

የኢትዮጵያ አዕምሯዊ ንብረት ባለስልጣን

ETHIOPIAN INTELLECTUAL PROPERTY AUTHORITY

የአዕምሯዊ ንብረት ጋዜጣ

INTELLECTUAL PROPERTY GAZETTE

ቅጽ 20፣ ቁጥር፣8 — ሀምሌ 30,2016

Vol. 20. No.8 — August.06,2024

በየወሩ የሚታተም

Published every months

በህዝብ ዘንድ
የአአምሯዊ ንብረት
ዕውቀትና ግንዛቤ
አንዲዳብር አንሰራለን።



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መግቢያ

Introduction

በዚህ እትም ውስጥ የጥበቃ መብት የተሰጣቸው የግልጋሎት ሞዴልና ኢንዱስትሪያል ዲዛይን ቢብሎግራፊ መረጃዎች፣ የግልጋሎት ሞዴል ተቃውሞ ጥሪ ማስታወቂዎች፣የሀገር ውስጥና የውጭ ሀገር የንግድ ምልክት ምዝገባ፣ የተመረጡ የቴክኖሎጂ መረጃዎች እና የፈጠራ ሥራ ባለቤቶች ሊያውቋቸው የሚገቡ ነጥቦችን የያዙ አምዶች ተካተዋል፡፡

Under this publication, Utility Model and Industrial Design Rights Granted/Bibliographic Information, and Utility Model Cautionary Notices, Registered Domestic and Foreign Trade Marks and Selected Technological Information columns are addressed.

በግልጋሎት ሞዴልና ቢብሎግራፊ መረጃዎች እና የፈጠራ ስራ የተቃውሞ ጥሪ ማስታወቂያዎች ሥር **5 የተቃዉሞ ጥሪ የግልጋሎት ሞዴል ማስታወቂያዎች እና 10 ጥበቃ ያገኙ የግልጋሎት ሞዴል ስራዎች ሰርተፊኬት** ተስተናግደዋል፡፡

In the Utility Model Rights Granted Bibliographic Information, and Utility Model Cautionary Notice section, **5 Utility Model Cautionary notice abstracts and 10 Granted Utility Model** applications are made Public.

በተመረጡ የቴክኖሎጂ መረጃዎች አምድ /BIOMETRIC TURNSTILE GATE/ በሚል ርዕስ በፖተንት ሰነድ የታቀፈ የቴክኖሎጂ መረጃ በናሙናነት ቀርቧል፡፡

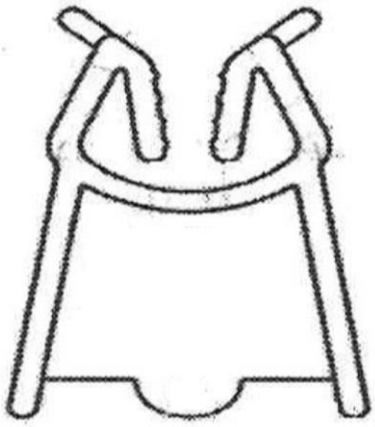
Full texts of technological information contained in Patent documents are also dealt with under selected Technological Information Columns.

በዚህ አጋጣሚ ለውድ አንባቢያን፣ ተመራማሪዎች፣ የቴክኖሎጂ ባለሙያዎች፣ የፈጠራ ባለሙያዎችና ኢንቨስተሮች ለመግለጽ የምንወደው በጽ/ቤታችን እነዚህን የመሳሰሉና በሌሎችም መስኮች ለሀገራችን የቴክኖሎጂ ልማትና እድገት የሚረዱ በፖተንት ሰነድ የታቀፉ በርካታ የቴክኖሎጂ መረጃዎች ክምችትእንዳለና መረጃዎቹም ለማንኛውም ተጠቃሚ ክፍት እንደሆኑ ነው፡፡

We would like to remind our readers, researchers, technologists, inventors, and investors that we have a lot of technological information contained in patent documents in our Office which can be accessed by any user.

አመልካች **በትዕዛዙ ኃ/የተ/የግ/ማህበር** አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል።

አነስተኛ ፈጠራው **ለግንባታ ፍርግርግ ብረቶች የክፍተት መስጫ ፕላስቲክ** ነው። ይህ ፈጠራ ለግንባታ ፍርግርግ ብረቶች የክፍተት መስጫ ፕላስቲክ ሆኖ ፕላስቲክ ስፔሰሮችን ከማጠናከሪያ ብረት ወይም "rebar"ን በተጠናከረ ኮንክሪት አወቃቀሮች ውስጥ ክፍተትን ለማስጠበቅ በብረቱ ላይ የሚታሰር ቀላልና ወጪ ቆጣቢ የሆነ የኮንስትራክሽን ማሳለጫ፤ ሪባሩ ከመጨረሻው የኮንክሪት መፍሰስ በፊት ያለውን የብረትና የምንፈልገውን ክፍተት የሚያስጠብቅልን፤ ስፔሰር ንድፍ ለመተግበር ቀላል የሆነና ለምንገነባው ሕንፃ ለሙቀት መከላከያ ክፍተት መፍጠር፣ የሪባር ስራችን ላይ የክፍተት መስጫ፣ የባር ሽክሞችን መሸከም በግንባታ ጊዜ እና በኋላ የሰዎችን ሽክም ለማቅለያነት ለመጠቀም ቀላል እና የህንፃውን ቆይታ ጊዜ የሚያሻሽል፣ በአዲስ ግንባታ ወይም በድጋሚ የሚገነባ ባለ መንትያ ቆዳ ጣሪያ ወይም ግድግዳ ውስጥ ጥቅም ላይ የሚውል ሲሆን ስፔሰር ሲስተም ለግንባታዎች ዘመናዊነት ታስቦ የተሰራ ወሳኝ የግንባታ ደጋፊ በመሆን በዋናነት በሁለት የተጣመሩ ማያያዣዎች ወይም ወለሎች መካከል የንጽህና ክፍተቶችን ለማቅረብ እንዲያገለግል ታስቦ የተሰራ ለግንባታ ፍርግርግ ብረቶች የክፍተት መስጫ መሳሪያ ነው።



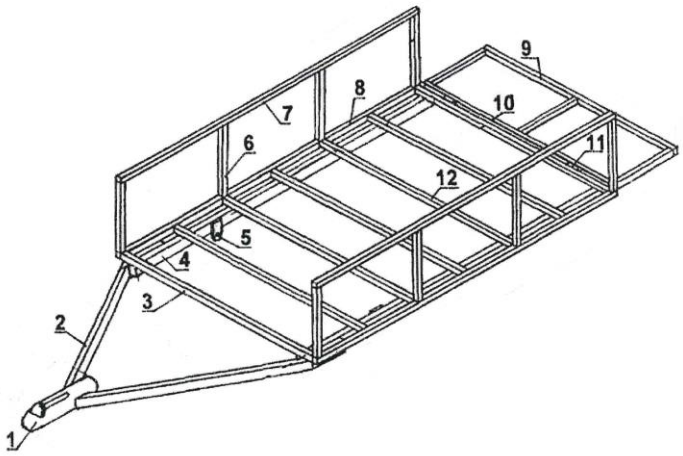
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አመልካች **ደጀን አብርሃ ገ/ሔር** አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል።

