resistance [6], divergence, structural and the future evolution, adaptation, and spread [7], prevails a long time as an asymptomatic patients [8], and the recent, pandemic situation is analogous to war, the delay of every week in the deployment of a vaccine to the seven billion humans on earth will cost thousands of lives [9]. For this, WHO responses to the outbreak, the research and development blueprint has been activated to accelerate diagnostics, vaccines, and therapeutics for this novel coronavirus [10].

1.2 To meet the challenge of the pandemic problems

India emphasis on the most economically important number one consumption-vegetable crop [11], okra, is used as medicinal plants against different infectious diseases, forming the 'nature's gift to human disease-free healthy life'[12], consumed it's as a vegetable in a variety of ways, enriched in vitamins, calcium, folic acid, carbohydrates, phosphorus, magnesium, potassium, iodine, and other mineral matters and a good source of superior nutritional quality -oil and –protein, which is essential for human nutrition, and mature fruit and stems contain crude fiber, used in the paper industry and sugarcane industry of India achieved first in the world [13].

1.3 Significant problems

Recently, the production of okra, is hampered by the naturally occurring Root-Knot (RK) diseases [14,15] caused by the nematode-pathogens, *Meloidogyne*

incognita (Kofoid and white, Chitwood, 1949), Yellow Vein Mosaic Virus (YVMV) disease- and Okra Enation Leaf Curl Virus (OELCV) disease-, caused by the virus-pathogens. The use of chemicals is the most effective means of control, but they are expensive and not environment-friendly creating health hazards [14-15] and the genetics-resistance to YVMV and OELCV in okra, and diversity of viruses affect the production of okra also [16]. These are serious issues that directly cause crises of financial losses, food productions, and climatic changes, but in combination, their impact could be catastrophic for the global economy [17-18].

1.4 Probable solutions

A number of plant –bioagents [19-21] or –bio nematicides [15,22-23] and intercropping [24-27], and biomedicine [28-35] only stand as a suitable- and useful- against different plants-, animals- and human- diseases caused by pathogens. But it remains a problem of biodiversity conservation green economy applications and not always cost-effective [14-15,19-35].

1.5 The most appropriate, economic, and sustainable solutions

The clinical biomedicines; *Acacia auriculiformis* extract or Acaciasides (A&B), is being used against various medical complications due to its low toxicity and high efficacy and presence of effective bioactive phyto constituents, controlling more than thirty-five diseases by inducing natural immunity; of animals and plants and root callous [14-15,19-22,28-31,33-38], but it causes the problem of biodiversity conservation green economy applications and not always cost-effective [21,24-27,32,39-48]. To concur with the both-situations, the most appropriate, economic, and sustainable solutions, are the clinical-biomedicines; Aakashmoni, prepared from the fruits of *Acacia auriculiformis* A. Cunn, are being used traditionally to overcome many medical complications due to its low toxicity and high efficacy and it is highly effective in ameliorating different plants and animal diseases [43-48].

1.6 Aims and objectives

Now the main aims and objectives were: to investigate new and more efficient solutions, technologies and products for controlling disease, by using an ultra-high diluted biomedicines; Aakashmoni, prepared from the fruits of *Acacia auriculiformis* A. Cunn, with pretreatment, at an extremely low dose, under naturally infected very common; Root-Knot (RK), Yellow Vein Mosaic Virus (YVMV), and Okra Enation Leaf Curl Virus (OELCV) diseases of okra, (*Abelmoschus esculentus* L. Moench) cv.Ankur-40, in field trials, and to see the synthesis of new root-proteins, which are separated by using sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE) and are scanned with recording densitometer electrophoretic scanner, measuring the molecular weight of the proteins.

1.7 The most appropriate, economic, and sustainable treatment-methods

At present, the epidemic COVID-19 disease, has no targeted therapeutics, and effective treatment options, remain very limited [1-4]. Now it may influences to the development of methods for effective treatments OR vaccines [9-10] against coronavirus disease (COVID-19) outbreak by improving our immune system. Primarily, it is suggested as an idea entitled, "Discovery of COVID-19 Vaccine by Using Acaciades as a Phytomedicine Improving Science and Technology Communication Applications- An Ideas"[38,49], based on its potentiality [20]. But it has a problem of biodiversity-conservation green-economy easily-preparable-applications and not cost-effective [14-15,19-35]. So, it may be an urgency to develop safe and effective-potential-cost-effective-emergency -care-personalized-biomedical-drugs for emergency- applicable-treatment-methods as 'Vaccine' against corona virus, the COVID-19.

2. MATERIALS AND METHODS

2.1 Preparation of Biomedicines-Aakashmoni Mother Tincture (MT)

Air-dried and powdered fruits or funicles of *Acacia auriculiformis* A. Cunn. (Plate 1) were extracted with 90% ethanol at room temperature (25 ± 2°C) for 15 days and was filtered for collecting extract. Later, the ethanol from the extract was removed by evaporation at room temperature (25 ± 2°C). The residue was dried in a desiccator over anhydrous calcium chloride [15,19,31,37,43-49]. The crude residue was dissolved in 90% ethanol at 1 mg/ml concentration and were formed homeopathic mother tincture of *A. auriculiformis*, named Aakashmoni MT (Original solution or crude extract i.e. Mother Tincture) and named is coined about Tagore Rabindranath Thakur [31,43-51].

2.2 Preparation of Ultra-High Diluted Liquid Aakashmoni Medicines

The Aakashmoni MT were diluted with 90% ethanol (1:100) proportionate in a round vial which was filled up to two-thirds of its space, tightly corked and then were given 10 powerful downward strokes of the arm, forming the 1st centesimal potency named Aakashmoni 1C and all the subsequent potencies were prepared in this way; Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C medicine, were prepared respectively [31,43-51].

2.3 Preparation of Medicated Aakashmoni Globules

The few drops of a liquid potency of; Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C, were prepared respectively [31,43-51].

2.4 Preparation of Medicated Control Globules

Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C, were prepared respectively by the same way [31,43-51].

2.5 Preparation of Ultra High Diluted Biomedicines

Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C, pretreatment test- and control-solutions by mixing with sterile distilled water in the proportion of 7.2 mg globules/ml of water respectively [31,43-51].

2.6 Mortality Test

For the assessment of the direct effect of Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C, pretreatment - test solution [31,43-52].

2.7 Preparation of the pretreatment experimental plots

The experiment was carried out in the garden of the Department of Zoology, Visva-Bharati, Santiniketan–731 235, West Bengal, India, at an ambient temperature 25±2oC and RH 75±5% [14-15,19-33,37-48]. Six concrete plots were a mixture of sandy soil and yard manure (2:1, v/v). One untreated plot was treated with boiling water five times for denematization and the other five plots were naturally infected with *Meloidogyne incognita* (Kofoid and White, Chitwood, 1949). For uniform distribution, in these five plots, soil and root samples were taken at random to determine the extent and intensity of *M. incognita* -pathogen infestation by mixing @ 2,37,000±2375 J2 / plot each (*M. incognita* juveniles) [14-15,19-33,37-48,53-56].

2.8 Plantations

Aseptically germinated seeds of okra (*Abelmoschus esculentus* L. cv. Ankur-40) were planted with a gap of 25cm in the six plots and allowed to grow for a period of seventy-six days. The pretreatments-plots were: Uninoculated Untreated, Inoculated Untreated, Aakashmoni MT-Treated, Aakashmoni 30C-Treated, Aakashmoni 200C-Treated and Aakashmoni 1000C-Treated [14-15,19-33,37-48,53-56].

2.9 Pretreatment with High Diluted Biomedicines

Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C -Test and -Control Solutions: After 29-days, the Root-Knot (RK) diseases (Plate 2) caused by the nematode-pathogens [14-15], Yellow Vein Mosaic Virus (YVMV) disease (Plate-3) and Okra Enation Leaf Curl Virus (OELCV) disease (Plate 4), caused by the virus-pathogens which spreads by an insect vector, named-whitefly (*Bemisia tabaci* Gen), are naturally occurred and at this 6-leaf stage of okra plants, all the diseases were assessed initially (before pretreatments), and pretreatments were done by foliar spray @10 ml/plant (7.2 mg/ml concentration) once daily for 15 days with; Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C, –test solutions and -control solution respectively [31,43-48,57-59].

2.10 Analysis of Residue

The residues run in a thin layer chromatography plate (TLC) with the standard; Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C, -pretreatment test substances respectively [31,43-48,59].

2.11 Harvesting

Seventy-six days after plantation of germinated seeds of okra, all the plants were uprooted from each plot and the parameters of growth and nematode infection such as biomass of shoot and root, root gall number, nematode population per gram of root and 200 soil, fruit and root total protein fraction in each sample was estimated [59-60]. At thirty days after the last pretreatment, all the parameters of diseases were assessed again (after last pretreatments) for each group and all the data were used for statistical analysis by Student t-test [15,22,25,31,37,43-48,61] and all the data were considered and were presented in Table 1.

2.12 Preparation of Root Proteins

Fresh roots of okra plants of 6-groups were collected at random and root pieces were homogenized with distilled water using mortar and pestle followed by glass tube homogenizer [59-61]. The extracts were then centrifuged at 3,500 rpm for 15 minutes at 4^0C in Remi C-24 refrigerated centrifuge and the supernatants were collected. All the samples were transferred into lyophilizer and after lyophilization, the powdery extract was stored (-200C) for protein separation [59-62].

2.13 Densitometer Scanning

Analysis of total soluble roots proteins separation was carried out essentially by the method of Laemmli [62], by using one-dimensional vertical sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE), with the modification as suggested by the LKB Instructional Manual (1986). A 10% separating gel and 5% stacking gel were used. Samples for the preparation of electrophoretic run were mixed with 2x treatment buffer. A sample of 65µl of root protein extract was loaded along with dye. The bands were scanned with recording electrophoretic scanner (Biomidi, 96-300 densitometers, Pare de La Plaine, France). The observation was recorded from the densitometers scanning curve measuring the total number of root-proteins with molecular weight. Wide range markers (k) of Pharmacia United Ltd., Sweden, were used as the standard, for the molecular weight estimation of proteins [63].

2.14 Science and Technology Communications Biomedicines Economy Applications

The activity and the importance of "Pretreatment with Ultra-High Diluted biomedicines; Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C, at an Extremely Low Doses, Use as Potential Cost-Effective Biomedicines Against Various Pathogens including COVID-19: Enriching Science and Technology Communication Green-economy Applications and Healthcare-, Defense response- and Immunity- as well as Biodiversity Conservation- Issues" in different audiovisual media (TV channels), social media, web pages, newspapers, and journals are recorded, which is a platform to promote and discuss different new issues and developments by publishing [14-15,19-33,37-49,64-67].

2.15 Development of Vaccine AgainstCOVID-19 and Future Ideas

It will be achieved from typical analysis or justifications of literature review, reports of clinical research trials, or fields note. Then new treatment-methods and ideas or hypotheses or suggestions will arise and clearly label them as such trials for education and prevention are the ultimate keys to extending good health globally [14-15,19-33,37-49,64-67].

3. RESULTS

3.1 Toxicity Test on Mortality

The biomedicines; Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C, at extremely low doses, had no direct toxic effects on nematodes mortality respectively.

3.2 Analysis of Residues Toxicity

Okra leaves collected fifteen days after the last pretreatment did not contain any toxic residue of the biomedicines; Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C.