አነስተኛ ፈጠራው **ተንቀሳቃሽ ሸንት ቤት** ነው። ይህ ፈጠራ ተንቀሳቃሽ የከተማ ማፃዳጃ ሁኖ ሁለት ክፍሎኦች ያሉት ሲሆኑ ታቺኛው እና ላይኛው የመጀመርያው ታቺኛኣው 1. መጉተቻ ከነ የፊት ትንሽ ጎማ/ 1 / 2 ኣጠር ያለ መያዥያ/2/ 3.ኣጠር ያለ ተነጣፊ/7/ 4.መያዥያ ካቦ /2/ 5.ደጋፊ ሆል /2/ 6. ኣጠር ያለ ቋሚ /8/ 7.ኣሳሪ ረዘም ያለ/2/ 8.ጥርስ ያለው ደጋፊ /2/ 9.ላይኛው ታጣፊ ምዥግያ /1/

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አመልካች **አልማዝ ካኽሳይ** አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል።

አነስተኛ ፈጠራው **የኬክ ፓውደር አዘገጃጀት ዘዴ** ነው። ይህ ፈጠራ ለክሬም እና ጣዕም የሚሰጥ የኬክና ዳቦ ፓውረድ አዘገጃጀት ዘዴ ሆኖ በዋናነት ከቡና ስኳር ፤ቫኔላ እና ቁርፍንድ ድብልቅ የሚሰራና ለሽታ፡ ለጣዕም እንዲሁም ለማቆያ (presentative) የሚጠቀም ሆኖ የሚዘጋጅ ነው፡፡

ET/UM/2024/4585

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አመልካች **Kahsay Bemabas Wolday** አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል።

The minor invention is **Manufacturing Line and Process of Precast Concrete for Building Structures.** This utility model relates to the manufacturing line and process for precast concrete building and bridge structures. The invention provides a systematic, effrcient, and cost-effective method for producing high-quality precast concrete elements, utilizing an optimized manufacturing line that incorporates advanced automation and quality control techniques.

ET/UM/2024/4586

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አመልካች **ማስረሻ ካሰው አድማሱ** አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል።

አነስተኛ ፈጠራው **ከእፅዋት የሚዘጋጅ ጸረ-ፈንገስ ሻንፖ አዘገጃጀት ዘዴ** ነው። ይህ ፈጠራ ከተፈጥሮ እጽዋት በፈሳሽ መልኩ የሚዘጋጅ የፎረፎር፤ የቋቁቻና በፈንገስ አማካኝነት የሚመጡ በሽታዎች የሚያክምና የሚከላከል በሻንፖ መልክ የተዘጋጀ መድሐኒት ሲሆን በዋናነት ከሎሚ፣ እርሾ፤ ዝንጅብል፤ ሮዝመሪ (የስጋ መጥበሻ ቅጠል)፤ ከጥቁር አዝሙድ፤ ሬት እና ቅርፉድ ከሚባሉ እፅዋት ድብልቅ /Admixture/ የሚሠራና እንደ ማዋሐጃ የሐብሽ ውሃና የኮኮናት ዘይት በማዋሃድ እና በመቀመም በፈሳሽ መልኩ የሚዘጋጅ የፀጉር ሻንፖ ነው፡፡

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አመልካች Selihom Mikresilassie Gizachew አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል።

The minor invention is **Aluminum-based Antiperspirant Composition for Effective and Long-lasting Sweat Reduction.** The present invention discloses an aluminum-based antiperspirant composition with enhanced effectiveness and long-lasting sweat reduction. Excessive sweating, or hyperhidrosis, can cause discomfort and decreased self-confidence. Existing antiperspirant products have limitations in terms of efficacy and durability. This composition overcomes these limitations by utilizing aluminum chloride hexahydrate as the active ingredient, ethanol as a carrier and preservative, and glycerol or propylene glycol as moisturizers. The specific ratios of the ingredients are provided in different percentages as one of them being: 15% aluminum chloride, 70-75% ethanol, 10% glycol, and 1% other preservative (if necessary). This composition, suitable for both men and women, is applied before bedtime to ensure optimal absorption and efficacy throughout the day. It is dermatologically tested, unscented, and provides prolonged sweat reduction for 2-3 days. The composition can be conveniently packaged in a recyclable or eco friendly container, offering long-lasting protection against underarm wetness in various environmental conditions.

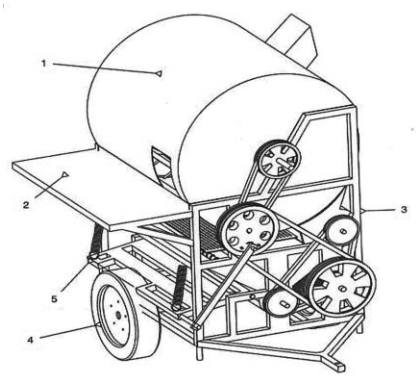
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አመልካች ወርቃፈራዉ ሻፊ ጪብሳ አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤

በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል።

አነስተኛ ፈጠራው **በመካኒካል ሀይል የሚሰራ የዕህል መዉቂያ ማሽን** ነው። ይህ ቴክኖሎጂ በዘመናዊ መልክ የተዘጋጀ የሞተር ሀይልን ሳይጠቀም በመካኒካል ሀይል የሚሰራ የዕህል መዉቂያ ማሽን የመስራት አዲስ የፈጠራ ሃሳብ ሲሆን ከዚ በፊት ከሚታወቁት በሞተር ከሚሰሩ የዕህል መዉቂያ ማሽንኖች የሚለየዉ የመሽከርከር ሀይልን ከሞተር አለመጠቀሙ ነዉ፡፡ ይህ ቴክኖሎጂ የሚሰራዉ ሀይልን በዉጥረት እስፕሪነግ/tension spring/አማካኝነት ሲሆን እስፕሪንጎቹ ዉስጣቸዉ ያለ የተከማቸ ሀይል /potential energy / በሚወጠሩበት እና በተቃራኒዉ ያሉት በሚሰበሰቡበት ወቅት ይህ የተከማቸ ሀይል የእንቅስቃሴ ወይንም የመሽከርከር ሀይልን/ Kinetic energy/ ሲፈጥር ይህም ማሽናችን ላይ ላሉት ለሚሽከረከሩ ክፍሎች ከፍተኛ የመሽከርከር አቅም/inertia/ እንዲያነለብቱ ሲረዳ በሌላኛዉ ጫፍ የምንጠቀመዉ ፍላይ ዊል/fly wheel/በክብደቱ እና በቅርጽ አማካኝነት የመሽከርከርን ጉልበት በማከማቸት አይነት ከፍተኛ የዙር ሀይል/torque/ እንዲፈጥር ሲያስችለዉ ተጨማሪ ምንም የሞተር ጉልበት ሳየጠቀም የዕህል መዉቂያ ማሽናችን እንዲሰራ ያስችለዋል የዙር ፍጥነት እና ጉልበት ለመቆጣጠር ወይም ማቆም ስንፈልግ ፍላይ ዊል/fly wheel/ ላይ በምንገጥመዉ ፍሬን መቆጣጠር ያስችለናል፡፡