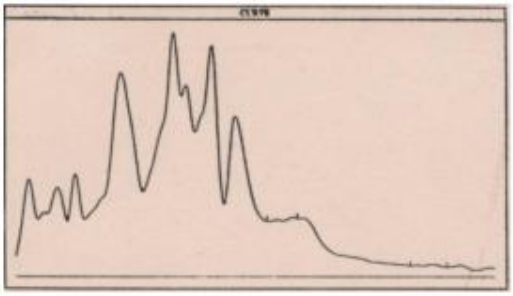
3.3 Root-knot and Foliar Diseases

Table 1 shows the pretreatment effects of ultra-high diluted biomedicines; Aakashmoni MT, Aakashmoni 30C,

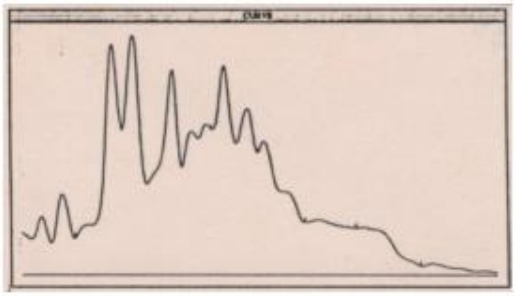
Aakashmoni 200C, and Aakashmoni 1000C, at extremely low doses, on *M. incognita* pathogens infected, Root-Knot (RK) disease, and Yellow Vein Mosaic Virus (YVMV) and Okra Enation Leaf Curl Virus (OELCV) foliar diseases of okra plants, assessed initially (Day-0) means before pretreatments and after a period of 30 days (Day-30) means after last pretreatments, in a field trial with the number of shared root-protein in comparison to uninoculated untreated one ($P<0.01$ by 't'- test). All the pretreatments with biomedicines; Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C, significantly reduced the root-knot and foliar diseases in comparison to the first two plots; uninoculated untreated (control) and inoculated untreated ones. Though, all the five plants groups, average; the number of leaves, number of nematodes in soil, biomass of shoots, and protein of fruits, are significantly increased than inoculated untreated plants group, but average; the biomass of roots, number of root galls and nematodes populations in roots and root protein content percent, is higher in the inoculated untreated one. The highest number of common-shared root proteins are six in healthy uninoculated untreated control plants and the lowest number is one (Table 1 and Fig. 1).

3.4 Root proteins of the okra

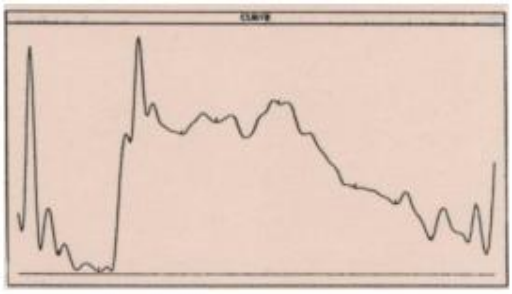
Table 2 and Fig.1; shows the molecular weight (k) of the root proteins of the different groups of okra plants, pretreated with ultra-high diluted biomedicines; Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C, at extremely low doses, on *M. incognita* pathogens infected, Root-Knot disease, and Yellow Vein Mosaic Virus (YVMV) and Okra Enation Leaf Curl Virus (OELCV) foliar diseases of okra plants. An analysis of root proteins of all groups by electrophoresis and densitometer scanning of all the test plants show that all the Aakashmoni-pretreatments resulted in the increased number of proteins in the roots; the lowest number of protein is 11 in the uninoculated untreated roots and highest number of proteins, are 20 in Aakashmoni 200C and 19 in Aakashmoni 30C -pretreated roots respectively (Table 2 and Fig. 1). The highest molecular weight of the protein is 280k (280,000kDa) and the lowest molecular weight of the protein is 11k (11,000kDa). The lowest number of the new pathogenesis-related protein (PR-proteins) is 5 in the uninoculated untreated roots and the highest number of the new pathogenesis-related proteins (PR-proteins) are 17, in the Aakashmoni MT, Aakashmoni 30C and Aakashmoni 200C, -pretreated roots respectively (Table 2 and Fig. 1). Though, the PR-proteins of inoculated untreated and Aakashmoni 1000C - pretreated, are 14 respectively (Table 2 and Fig. 1).



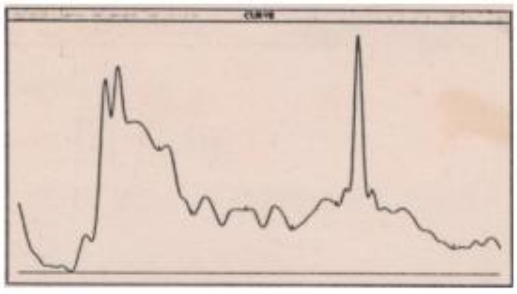
1a. Uninoculated Untreated



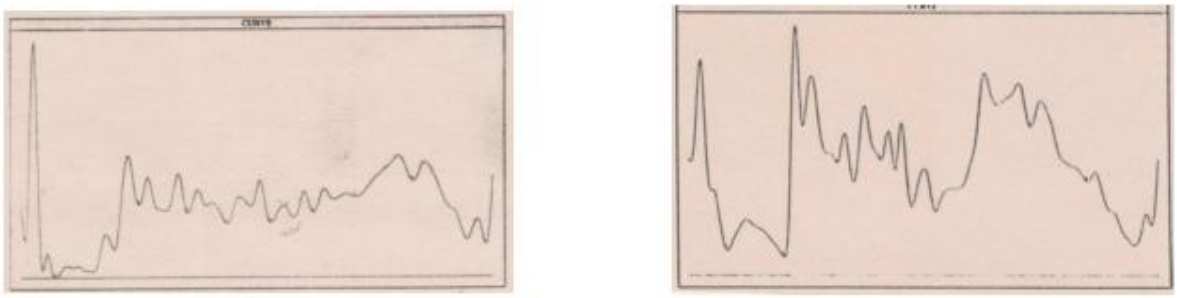
1b. Inoculated Untreated



1c. Aakashmoni MT Pretreated



1d. Aakashmoni 30C Pretreated



1e. Aakashmoni 200C Pretreated 1f. Aakashmoni 1000C Pretreated

FIG.1: Densitometry tracings of root proteins of okra plants resolved on sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE).

3.4 Science and Technology Communications Biomedicines Economy Applications

Achieved by; campaign, aware, discuss, arrange workshops and seminars, make news, and publish as abstract regarding the importance of "Pretreatment with the high or ultra-high diluted; Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C, at extremely low doses; Indicate the Potential Cost-Effective Emergency-Care Personalized-Biomedicines Against Various Pathogens including COVID-19".

3.5 Development of Vaccine Against COVID-19

The results may fulfill the goal of a treatment-methods against coronavirus because the present pretreatments with the high or ultra-high diluted biomedicines; Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C, at extremely low doses, against COVID-19, need to justify emergency use of medicines after discussion.

3.5 Future Ideas in Research

Here, the results fulfill the goal of a research title because the present pretreatments with biomedicines; Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C, with regular consumption of okra vegetables of need to justify future research ideas for the development of the vaccine.

4. DISCUSSION

4.1 On Plant Diseases

All the highly or ultra-high diluted biomedicines; Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C, at extremely low doses, ones again not only reduced Root-Knot disease, and Yellow Vein Mosaic Virus (YVMV) and Okra Enation Leaf Curl Virus (OELCV) foliar diseases of okra plants but also improved the nutritive value (especially protein) of the pretreated fruits of the naturally infected plants [31,42-49]. So, it can be used for controlling all naturally occurring plant diseases.

4.2 On Toxicity

The present study clearly showed that the high or ultra-high diluted biomedicines; Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C, were pretreated as effective or potential biomedicine at extremely low doses and it had no direct toxic effect on okra plants but to the pathogens of nematodes [31,42-49]. So, it may be used directly against diseases of plants and animals.

4.3 On Synthesis

All the biomedicines; Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C, could induce synthesis of some antagonistic substances in the pretreated plants [22-23,54], which resist against pathogens, such as lectins accumulated in gall-regions of the root of Hibiscus esculentus infected with M. incognita [67-71]. So, it may be used for resistance against diseases of plants and animals.

4.4 On Disease Resistance Mechanisms

Systemic acquired resistance can be induced by in different crop plants by localized virus infection, non-pathogenic and pathogenic microorganisms, or their culture filtrates or by salicylic acid [70-74] or by the polar vesicles [75] or by the defense-related triterpene glycoside avenaacin A-1 is synthesized [76]. So, it can be used for the resistance mechanism against diseases of plants and animals.

4.5 On Defense Response

It is reported that a plant plasma membrane ATP binding cassette-type transporter [77] is involved in antifungal terpenoid, for this transporter in disease resistance or by the share of common antigens with its host plants [79] or by the pure compounds of acaciasides [37,79-82], which use against pathogens.

4.6 On Pathogenesis Related Proteins

Pretreatments with the highly or ultra-high diluted biomedicines; Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C, at an extremely low doses, all the test plants synthesis of various proteins (antigens), and lowest number of the new pathogenesis-related protein (PR-proteins) is 5 in the uninoculated untreated roots and highest number of the new pathogenesis-related protein (PR-proteins) is 17 in Aakashmoni MT, Aakashmoni 30C and Aakashmoni 200C, -pretreated roots respectively, which induce defense responses involving several pathogenesis-related proteins, specially low molecular weight proteins, in which the naturally infected plant pathogens fail to tolerate, like the NE (nematode extract) [15,20,22-23,37,84], because during natural infection with pathogen, host plant showed minimum defense responses for the antigenic (proteins) similarity [78], which it is proved from the inoculated untreated and and Aakashmoni 1000C -pretreatment okra plants groups respectively, and the ultra-high diluted

drugs; Aakashmoni MT, Aakashmoni 30C and Aakashmoni 200C, produce highest number of new PR-proteins, i.e., 17 respectively. So, Aakashmoni, may be used directly against diseases of plants and animals, by improving immunity or defense responses with the help of new proteins.

4.7 On Biodiversity Conservations

Those showed that nematode pathogens infestation somehow serves as a repressor for the expression of defense gene in plant [2-3,7-20,22-23,28-31,33,37-38,84-88], which can be assumed with pretreated-biomedical drugs; Aakashmoni, serve as a stimulus for the expression of many new induced defense-related PR-proteins by systemic acquired resistance [68,72-73], in which plant immune systems increased pathogen resistance, as well as pathogen inhibition of such defense responses [84], which is governed by defense response genes encoding for the production of various pathogenesis-related (PR) proteins [85], serving a very cost-effective eco-friendly phytomedicine and promoted growth of test plants and this ultra-highly diluted pretreated-biomedical drug conserved our biodiversity conservations.

4.8 Key Question

Now the key question is, whether plant-derived natural products, the high or ultra-highly-diluted pretreated-drugs; Aakashmoni, at an extremely low dose, can be used as potential cost effective-biomedical by inducing defense-response against various plant-pathogens causing major (okra-) diseases in a field trial and effective against animal pathogens also? [19-20,22-23,37-38,83].

4.9 Key Answer

Now the Key answer is, the ultra-high-diluted-pretreated-biomedicines; Aakashmoni, at an extremely low dose, are not only highly effective in ameliorating different plant diseases [31,42-49], enriching agriculture industry as well as green biomedicine economy applications [84-85], but also may be effective against diseases of animal and human also by inducing immunity [86-87].