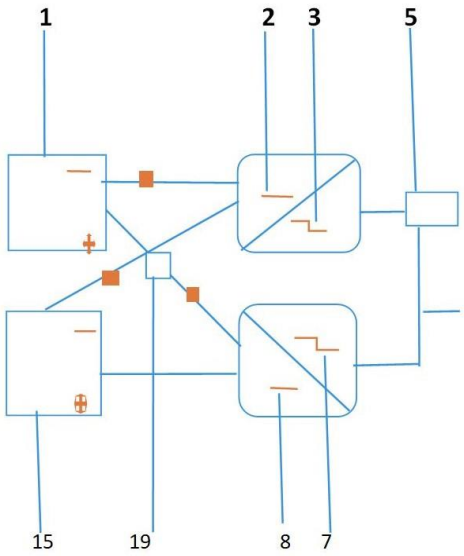


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አመልካች **ታከለ ንጉሴ ብተው** አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል።

አነስተኛ ፈጠራው **አራሙን ቻርጅ የሚያደርግ የኤሌክትሪክ ጀነሬተር** ነው። ይህ የፈጠራ ሥራ እራሙን በራሡ ቻርጅ የሚያደርግ የኤሌክትሪክ ጀነሬተር ሚሆን በግብአትነት የሚያገለግሉትን ባትሪ፣ ኮንቨርተርና ሜንሠር የያዘ ነው።

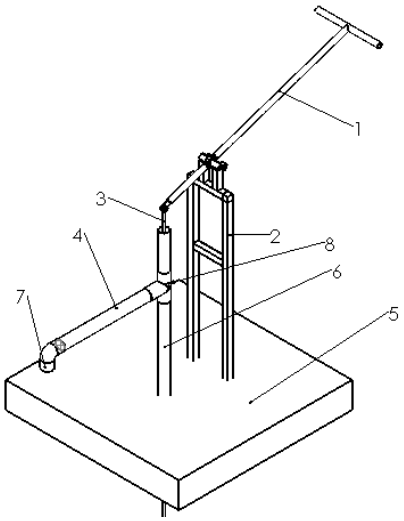


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አመልካች **አማኑኤል ኤልያስ ላምቤቦ** አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል።

አነስተኛ ፈጠራው **በቀላል የሰው ጉልበት የሚሰራ የውሃ መሳቢያ ፓምፕ** ነው። ይህ ፈጠራ በቀላል የሰው ጉልበት የሚሰራ የውሃ መሳቢያ ፓምፕ ሆኖ /1/ የስሊንደር ፓይፕ ክፍል /2/የፒስተን ቨልቭ ክፍል እና /3 /የእጀታ ክፍል የያዘ ሆኖ በቀላል የሰው ጉልበት ውሃ ከጉድጓድ የሚስብ የውሃ መሳቢያ ፓምፕ ነው፡፡

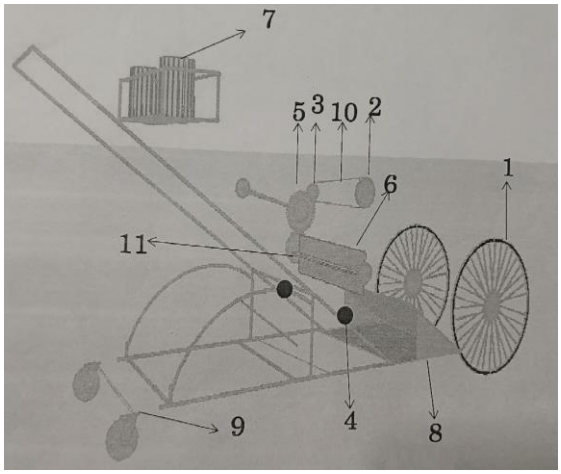


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አመልካች **ሙሐመድ ኑር ዓብደርቃድር** አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል።

አነስተኛ ፈጠራው **የእስፓልት መጥረግያ ማሽን** ነው። ይህ ፈጠራ በመንገድ እስፓልት የሚታየው ቆሻሻና ደለል አፈር መጥረግያ ሆኖ እንዲያገለግል ተደርጎ የተሻሻለ የፈጠራ ስራ ሲሆን በዝርዝር ሲታይ ደግሞ ቁጥር 1 የማሽኑ የሚሽከረከር ብረት፣ ቁጥር 5 የማሽኑ ዳይሬክሽን ዙር የሚቀይር፣ ቁጥር 3 ከመጋዝ ተቀብሎ ጊር(ጥርስ) የሚያሽከረክር፣ ቁጥር 10 ከመጋዝ ተቀብሎ እስካቶ የሚያሽከረክር ቁጥር 4 ጎማን እንድያ ሽከረክር የሚያደርግ ቁጥር ቆሻሻ እየተሽከረከረ የሚጠርግ ቁጥር 8 የተጠረገ ቆሻሻ የሚቀበል(የሚይዝ) ቁጥር 7 የደረቅ ቆሻሻ መጠራቀምያ፣ 11 የፕላስቲክ ሳር ወይንም መጥረግያ እንድያሽከረክር የሚያደርግ ማንዋል መሺን ነው፡፡



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ማስተካከያ

ከዚህ ቀደም በቅጽ 20 ቁ.7 የሰኔ ወር ዕትም መጽሔት ላይ በማመልከቻ ቁጥር ET/UM/2024/4575 እና ET/UM/2024/4576 ተመዝግበው የነበሩ ሁለት የፈጠራ ስራዎች በህትመት ሂደት ላይ ባጋጠመን የታይፕ ስህተት ምክንያት የፈጠራዎቹ መግለጫ ተዛብቶ ቀርቧል። ስለሆነም ይህ ስህተት እንደሚከተለው ታርሞ የቀረበ መሆኑን እንገልጻለን።

አመልካች **ገብረዮሐንስ ኪህሰን አለሙ** አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል።

አነስተኛ ፈጠራው **ነጭ የዓሣ አጥንት ዱቄት ባርቢን የማዘጋጀት ሂደት** ነው። ይህ የአሁኑ ፈጠራ 83% የካልሸም ካርቦኔት ይዘት ያለበት አፈርና 8% ኦልዮ ዘይት ወይ 8ሓተላው የምግብ ዘይት 1% ነጭ ጋዝ ወይ ቲነር አብረው በመደባለቅ የሚዘጋጅ የመስትዋት መገጣጠምያ ስቶኮ የስራ ፈጠራ ነው።

ET/UM/2024/4575

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አመልካች **ፀጋሕይወት ፍሰሃ ገብረ ስላሴ እና ዳንኤል ኪሮስ ሀዲስ** አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል።

አነስተኛ ፈጠራው **የመስታወት መገጣጠሚያ ላይ የተደረገ ማሻሻያ** ነው፡። ይህ የአሁኑ ፈጠራ 83% የካልሸም ካርቦኔት ይዘት ያለበት አፈርና 8 ኦልዮ ዘይት ወይ 8% ሓተላው የምግብ ዘይት 1% ነጭ ጋዝ ወይ ቲነር አብረው በመደባለቅ የሚዘጋጅ የመስትዋት መገጣጠምያ ስቶኮ የስራ ፈጠራ ነው።

ET/UM/2024/4576

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INID CODES: Internationally agreed Numbers for the Identification of Bibliographic Data

INID CODES							
11	የግ.ሞ ቁጥር		45	ምዝገባ ቀን		73	አመልካች
21	ማመልከቻ ቁጥር		51	ዓለም አቀፍ ምደባ		74	ወኪል
22	ማመልከቻ ቀን		54	የፈጠራው ርዕስ		57	አብስትራክት
30	የቀደምትነት መግለጫ		72	የፈጠራው ሠራተኛ			