4.10 Development of Cost-Effective Emergency-Care Personalized-Biomedicines

● **In Genome Biology;** We're not completely human, at least when it comes to the genetic material inside our cells; 145-genes from bacteria, other unicellular organisms, and viruses with 17- as possible horizontal gene transfers [88], the genomic sequencing 96.2% identical to a bat coronavirus and shares a 79.5% sequence identity to SARS-CoV [88-90] deal with the structure and function of genetic material underpinning all organisms [91-92]. Approximately, ten percent of the human genome is made of bits of virus- DNA [93]. Human endogenous retroviruses are by far the most common virus-derived sequences in the human genome [94] which don't always require a body [95].

● **In Genetic Resistance;** It is reported that genetic resistance to coronavirus infection according to those three host resistance mechanisms: genetic control [16] and SARS-CoV-2 is the etiological agent responsible for the pandemic COVID-19 outbreak and the main protease (Mpro) of SARS-CoV-2 is a key enzyme that plays an important role in helping in viral replication and transcription-structure-based design of antiviral drug [97].

● **In Immune System Blueprint;** Once the virus infects the host cell, it takes over the host cell's machinery to produce more viruses. The host cell essentially becomes a virus factory. When the human body is attacked by germs, the immune system kicks into gear to fight, by improving the immune system, creates a blueprint of the attacking agent, by which, the body effectively remembers the germ - enabling a person to fight for re-infection by the same or similar viruses [97].

● **Traditional Medicine in Human History;** In the evolution of human history shows the people are using traditional medicine for therapeutic purposes, and the 70%- 80% population is primarily dependent on animals and plant-based [10,98].

● **Therapeutic Value of Traditional Medicines;** It is reported that the biomedicines or phytomedicine- *Acacia auriculiformis* extract or Acaciasides, is being used traditionally to overcome various medical complications like sore eyes, aches, rheumatism, allergy, itching, and rashes. Besides, it has also been proven for many pharmacological activities like central nervous system depressant activity, antioxidant, antimicrobial, antimalarial, antifilarial, anticestodals, antimutagenic, chemopreventive, spermicidal, wound healing, hepatoprotective and antidiabetic activity due to its low toxicity (LD50 = 3741.7 mg/kg) and high efficacy and the various phytochemical investigations reveal the presence of chief constituents as flavonoids and triterpenoid saponin glycosides. The low toxicity and the presence of major bioactive phytoconstituents like flavonoids and triterpenoid saponin glycosides are responsible for a therapeutic remedy for various diseases and pharmacological activities respectively. It has been used to treat several medical ailments due to its low toxicity and the presence of bioactive phytoconstituents [15,34-35]. Isolated saponins (acaciasides -A&-B acylated triterpenoid bisglycoside) were screened for their antifilarial activity and results were found to be significant [79,99]. A US-patent claimed the potential of acaciasides (A&B) isolated from A. auriculiformis for the prevention of HIV infection and as a vaginal contraceptive [100]. Its essential oils has hepatoprotective- and hepatic non-toxic- effects, and as a natural source of hepatoprotective agent [101]. But, 4th May 2020, WHO recognizes that untested traditional medicine is being considered as possible treatments for COVID-19 and should be tested for efficacy and adverse side effects? [101].

● **Therapeutic Approach;** Recently, the NovavaxInc, which contributed to the development of other epidemic vaccines, has announced it is currently in pre-clinical animal trials for several multiple nanoparticle COVID-19 vaccine candidates, by using their recombinant protein, the adjuvant is 'saponin-based' and it has shown a "potent and well-tolerated effect" [100,102]. Scientists are trying to discover novel inhibitor molecules against enzymes Mpro and ACE2 by the use of phytochemicals, which be utilized for further innovation and development of antiviral compounds against Coronavirus [104].

● **Vaccination;** So, for successful vaccination requires four components. Human Immunomics Initiative (HII) aims to decode the underlying mechanisms and rules of how the human immune system fights disease with

advances in computing and artificial intelligence, genomics, systems biology, and bioinformatics [104]. And should follow the guideline of WHO entitled "Vaccine-preventable diseases and vaccines"[10,104-105]. It reduces wait time for emergency vaccination [106] and one or more randomized trials will be needed to answer [107]. Then, with allopath is using trial and error method in some cases to treat COVID-19 [101,108] and according to the World Health Organization's latest table of COVID-19 vaccines, 124-candidates with technologies or platforms. Merck's new investments focus on two different COVID-19 vaccines that are already in early clinical trials [109].

● **Development of Ideas for Treatment Methods against COVID-19;** In this situation, it will be essential to inform public health expertise for moving academic research [110] with "Return to Work" [111] and a gradual, stepwise approach to reopening. And, the present results and discussion, fulfill the goal for the effective treatments methods, because the present pretreatments with the high or ultra-high diluted biomedicines; Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C, -liquid OR -globules, at extremely low doses, prepared from the fruits of *Acacia auriculiformis* A. Cunn, mixed with water at an extremely low dose [14-15,19,42-51], need to justify [101] for immunomodulatory effect [112].

4.11 Causes for Applications Biomedicines

Recently, in lower-income countries, cause excess deaths due to closer inter-generational-contact; crowded home environments, largely negated, and poorer health care benefit [113-114]. On the other hand, Yemen was grappling with "the largest humanitarian crisis in the world [115]. So, we urgently need effective drugs for coronavirus disease 2019 (Covid-19), but what is the quickest way to find them [116]? Two major infections, smallpox and rinderpest, have been eradicated by vaccination globally [117], which has been needed to invest and distribute vaccine globally on an equitable and proven safe and effective to achieving herd immunity [118] and COVID pandemic have striking parallels despite their differences in many ways as communities of color [119]. For this, apply the plasma from COVID-19 survivors to help save others [120]. Recent trials, the Max Planck Institute test with plant extract []101,121] and News Drug Target Review's therapeutics and vaccines against the novel coronavirus disease [102]. The vaccine, NVX-CoV2373, Novavax, clinical trials for phase III with up to 30,000 participants of 2020 [122]. So, I think, though it is maybe applicable as a vaccine, but it will not be cost-effective and affects biodiversity in conservation with green economy applications [14-15,19-38]. Hence, the high-diluted biomedicines; pretreated- and post-treated- Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C, -liquid OR -globules, [42-49] may be used in vaccine formulations to regulate immune function by acting as -antioxidants and -scavenge oxidative stress [14-15,19-38,49] due to the presence of chief constituents of many human health care potential biologically active chemical compounds that work through several modes of action; flavonoids and triterpenoid saponin glycosides. The low toxicity and the presence of major bioactive phytoconstituents like flavonoids and triterpenoid saponin glycosides are responsible for a therapeutic remedy for various diseases and pharmacological activities respectively. It has been used to treat several medical ailments due to its low toxicity and the presence of bioactive phytoconstituents [33-36,38]. Isolated saponins (acaciasides -A&-B acylated triterpenoid bisglycoside) from fruits (funicles) of A. auriculiformis were screened for their antifilarial activity and results were found to be significant [33-35]. A US patent claimed the potential of acaciasides (A&B) isolated from *A. auriculiformis* for the prevention of HIV infection and as a vaginal contraceptive [49,99].

4.12 Immediate Applications of Biomedicines

Recently, novel coronavirus infection shows new symptom, COVID-Toes among the kids [124] and on the other hand current pandemic locust attack in India causes the new crises of food securities [124], and substantial excess deaths in lower-income countries due to the poorer health care available [113], humanitarian crisis [115], the world has joined hands to find a vaccine for the novel coronavirus. At present, many groups (80) are working globally for vaccines for humans which normally take years to develop. Currently, there are [116] potential vaccines for the SARS-CoV-2 which are in different stages of clinical trials [125]. In this situations, it is thought that the personalized medicines, may improve medical decision-making individualized diagnosis, prevention, and treatment of diseases [126], because an institute of public organization of developing countries, with the support of WHO, was an example for the production of vaccines, and to distribute free for all the population in Brazil, succeeding to be an important producer, became the "bad example"[127]. So, the present pretreatments with the high or ultra-high diluted biomedicines; Aakshmoni, at extremely low doses, should be immediately utilized against pandemic COVID-19 for beneficial clinical treatments, with limited side effects [128-131], because the virus spread faster around the world Or is it just coincidence for mutation [132]. And the world has now witnessed the compression of 6 years of work into 6 months which can the vaccine multiverse do it again, leading to a reality of a safe, efficacious Covid-19 vaccine for the most vulnerable in the next 6 [133].

4.13 Emergency Effective Treatment with Cost-Effective Emergency-Care Personalized-Biomedicines against COVID-19

For General and Diabetic Patients

The high or ultra-high diluted liquid biomedicines; Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C, prepared from the funicles of *Acacia auriculiformis* A. Cunn, @ 5-10 drops mixed with 10-20 ml of sterile distilled- or pure drinking -water, maybe orally administered twice daily in the early morning and evening respectively (before taking any food) for 10-15 days, depending on age and body weight, against naturally occurring novel coronavirus infections,15-days before symptom onset OR illness onset (as a vaccine) OR onset of symptoms where patients in hospital-associated COVID-19 infections have been reported (treatments)

[19,31,42-51,108,126-131]. In the case of the application of drugs for treatment, depending on the disease intensity, the dose may be increased 3-5 times a day. It is cost-effective, eco-friendly, and easy -prepare able and –available and emergency applicable drug [38,49,106,125-131,134]. It is obligatory that information on ClinicalTrials.gov, a resource provided by the U.S. National Library of Medicine (NLM), to the National Institutes of Health (NIH) or World Health Organization or other agencies of the U.S. Federal Government, is provided by study sponsors and investigators, and they are responsible for ensuring that the studies follow all applicable laws and regulations [98,104-105,123,129-130,134-136] and these concerned authorities should be permitted for direct-emergency [126-131] used of biomedicines; Aakshmoni, -liquid against COVID-19 [38,49,106,125-131,134], which is well known with the generalized concept of medicines for emergency apply [126-130] and this drug serve as emergency-medicines, like antibiotics, leading to a generalized concept of medicine for emergency-applications [130,135]. It is the most cost-effective [129-130], easily prepare able [49,121], easily available [19-20,28-31,38,118], easily applicable [126-131] and help in biodiversity conservations and green economy applications against COVID-19 also [19,31,42-51,108,126-131] for the nonspecific benefits as well as immunity to the target pathogen? [137], though the three "immune types" may have implications for the design of therapeutics and vaccines for COVID-19 [138]. It may be direct-emergency used of biomedicines; Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C, -liquid against COVID-19, because high or ultra-high diluted biomedicines have actually no drug molecules (due to cross the Avogadro number i.e., 6.023 X 10^{23}) [38,49,106,125-131,134].