11	1158
21	ET/U/2023/4275
22	07/06/2023 እ.ኤ.አ.
30	የማመልከቻ ቀን የቀደምትነት ቀን ነው
45	01/08/2024 እ.ኤ.አ.
51	C 02F 1/467(2006.01)
54	METHOD AND SYSTEM FOR CHLORINATION OF POTABLE WATER
72	DONATO PATRISSI, CENTRAL ETHIOPIA REGION HAWASSA WOREDA 05
73	DONATO PATRISSI, CENTRAL ETHIOPIA REGION HAWASSA WOREDA 05
74	
57	The invention enables low cost and small-scale automation of drinking water chlorination and supply, based on starting materials, equipment installations and energy sources readily available in remote locations, even under poor infrastructure conditions.The invention overcomes some of the logistical, technical and economic hindering factors for accessing safe

	drinking water in remote, underdeveloped communities. By using readily available chloride salts and solar energy, in a method of solar powered electrochemical chlorination, chlorine gas is generated on the surface of a cathode immersed in 10 the aqueous solution to be treated. This first step and the subsequent hydrolysis to hypochlorite anions occurs in a production tank integrated within a closed piping system, connected to a storage tank and the potable water distribution system, which is protected from air and light exposure. Over a wireless communication line, the system status data is transmitted to a central processor control unit, providing the capability to receive alerts on maintenance needs and, more generally, the output from peripheral sensors, such as consumption data, thus enabling smart dosing of the in situ produced disinfectant into the drinking water. A drinking water disinfection method, in which

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11	1159	
21	ET/U/2023/4365	
22	03/10/2023 እ.ኤ.አ.	
30	የማመልከቻ ቀን የቀደምትነት ቀን ነው	
45	08/08/2024 እ.ኤ.አ.	
51	B 65B 23/18(2006.01)	
54	ለሰውነት የሚሆን ገንቢ እና ሀይል ሰጪ የብስኩት እና የበሰለ ዱቄት አዘገጃጀት ዘዴ	
72	ዓራዓያ መኮንን ተካ, አቃቂ ቃሊቲ ክፍለ ከተማ ወረዳ 13 የቤት ቁጥር አዲስ - አዲስ አበባ ኢትዮጵያ; ጌታቸው ኩራባቸው ሌንጫ, አቃቂ ቃሊቲ ክፍለ ከተማ ወረዳ 13 የቤት ቁጥር አዲስ - አዲስ አበባ ኢትዮጵያ;	

73	ዓራዓያ መኮንን ተካ, አቃቂ ቃሊቲ ክፍለ ከተማ ወረዳ 13 የቤት ቁጥር አዲስ - አዲስ አበባ ኢትዮጵያ; ጌታቸው ኩራባቸው ሌንጫ, አቃቂ ቃሊቲ ክፍለ ከተማ ወረዳ 13 የቤት ቁጥር አዲስ - አዲስ አበባ ኢትዮጵያ;	
74		
57	ይህ ፈጠራ ሰውነትን የሚገነባ እና ሀይል የሚሰጥ ብስኩት የአዘገጃጀት ዘዴ ሆኖ በዋናነት ከለውዝ፤ አኩሪ አተር፤ ገብስ፤ በቆሎ፤ የአትክለት ዘይት፤ ስንዴ፤ ቀረፋ፤ ዝንጅበል፤ ስኳር፤ ጨው በማዋሃድ እና በማደባለቅ በ 250 ዲግሪ በማብሰል የሚዘጋጅ ምግብ እና የአዘገጃጀት ሂደቱ ነው	

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11	1160	
21	ET/U/2023/004292	
22	13/07/2023 እ.ኤ.አ.	
30	የማመልከቻ ቀን የቀደምትነት ቀን ነው	
45	09/08/2024 እ.ኤ.አ.	
51	C 05C 1/00(2006.01), C 05C 9/00(2006.01), C 05C 3/00(2006.01)	
54	በደረቅና በፈሳሽ የሚዘጋጅ የተፈጥሮ ማዳበርያ (Organic Fertilizer)	
72	ካሕሳይ ኃይለኪሮስ በየነ, ኩሓ አይደር ጣቢያ ሰርጸ ቀበሌ የቤት ቁጥር አዲስ	
73	ካሕሳይ ኃይለኪሮስ በየነ, ኩሓ አይደር ጣቢያ ሰርጸ ቀበሌ የቤት ቁጥር አዲስ	
74		
57	ይህ የፈጠራ ስራ በአከባቢያችን ከሚገኙ የእሬት ቅጠል ጉዳት ፕሪቲነዮም፣ የማርያም ቅጠል፣ ናይትሮጅን ፎስፎረስ የተፈጥሮ ፈሳሽ መዳበርያ ለመስራት እያንዳንዱ ግብኣት በድቁት መልክ የተዘጋጀ የ 5%ቀመር የያዘ ጃትሮፋ፣ ጉሎ፣ የጣልያን ፋጉስ/oil cake/ የእንስሳ ደምና አጥንት፣ የከረመ የከብት ኩበት/Aged cow dung cake/ በድቁት መልክ የተዘጋጀ በእያንዳንዱ ግበአት 5% የያዘ፣ የኒም ፍሬ ዱቄት የበለሰ የውስጥ ፍሬ በእያንዳንዱ ግብአት 5%ቀመር እንደ ፎስፎረስና ናይትሮጅን ኦርጋኒክ ካርቦን ፍልፍል የአዝርእት በሽታ መከላከል የሚችል የእንጨት ክሰልና አመድ /wood charcoal and ash/ የፓስትዮም ምንጭ ሁነው በእያንዳንዱ በዱቀት መልክ የተዘጋጀው 5% እና የከብት ሽንት የተፈጥሮ መዳበርያው ወደ ፈሳሽ ሲቀይር በአየር የባከነ ናይትሮጅን የሚተካ የናይትሮጅን ምንጭ ሆኖ 1;20 በሆነ ቀመር ከንፁሕ ውሃ በመቀላቀል በፈሳሽ መልክ 5% ቀመር እየተዘጋጀ እንደ ግብኣት አሚሚ Solvent ሆኖ የገለግላል።	

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11	122	
21	ET/P/2021/588	
22	07/06/2021 እ.ኤ.አ.	
30	የማመልከቻ ቀን የቀደምትነት ቀን ነው	
45	08/08/2024 እ.ኤ.አ.	
51	A 01N 25/04(2006.01), A 01N 25/06(2006.01), A 01N 25/14(2006.01), A 01N 51/00(2006.01), A 01P 7/04(2006.01)	
54	CONTROLLING METHOD FOR INFECTIOUS DISEASE VECTOR	
72	Niide, Mika [JP]; Uebayashi, Tsuguaki [JP];	
73	Sumitomo Chemical Company, Limited, 27-1, Shinkawa 2-chome, Chuo-ku, Tokyo, 1048260 [JP]	
74		
57	The present invention provides a method for controlling infectious disease vectors, which comprises diluting a formulation comprising a neonicotinoid compound having a volume mean diameter being within a range of 3 to 10 μm, a surfactant and a carrier with water; and spraying the diluted solutions to a surface to be treated such that a treated amount of neonicotinoid compound is within a range of 50 to 800 mg/m2.	