For General and Nondiabetic Patients

The high or ultra-high diluted biomedicines globules; Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C, prepared from the funicles of Acacia auriculiformis A. Cunn, @ 10- medicated-globules (7.2mg), maybe orally administered once daily for 15 days, against naturally occurring virus infections 15-days before symptom onset OR illness onset (as a vaccine) OR onset of symptoms where patients admitted in hospital with COVID-19 infections have been reported (treatments) [19,31,42-51,108,126-131]. In the case of treatment, depending on the disease intensity, the dose may also be increased 3-4 times a day. It is the most cost-effective and easy -prepare able and –available drug [38,49,106,125-131,134]. The biomedicine globules; Aakashmoni, can also be directly used for emergency effective treatment of COVID-19 after getting permission from the; -WHO, -ClinicalTrials.gov., -U.S. NLM and –NIH [98,104-105,123,129-130,134-136] and this concerned authorities should be permitted for direct-emergency used of biomedicines; Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C, -liquid against COVID-19, because high or ultra-high diluted biomedicines; Aakashmoni, have actually no drug molecules and no side effects [38,49,106,125-131,134] and serve as medicines, like antibiotics, leading to a generalized concept of medicine [130,135]. The body as a complex system has the capacity for self-organization, emergence and self-similarity over global (overall health and wellbeing) and local (organ) levels of organization and these features are key for future research on the systemic healing that evolves over time during individualized emergency treatment with biomedicines; Aakashmoni [138], which is a complex nano-scale system involving multiple inter-connected, interacting components, and emergent properties [139]. It is the most; cost-effective, easily prepare able, easily available, and helps in biodiversity conservations and green economy applications issues and easily applicable also with increasing immunity [137] and it is the best emergency effective applicable treatment method [19,31,42-51,108,126-131] against COVID-19. It is also studied the cost-effectiveness of emergency care interventions in low and middle-income countries like India [127-130].

Notes for Use, Production and Application of Emergency Cost-Effective Emergency-Care Personalized- Biomedicines against COVID-19

Recently, the NovavaxInc, has announced it is currently in pre-clinical animal trials for several multiple nanoparticle COVID-19 vaccine candidates, the adjuvant is 'saponin-based' [100-102]. Merck's new investments focus on two different COVID-19 vaccines that are already in early clinical trials [109] and the Max Planck Institute test plant extract [101,121] against the novel coronavirus disease and extracts show very little toxicity and artemisinin-based drugs are widely used to treat malaria even in newborns [105,109,121]. Recent trials, the Max Planck Institute test with plant extract []101,121] and News Drug Target Review's therapeutics and vaccines against the novel coronavirus disease [102]. The vaccine, NVX-CoV2373, Novavax, clinical trials for phase III with up to 30,000 participants of 2020 [122]. In this situations, it is thought that the high or ultra-high diluted biomedicines; Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C, the personalized medicines, may improve medical decision-making individualized diagnosis, prevention, and emergency cost-effective treatment methods against COVID-19 diseases [126], with the support of WHO, NIH, ClinicalTrials.gov. and U.S. NLM, showing an example for the 'Use, Production and Emergency Application of Vaccines', and to distribute free for all the population [38,49,106,125-131,134-140].

4.14 Science and Technology Communications Biomedicines Economy Applications

Recently, the Coronavirus pandemic has adverse effects on education, especially on school education and characteristics, including research, academic programs, staff professional development, and jobs also [141]. At present, many groups (80) are working globally for vaccines for a human which normally takes years to develop. Currently, there are [116] potential vaccines for the SARS-CoV-2 which are in different stages of clinical trials [125]. While a cure or vaccine for COVID-19 is not available, in the absence of any side-effects and adverse interactions with any conventional medicines along with a robust safety profile and repeated evidence-based

successes against viral infections, the ultra-high diluted biomedicine; Aakashmoni, at an extremely low dose, may play an important role in the fight against COVID-19 [127,129]. It is the most; cost-effective-methods, easily prepare able, easily available, and help in biodiversity conservations and green economy applications issues also [38,49,106,125-131,134-140] and should be used as emergency applicable cost-effective emergency-care personalized-biomedicines against COVID-19 as early as possible [19,31,42-51,108,126-131], for taking measures or treatment opportunities or avoid new coronavirus infections. And immediate apply by; campaign, aware, discuss, arrange workshops and seminars, make news, and publish as abstract regarding the importance of "Pretreatment with the high or ultra-high diluted; Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C, at extremely low doses; Indicate the Potential Cost-Effective Biomedicines Against Various Pathogens including COVID-19 by Improving Immunity" and "Emergency Use Authorization of Covid Vaccines — Safety and Efficacy Follow-up Considerations" [137-143].

4.15 Future Ideas in Research Okra as a Social Vaccine

Here, the results fulfill the goal of a research title because the present pretreatments with biomedicines; Aakashmoni, with regular consumption of okra vegetables of need to justify future research ideas. It is known that social vaccines resist and change unhealthy social and economic structures and useful metaphor for health promotion [142]. Okra plants itself may serve as a good "Eco-Friendly Highly Economical Plants as well as Biomedicines" thereby reducing diseases conserving our biodiversity contributing towards "Sustainable Climate Health and Development" and it may have important economic implications in agriculture to fulfill its food and nutrition requirement and improved midday meals by preventing malnutrition. And highly-trace-tolerance-okra may be used, in vaccine formulations or treatments or social vaccine, as one of the most powerful potential-biomedicine, improving natural immunity against COVID-19, enriching science and technology communication applications food security economy. It may be the most; cost-effective, easily-available, safe-edible and prepare able as well as and safe alternative to live replicating COVID-19 social vaccines which restarts, a window of hope and opportunity opens for nations.