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11	123
21	ET/P/2024/729
22	29/02/2024 እ.ኤ.አ.
30	የማመልከቻ ቀን የቀደምትነት ቀን ነው
45	09/08/2024 እ.ኤ.አ.
51	A 01C 21/00(2006.01), A 01N 37/44(2006.01), A 01N 43/16(2006.01), A 01P 21/00(2006.01), C 05G 3/00(2006.01)
54	Organic Fertilizer for Leaf Application
72	Kebede Lakew Ayele, Gulele Sub-City, Woreda 07, H.No New, Addis Ababa [ET];
73	ORGANIC LIQUID FERTLIZER PRODUCTION PLC, Amhara Region North Shewa Zone Bulega Woreda Tulefa Kebele House No. New, Tulefa [ET];
74	
57	The invention relates to an organic fertilizer formulation designed specifically for leaf application to enhance plant growth and productivity. The fertilizer is composed of various natural ingredients comprising soybean byproducts, avocado byproducts, molasses, cottonseed meal, fish waste (fish emulsion), castor meal, castor husks, coffee seed husk, sesame seed byproduct, neem seed cake, green grass, cereal crop straw, humic acid as penetrates, and aloe vera as a pasting agent. The ratios and amounts of these ingredients are carefully formulated to provide essential nutrients for optimal foliage growth and health. The composition is enriched with essential plant nutrients, trace elements and growth-promoting agents derived from these organic sources and to be applied directly onto the leaves, providing a targeted and efficient method of delivering essential nutrients and promoting overall plant health.

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(54) Organic Fertilizer for Leaf Application

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(57) Abstract

The invention relates to an organic fertilizer formulation designed specifically for leaf application to enhance plant growth and productivity. The fertilizer is composed of various natural ingredients comprising soybean byproducts, avocado byproducts, molasses, cottonseed meal, fish waste (fish emulsion), castor meal, castor husks, coffee seed husk, sesame seed byproduct, neem seed cake, green grass, cereal crop straw, humic acid as penetrates, and aloe vera as a pasting agent. The ratios and amounts of these ingredients are carefully formulated to provide essential nutrients for optimal foliage growth and health. The composition is enriched with essential plant nutrients, trace elements and growth-promoting agents derived from these organic sources and to be applied directly onto the leaves, providing a targeted and efficient method of delivering essential nutrients and promoting overall plant health.

07 Claims

Organic Fertilizer for Leaf Application

Field of the Invention

The present invention relates to the field of agriculture and plant nutrition. Particularly, it relates to an organic fertilizer formulation designed for leaf application. This organic fertilizer composition is designed to enhance nutrient availability, promote sustainable agricultural practices and improve soil health, ensure minimal environmental impact, thereby offering a valuable solution for organic farmers seeking sustainable fertilization practices.

Background of the Invention

Agricultural practices heavily rely on the use of chemical fertilizers to enhance crop productivity and promoting plant growth. However, the increasing concerns over environmental impact and long-term sustainability have led to a growing interest in organic fertilizers that promote healthy plant growth while minimizing adverse effects on the environment.

Traditionally, fertilizers are applied to the soil, where the nutrients are absorbed by the roots and transported throughout the plant. However, this method often leads to nutrient losses through leaching, volatilization, and inefficient uptake by the plants. Besides, soil-applied fertilizers can have negative impacts on the environment, leading to water pollution and destruction of important soil borne micro-organisms.

In recent years, there has been growing interest in leaf application of fertilizers as an alternative approach to nutrient delivery. By directly applying fertilizers to the leaves, plants can bypass the limitations of soil-based nutrient uptake and improve nutrient absorption efficiency. In the same vein, leaf application provides a targeted delivery method for essential nutrients, allowing for better control over nutrient balance and uptake rates.

Leaf application, a method of fertilizer application directly onto plant foliage, offers several advantages. It allows for efficient nutrient absorption and uptake, bypassing the need for root absorption. This method particularly benefits plants with compromised root systems, nutrient deficiencies, or those requiring a quick nutrient boost. By directly supplying nutrients to leaves, the fertilizer helps enhance photosynthesis, promotes green foliage, and improves overall plant vigour.

To address the need for a specialized organic fertilizer blend for leaf application, our research team conducted an extensive study and formulation

process. The goal was to create a well-balanced fertilizer that incorporates various organic ingredients known for their nutrient content, growth-promoting properties, and environmental sustainability.

The selected ingredients, including avocado byproducts, soybean byproducts, molasses, cottonseed meal, fish waste (fish emulsion), castor meal(seed), castor husks, coffee husk, sesame seed byproduct, neem seed cake, green grass, cereal crop straw, humic acid as penetrates, and aloe vera as a pasting agent, were meticulously chosen to exceed plants' nutritional demands during their vegetative growth stages. Each ingredient contributes specific macronutrients, micronutrients, and other beneficial elements required for robust foliage development.

The ratios and amounts of these ingredients are crucial in achieving a balanced nutrient profile suitable for leaf application. While the specific ratios may be adjusted based on soil conditions, plant requirements, and environmental factors, the suggested ratios provide a solid foundation for leaf-specific fertilization.

By combining these organic materials and utilizing a suitable pasting and penetrant agent, the formulation adheres to the leaf surface and ensures proper absorption and utilization by the plant. The resulting organic fertilizer offers several benefits, including improved nutrient delivery, enhanced nutrient uptake and utilization, increased plant health and disease resistance, reduced nutrient losses, and minimized environmental impact.

In general, the organic fertilizer for leaf application of the present invention represents a significant progress in organic farming practices. The formulation harnesses the benefits of various organic materials, providing an effective and sustainable method for enhancing plant growth and productivity and overcomes the limitations of traditional fertilization methods and offers farmers a valuable solution for efficient and eco-friendly farming.

Objective of the Invention

The objective of the present invention is to provide an organic fertilizer formulation for leaf application that effectively enhances plant growth and productivity. The invention aims to utilize a blend of organic materials including avocado byproducts (such as avocado peels, pits, and leaves), soybean byproducts (such as soybean meal, soybean hulls, and soybean oil), molasses, castor meal(seed), castor husks, cottonseed meal, neem seed cake, green grass, animal bone, cereal crop

straw, and a pasting agent to create a fertilizer with enriched plant nutrients, trace elements, and growth-promoting agents. Its main objective is to develop a formulation that can be easily applied to the leaves, ensuring proper absorption and utilization of nutrients directly by the plants. By delivering nutrients through leaf application, the invention minimizes nutrient losses, improve nutrient uptake efficiency, promote plant health and disease resistance and increase crop yield.

Summary of the Invention

The invention relates to an organic fertilizer blend specifically formulated for leaf application, offering a natural and sustainable approach to promote healthy foliage growth. This novel fertilizer consists of carefully selected organic ingredients including avocado byproducts(2-7%), soybean byproducts(2-5%), molasses (2-4%), cottonseed meal or seed (15-25%), fish waste (fish emulsion) (10-20%)), castor meal (10-15%), castor husks (5-10%), sesame seed byproduct (5-10%), coffee husk (5-10%), neem seed cake (5-10%), green grass (5-10%), cereal crop straw (5-10%), humic acid (2-4%) as penetrates, and aloe vera as a pasting agent depending on the consistency needed for the fertilizer blend.

The fertilizer blend is designed to deliver essential macronutrients and micronutrients directly to the leaves, bypassing the root system. This method ensures efficient nutrient absorption and uptake, benefiting plants with compromised root systems or those in need of a quick nutrient boost. By providing nutrients directly to the leaves, the fertilizer enhances photosynthesis, promotes green foliage, and improves overall plant Vigor.

The selection of organic ingredients in this fertilizer blend is based on their nutrient content, growth-promoting properties, and environmental sustainability. Each ingredient contributes specific nutrients required for optimal foliage development. The ratios and amounts of these ingredients can be adjusted based on specific plant requirements, soil conditions, and environmental factors.

This organic fertilizer blend for leaf application offers numerous advantages. It provides a sustainable alternative to conventional chemical-based fertilizers, reducing environmental impacts and promoting soil health. The formulation targets the nutritional needs of plants during their vegetative stages, ensuring consistent and balanced nutrient supply.

Detailed Description of the Invention

This unique invention combines the power of natural ingredients with the binding properties of Aloe vera gel as a pasting agent. The result is a nutrient-rich fertilizer that can be conveniently applied to plant leaves, offering numerous benefits for healthy plant growth and development.

Ingredients and their Role

Chemical fertilizers can have detrimental effects on the environment and human health. Therefore, there is an increasing need for organic alternatives that promote sustainable agriculture. This invention aims to create an organic fertilizer blend using natural ingredients, each chosen for their unique properties and nutrient content.

1. Cottonseed meal or seed (15-25%), is a byproduct of cottonseed oil production. It is rich in nitrogen, phosphorus, and potassium (NPK) and provides a slow-release source of nutrients to plants. It also helps improve soil structure and moisture retention, improve soil fertility, stimulates growth, and enhances fruit production.
2. Avocado byproducts (2-7%), such as peels and pits, can be used to create liquid fertilizer for leaf application are rich in nutrients like potassium, phosphorus, and nitrogen, which are essential for plant growth and development.
3. Soybean byproducts (2-5%) are commonly used in liquid fertilizer formulations for leaf application due to their high nutrient content and ability to enhance plant growth. Some common soybean byproducts used in liquid fertilizers include soybean meal, soybean hulls, and soybean oil. Soybean meal is a rich source of nitrogen, phosphorus, and potassium, making it a valuable ingredient in liquid fertilizers. It also contains essential micronutrients like iron and zinc, which are important for plant growth and development. Soybean hulls are another byproduct that can be used in liquid fertilizers as a source of organic matter. They help improve soil structure, increase water retention, and

enhance nutrient uptake by plants. Soybean oil is often included in liquid fertilizers as a surfactant or adjuvant to improve the spreading and absorption of nutrients on plant leaves. It can also help increase the effectiveness of the fertilizer by allowing better penetration into the plant tissues.

4. Molasses (2-4%), which is naturally rich in sugars serve as a natural surfactant, helping the liquid fertilizer stick to and spread evenly across the leaves of plants.

5. Fish waste (fish emulsion) (10-20%), is a liquid organic fertilizer made from the remains of processed fish. It is high in nitrogen, phosphorus, and trace minerals, making it an excellent source of plant nutrients. Fish emulsion helps promote healthy plant growth and provides beneficial microorganisms to the soil. provides a balanced range of nutrients, including nitrogen, phosphorus, and trace elements. It enhances soil microbial activity and promotes nutrient uptake, resulting in healthy plant development.

6. Castor meal or seed (10-15%) is a byproduct of castor oil production. It contains nitrogen, phosphorus, and potassium, as well as other essential nutrients. Castor meal acts as a slow-release fertilizer and helps improve the fertility and structure of the soil. It helps boost soil fertility, improves root development, and stimulates flowering and fruit formation.

7. Castor husks (5-10%) are the outer covering of castor beans. They contain organic matter that contributes to soil fertility, moisture retention, and improved soil structure. Castor husks also help prevent weed growth and erosion and act as an organic mulch, improving soil moisture retention and preventing weed growth. They gradually release nutrients into the soil, promoting sustained plant growth.

8. Sesame seed byproduct (5-10%) such as sesame meal or cake, are rich in organic matter and provide a balanced

source of nutrients, including nitrogen, phosphorus, and potassium. Sesame seed byproducts enhance soil fertility and support healthy plant growth. It is high in calcium; so that it supports root and foliage growth while aiding in disease resistance.

9. Neem seed cake (5-10%), is a byproduct of neem oil extraction. It contains natural compounds that have insecticidal and fungicidal properties, helping to control pests and diseases in plants. Neem seed cake also adds organic matter and essential nutrients to the soil. It contains natural insecticidal properties and enriches the soil with beneficial organic compounds. It helps control pests, enhances soil health, and improves nutrient availability to plants.

10. Green grass (5-10%) serves as a source of organic matter, providing nutrients and improving soil structure. It adds essential trace elements and encourages beneficial microbial activity.

11. Cereal crop straw (5-10%) like wheat, teff, barely straw, provides organic matter and helps improve soil drainage and fertility. It enriches the organic content of the fertilizer and adds bulk. aids in water retention, prevents soil erosion, and provides a carbon source that improves soil structure and nutrient content.

12. Coffee husks are rich in nitrogen and potassium, which are essential nutrients for plant development. Additionally, they contain some phosphorus and micronutrients that can benefit plants.

13. Humic acid (2-4%) derived from decomposed organic matter, acts as a powerful soil conditioner. It improves soil structure, enhances nutrient retention, and increases water-holding capacity. Humic acid also stimulates microbial activity in the soil, enhances nutrient availability, improves soil structure, and increases water-holding capacity. It stimulates microbial

activity, thereby promoting nutrient uptake.

14. Aloe vera can be used as a pasting agent to bind the ingredients together and create a cohesive fertilizer mixture. Its gel-like consistency helps ensure that the organic fertilizer stays in place when applied as a foliar spray and as a pasting agent, acts as a natural binding agent, helping to combine and retain the ingredients in the fertilizer blend.

The following are proportions of the ingredients.

1. Cottonseed meal 15-25%,
2. Avocado byproducts (2-7%),
3. Soybean byproducts (2-5%),
4. Molasses (2-4%),
5. Fish waste (fish emulsion) 10-20%,
6. Castor meal 10-15%;
7. Coffee seed husk 5-10%,
8. Castor husks 5-10%,
9. Sesame seed byproduct 5-10%,
10. Neem seed cake 5-10%,
11. Green grass 5-10%,
12. Cereal crop straw 5-10%,
13. Humic acid 2-4% and Aloe vera is used as a paste or binder to hold the ingredients together. The amount will depend on the consistency needed for the fertilizer blend.

Note that these percentages can be adjusted based on the specific needs of plants and soil conditions and on the nutrient content of each ingredient to achieve a balanced NPK ratio for optimal plant growth. The proportions mentioned are ranges and can be adjusted based the specific requirements of the plants.

Preparation Methods

Example 1

1. Prepare the required amounts of each ingredient. For example, to make a batch of 10kg of fertilizer, weigh a 2-3kg of cottonseed meal, 2-3 kg of soybean byproduct 2-5 kg of avocado byproduct, 1kg of molasses, 1-2kg of fish waste, 1-1.5kg of castor meal, and so on.

2. Combine the cottonseed meal, fish waste, castor meal, castor husks, sesame seed byproduct, neem seed cake, green

grass, and cereal crop straw in a large mixing container or bin. Mix them thoroughly to ensure even distribution.

2. In a container or a mixing bowl, combine a powdered castor meal, castor husks, cottonseed meal, neem seed cake, green grass, animal bone, and cereal crop's straw. Mix them thoroughly to ensure a homogeneous blend.

3. Gradually add the humic acid to the mixture, stirring continuously to incorporate it evenly.

4. If the consistency of the fertilizer mixture needs adjustment, gradually add aloe vera as needed. The aloe vera acts as a pasting agent and can be added until the desired consistency is achieved. Adjust the amount of aloe vera gel gradually to achieve the desired paste consistency. Avoid adding too much aloe vera gel, as it can make the paste too watery or difficult to handle.