TABLE 1: Effects of the different Aakashmoni pretreatments groups of okra plants infected with root-knot, YVMV and OELCV diseases

Pretreatments Groups	Average number of disease infected leaves / plant (%)				Average number of leaves / plant	Average number of root galls / plant	Average number of nematodes (Populations)		Average Biomass (g)		Average Protein %		Number of common shared root-Protein In comparison to uninoculated untreated
	YVMV		OELCV				Soil (200g)	Root (2g)	Shoot	Root			
	Day-0	Day-30	Day-0	Day-30							Root	Fruits	
Uninoculated Untreated	1.02%ax ±0.01	78.00%dy ±0.02	0.04%ax ±0.01	9.98%ey ±0.06	11.34a ±0.33	Nil	Nil	Nil	127.25a ±4.34	16.12c ±0.02	1.14d ±0.06	2.87a ±0.23	6
Inoculated Untreated	1.03%ax ±0.03	84.00%ey ±2.12	0.03%ax ±0.03	38.00%fy ±0.09	6.40c ±0.18	348.80d ±15.30	30.20a ±0.14	708.62d ±8.35	118.23b ±3.22	49.72a ±0.09	2.89a ±0.09	1.12d ±0.02	1
Aakashmoni MT-Treated	1.98%ax ±0.02	25.00%cy ±0.51	0.05%ax ±0.02	5.00%dy ±0.05	12.77a ±0.35	59.11c ±0.48	474.68e ±4.65	42.02c ±0.46	107.12c ±2.11	29.12b ±1.76	1.34b ±0.04	1.68c ±0.05	1
Aakashmoni 30C-Treated	1.02%ax ±0.02	7.15%ay ±0.03	0.02%ax ±0.02	0.08%ay ±0.02	10.67b ±0.30	23.22a ±0.72	120.02b ±5.37	18.98a ±0.16	126.30a ±4.26	18.02c ±0.67	1.17c ±0.02	2.24b ±0.02	2
Aakashmoni 200C-Treated	1.03%ax ±0.01	8.25%ay ±0.05	0.03%ax ±0.01	0.59%by ±0.03	9.63b ±0.27	24.98a ±0.78	160.12c ±2.24	22.68b ±0.72	108.31c ±2.17	20.98c ±0.72	1.21c ±0.03	2.19b ±0.03	3
Aakashmoni 1000C-Treated	1.02%ax ±0.04	12.98%by ±0.09	0.02%ax ±0.04	1.73%cy ±0.03	10.78b ±0.24	50.86b ±1.14	238.40d ±6.04	24.59b ±3.73	105.13c ±2.96	18.20c ±0.32	1.19c ±0.01	2.02b ±0.02	2

'a,b,c,d,e'- means different small letter in a column indicate significant difference (P<0.05) by ANOVA.
'x,y'- means different small letter in a row indicate significant difference between day-0 and day-30 (P<0.01) by ANOVA.
'Day-0' - means before pretreatment.,'Day-30' - means after pretreatment.

TABLE 2: Molecular weight (kDa) of the proteins of the different Aakashmoni pretreatments groups of okra plants

Pretreatments Groups	Number Of Protein Bands	Molecular Weight (k) of Treatment Groups Proteins Bands																				Number of PR-Proteins
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Uninoculated Untreated	**11**	**280**	**260**	**240**	**210**	**155**	**115**	**105**	**85**	**70**	**45**	**12.5**	-	-	-	-	-	-	-	-	-	**5**
Inoculated Untreated	**15**	**270**	**240**	**200**	**170**	**145**	**118**	**98**	**90**	**77**	**65**	**58**	**46**	**37**	**27**	**17**	-	-	-	-	-	**14**
Aakashmoni MT-Treated	**18**	**280**	**255**	**230**	**195**	**170**	**150**	**140**	**125**	**92**	**72**	**52**	**46**	**38**	**29**	**20**	**15**	**13**	**12**	-	-	**17**
Aakashmoni 30C-Treated	**19**	**240**	**197**	**175**	**160**	**145**	**120**	**92**	**72**	**65**	**52**	**35**	**31**	**28**	**26**	**23**	**22**	**17**	**12.5**	**11**	-	**17**
Aakashmoni 200C-Treated	**20**	**275**	**240**	**230**	**210**	**175**	**150**	**135**	**110**	**94**	**85**	**67**	**58**	**47**	**38**	**34**	**29**	**20**	**17**	**14**	**11**	**17**
Aakashmoni 1000C-Treated	**16**	**260**	**210**	**150**	**135**	**120**	**110**	**95**	**80**	**72.5**	**60**	**50**	**37.5**	**28**	**23.5**	**16.5**	**11**	-	-	-	-	**14**

'-' indicate no band

PLATE-1: Funicles of *Acacia auriculiformis* A. Cunn.

PLATE-2: Root-Knot (RE) disease caused by *Meloidogyne incognita* of okra

PLATE-3: Yellow Vein Mosaic Virus (YVMV) disease of okra

PLATE-4: Okra Enation Leaf Curl Virus (OELCV) disease of okra

5. CONCLUSIONS

The high or ultra-high diluted biomedicines; Aakashmoni MT, Aakashmoni 30C, Aakashmoni 200C, and Aakashmoni 1000C, at an extremely low dose, not only used as a potential-biomedical-drugs against various plant-diseases, by the synthesis of new PR-proteins, increasing natural-defense-response, but also, it may be increased urgency to develop safe and an effective emergency-treatment cost-effective emergency-care personalized-biomedicines; Aakashmoni for prevention coronavirus, the COVID-19, by increasing the immune system for the improvement of biomedicines economy applications science and technology communication cost-effectiveness and biodiversity conservations as well as socio-economy bio-applications issues, reviving human civilizations in the old form. And in near future okra may itself be a 'Vaccine as well as Biomedicine', and safe alternative to live replicating COVID-19 vaccines which restarts, a window of hope and opportunity open for nations to green their recovery the 21st-century economy in ways that are clean, green, healthy, safe and more resilient, reviving human civilizations in the old form by winning against COVID-19 war.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

AUTHORS' CONTRIBUTIONS

Personal work and do all personally; designed of the study, statistical analysis, draft of the manuscript, analyses of the study, literature searches and approved the final manuscript etc.

ETHICAL APPROVAL

It is not applicable.

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