5. Continue mixing the ingredients until it achieves a well-blended liquidly paste. Ensure that all the dry ingredients are evenly coated and bonded together with the aloe vera gel. The liquid paste should have a smooth consistency, suitable for application on plant leaves.

6. Apply, using a spraying device to the leaves of the plants.

Example 2

1. Measure a sufficient quantity of each ingredient. The measurement can vary depending on the desired volume of fertilizer.

2. Shred and grind the castor meal, castor husks, cottonseed meal, and neem seed cake: These ingredients need to be broken down into smaller particles to enhance decomposition and nutrient release. Use a shredder or grinder to achieve the desired consistency.

3. Cut the green grass into smaller pieces to facilitate decomposition and nutrient extraction. This can be achieved using gardening shears or a lawnmower.

4. Grind or crush the animal bone to increase the surface area and promote

faster decomposition. This can be done using a mortar and pestle or a bone crusher.

5. Cut the cereal crop straw into smaller pieces to accelerate decomposition and nutrient extraction.

6. Cut Aloe vera leaves and extract the gel using a spoon. Ensure that a sufficient quantity to contribute to the organic fertilizer mixture.

7. In a large container, combine the shredded castor meal, castor husks, cottonseed meal, coffee husk, neem seed cake, green grass, animal bone, cereal crop straw, sesame seed by-product, humic acid and Aloe vera gel. Stir well to achieve an even distribution of ingredients.

8. Gradually add water to the mixture until it reaches a desired consistency. The amount of water will depend on the volume of the mix and how concentrated you want the fertilizer to be. Aim for a thick slurry-like consistency.

9. Cover the container to create a warm and humid environment for fermentation. Place it in a shaded area with temperatures between 21-32°C and allow the mixture to ferment for at least 2-3 weeks, stirring occasionally to ensure proper decomposition.

10. After the fermentation period, strain the liquid fertilizer to separate any solid residues. Transfer the liquid to a suitable storage container, such as airtight bottles or jars. Store in a cool, dark place until ready to use.

Example 3

Example using weight measurements for each ingredient:

1) Collect and measure all the ingredients in a range of:

200-2500 grams of avocado byproducts

100-250 grams of soyabean byproducts

100-200 grams of molasses

300-500 grams of Castor Meal

200-400 milli litters of Fish waste (fish emulsion)

200-250 grams of Castor Husks

250-300 grams of Cottonseed Meal

150-200 grams of Neem Seed Cake

100- 250 grams of Coffee seed husk

700gram- 1 kilogram of Green Grass

350-500 grams of sesame oil by products

350-400 grams of Cereal Crop's Straw

100-200 grams of Aloe vera gel and 20-35 milli litter of humic acid.

2. Shred and grind the castor meal, castor husks, cottonseed meal, and neem seed cake.

3. Prepare the green grass by cutting it into smaller pieces.

4. Crush all the solid ingredients to increase the surface area.

5. Chop the cereal crop straw into smaller pieces.

6. Extract Aloe vera gel from the leaves.

7. Mix all the ingredients in a large container, making sure they are evenly distributed.

8. Gradually add humic acid and water to the mixture until it reaches a thick slurry-like consistency.

9. Cover the container or compost bin and place it in a shaded area with temperatures between 21-32°C for fermentation. Stir occasionally.

10. Allow the mixture ferment for at least 2-3 weeks.

11. After the fermentation period, strain the liquid fertilizer to separate any solid residues.

12. Transfer the liquid to suitable storage containers, such as airtight bottles or jars.

The following table shows the different and possible range of each ingredient.

No	Types of ingredients	Possible ratio or minimal & maximal range of each ingredient in percentage (%)			
		1	2	3	4
1	Cottonseed meal	15-25	20-30	15-20	15-30
2	Fish waste (fish emulsion)	5-10	10-15	10-15	5-15
3	Castor meal(seed)	15-20	10-15	10-15	10-15
4	Castor husks	5-10	5-10	15-25	10-20
5	Soyabean byproducts	2-5	2-3	2-4	2.0
6	Avocado byproducts	2-7	2-5	2-6	2.0
7	Molasses	2.0	2.0	2.0	2.0
8	Coffee seed husk	5-10	5-10	5-10	5-10
9	Sesame seed byproduct	5-10	5-10	10-15	10-20
10	Neem seed cake	5-10	5-10	5-10	10-15
11	Green grass, cereal crop straw	5-15	5-10	10-15	5-15
12	Humic acid	5-10	5-10	5-10	5-10
13	Aloe vera	1-5	1-5	1-5	1-5

These examples demonstrate the flexibility of the organic fertilizer composition, allowing for customized blends tailored to specific nutrient requirements and crop types.

Here, multiple enabling examples illustrating the efficacy and successful application of the organic fertilizer composition described above.

Experimental Test 1

Tomato Plants

A study was conducted to evaluate the effectiveness of the organic fertilizer composition on tomato plants through leaf application at Oromia Reginal State, Mojo District on a private farm. Four treatment groups were established, each receiving different concentrations of the organic fertilizer spray. The control group received no fertilizer.

Results showed that the tomato plants treated with the organic fertilizer composition exhibited significant improvements in plant height, leaf size, and fruit yield compared to the control group. The group with the recommended concentration of the organic fertilizer showed the highest growth and yield, indicating the efficacy of the leaf application method.

Experimental Test 2

Leafy Plants

Leafy greens, such as lettuce and spinach, were cultivated in Mojo District on private farm using the organic fertilizer composition with varying concentrations. Three different concentrations of the organic fertilizer were tested: low, medium, and high.

Observations revealed that the plants treated with the medium and high concentrations of the organic fertilizer exhibited faster and more extended leaf growth compared to those treated with the low concentration or no fertilizer. Additionally, the plants showed increased resilience to pests and diseases. The study demonstrated the efficacy of the organic fertilizer composition in promoting the growth and health of leafy greens through leaf application.

Experimental Test 3

Wheat Crops

A field trial was conducted to assess the impact of the organic fertilizer composition on wheat crop growth and productivity in North Shoa Amhara regional State. The organic fertilizer was applied via leaf application at different growth stages of the wheat plants.

The results demonstrated that the wheat plants treated with the organic fertilizer composition showed improved tillering, increased plant height, and enhanced grain yield compared to the control group. The organic fertilizer provided crucial nutrients and organic matter, promoting robust growth and optimizing the crop's potential. This example highlights the effectiveness of the organic fertilizer composition in enhancing wheat crop productivity through leaf application.

Experimental Test 4

Barley Crops

A study was conducted to evaluate the efficacy of the organic fertilizer composition in promoting the growth and quality of barley crops on the private farm in North Shoa. Different concentrations of the organic fertilizer were applied to separate plots, while a control plot received no fertilizer.

Observations showed that the barley crops treated with the organic fertilizer composition exhibited higher biomass accumulation, increased grain weight, and improved nutritional value compared to the control group. The organic fertilizer provided essential nutrients and organic matter, resulting in healthier and more vigorous barley plants. This enabling example underscores the favourable impact of the organic fertilizer composition on the growth and quality of barley crops through leaf application.

Experimental Test 5

Crop Resilience

In North Shoa, Amhara Regional state, a field trial was conducted to assess the effectiveness of the organic fertilizer composition in enhancing crop resilience against environmental stressors. Various crops were selected for the study, including corn, soybeans, and wheat.

The crops treated with the organic fertilizer composition exhibited better tolerance to drought and improved recovery after stress periods. The presence of aloe vera in the organic fertilizer formulation was found to contribute to increased water retention and reduced stress effects. This enabling example highlights the potential of the organic fertilizer for mitigating the negative impacts of environmental stress on crop yield and quality.

These enabling examples highlight the efficacy of the organic fertilizer composition when applied via leaf

application. The successful results obtained in different plant types and scenarios affirm the benefits of this novel organic fertilizer and its potential to improve agricultural practices.

Experimental Test 6

Tomato Plants and Aphids

A study was conducted to assess the impact of the organic fertilizer composition on tomato plants' resistance to aphid infestation around Bishotu on private farm. Three treatment groups were established: one group received the organic fertilizer via leaf application, another group received a chemical-based fertilizer, and a control group received no fertilizer.

Results showed that the tomato plants treated with the organic fertilizer exhibited significantly lower aphid populations compared to both the chemical fertilizer group and the control group. The organic fertilizer composition enhanced plant health, boosting their natural defences against aphids. This example highlights the organic fertilizer's effectiveness in promoting plant resistance to pests, leading to reduced pest infestation and potential crop damage.

Experimental Test 7

Brassica Crops and Cabbage Worm

A field trial was conducted to evaluate the efficacy of the organic fertilizer composition in enhancing the resistance of brassica crops, such as cabbage and broccoli, against cabbage worm infestation in Bishoftu on a private farm. The organic fertilizer was applied through leaf application during the vulnerable growth stages of the crops.

Observations revealed that the brassica crops treated with the organic fertilizer composition showed significantly reduced cabbage worm damage compared to the control group. The organic fertilizer boosted plant Vigor and increased the production of natural compounds that deter cabbage worms. This example

underscores the organic fertilizer's ability to enhance plant resistance to pests, providing a more sustainable and eco-friendly approach to pest management.

These examples demonstrate how the organic fertilizer composition can effectively improve plant resistance to pests, reducing the need for chemical pesticides and promoting a healthier, more sustainable agricultural system. By enhancing the plant's natural defences, the organic fertilizer can help mitigate pest damage and improve overall crop yield and quality.

Usefulness of the Invention

By utilizing a combination of nutrient-rich organic materials and the binding properties of Aloe vera gel, this invention provides numerous benefits for plant health and vitality.

Enhanced Nutrient Delivery

The organic fertilizer incorporates essential minerals and nutrients from ingredients such as castor meal, castor husks, fish emulsion, cottonseed meal, coffee husk, neem seed cake, green grass, animal bone, and cereal crop's straw. These organic components are known for their high nutrient content, providing plants with a well-balanced and readily available supply of vital elements. The aloe vera gel acts as a suitable binding agent, allowing for improved adhesion to plant leaves and enhancing the absorption and utilization of the nutrients.

Slow Release and Long-Lasting Effects

The combination of the diverse organic ingredients in the fertilizer helps create a slow-release effect, gradually releasing nutrients to the plants over an extended period. As the liquid- paste adheres to the leaves, it acts as a reservoir of nutrients, supplying plants with sustained nourishment. This slow-release feature promotes healthy plant development, prevents nutrient deficiencies, and reduces the risk of fertilizer runoff, making it an environmentally friendly choice.

Foliar Nutrient Uptake

Applying the organic fertilizer directly onto the leaves allows for efficient foliar nutrient uptake. Plant leaves possess specialized structures, such as stomata and cuticles, that facilitate nutrient absorption. The fertilizer, with its balanced blend of organic ingredients, is formulated to ensure optimal nutrient absorption through the leaf surfaces. This foliar application method enhances nutrient availability, particularly for trace elements that may be challenging to deliver solely through soil-based fertilization.

Plant Vitality and Disease Resistance

The organic fertilizer formulation, enriched with natural ingredients, supports overall plant health and vitality. The combination of castor meal, fish emulsion, coffee husk, castor husks, cottonseed meal, neem seed cake, green grass, animal bone, and cereal crop's straw provides not only essential nutrients but also bioactive compounds that can enhance plant resilience against pests, diseases, and environmental stresses. The Aloe vera gel further contributes to enhancing plant defences, improving the protective barrier on the leaves, and promoting healthy cell growth.

In general, the present invention discloses an innovative organic fertilizer composition developed specifically for leaf application. The fertilizer is prepared by blending various organic materials including castor meal, castor husks, cottonseed meal, neem seed cake, green grass, animal bone, cereal crop straw, sesame seed byproduct, and humic acid as penetrants. Aloe vera is utilized as a pasting agent to enhance the adherence of the fertilizer mixture to leaves, thereby enabling efficient nutrient absorption.

The organic fertilizer composition adopts a holistic approach by utilizing a wide range of organic materials to create a potent blend rich in essential nutrients. The unique combination provides balanced nutrition to plants, ensuring their healthy growth and development. The presence of

castor meal and castor husks enriches the fertilizer with nitrogen, while cottonseed meal offers phosphorus. Neem seed cake adds organic matter and improves soil fertility, while green grass contributes potassium. Animal bone, cereal crop straw, and sesame seed byproduct enhance the fertilizer's micronutrient content. Lastly, humic acid facilitates the penetration of vital nutrients through the leaf surface.

The incorporation of aloe vera as a pasting agent offers several advantages. It effectively increases the adherence of the fertilizer to leaves, preventing runoff and maximizing nutrient absorption. Additionally, aloe vera acts as a natural growth stimulant and offers plant protection against environmental stresses.

In summary, the novel composition of the organic fertilizer, its wide range of organic materials, and the inclusion of aloe vera as a pasting agent make this invention a compelling choice for farmers seeking effective and environmentally friendly plant nutrition solutions.

Claims

1. An organic fertilizer for leaf application comprising a mixture of soyabean byproducts, avocado byproducts, molasses, cottonseed meal, sesame seed byproduct, fish waste (fish emulsion), coffee seed husk, castor meal, castor husks, neem seed cake, green grass, cereal crop straw, humic acid and aloe vera.

2. An organic fertilizer of clam **1**, further comprises of soybean byproducts (2-5%), molasses (2-4%), avocado byproducts (2-7%), cottonseed meal 15-25%, fish waste (fish emulsion) 10-20%, castor meal 10-15%, castor husks 5-10%, sesame seed byproduct 5-10%, neem seed cake 5-10%, green grass 5-10%, cereal crop straw 5-10%, humic acid 2-4% and sufficient amount of aloe vera.

3. The organic fertilizer of claim **1**, wherein the cottonseed meal contributes as sources of phosphorus.

4. The organic fertilizer of claim **1**, wherein the aloe vera gel acts as a binding agent, ensuring proper adhesion of the paste to plant leaves and enhancing the absorption and utilization of nutrients.

5. The organic fertilizer of claim **1**, wherein the castor meal and castor husks serve as a nitrogen source.

6. The organic fertilizer of claim **1**, wherein the sesame seed oil by-product and humic acid acts as leaf penetrant agent.

7. The organic fertilizer of claim 1, wherein the soybean byproducts serve as plant growth promoter.

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Inventors and those in creative fields seek protection for their works!



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ፖ.ሳ.ቁ/ P.O.box - 1764	ፖ.ሳ.ቁ/ P.O.box - 1307	ፖ.ሳ.ቁ/ P.O.box - 780