



FULL STACK DEVELOPMENT IN AGRICULTURE FIELD.



(“AGRITOY”) 19MT7901

PROJECT PHASE - I

PROJECT REPORT

Submitted by

SENTOOR KUMAR PM

19109810

in partial fulfilment for the award of the degree of

BACHELOR OF ENGINEERING

in

MECHATRONICS ENGINEERING

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Approved by AICTE, New Delhi, Accredited with ‘A’ Grade by NAAC

(An Autonomous Institution, Affiliated to Anna University, Chennai)

COIMBATORE – 641032

APRIL - 2023

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Approved by AICTE, New Delhi, Accredited with 'A' Grade by NAAC

(An Autonomous Institution, Affiliated to Anna University, Chennai)

COIMBATORE – 641032

BONAFIDE CERTIFICATE

Certified that this project report “**FULL STACK DEVELOPMENT IN AGRICULTURE FIELD (AGRITOY)**” is the bonafide work of “**SENTOOR KUMAR PM (19109810)**” who carried out the project work under my supervision.

SIGNATURE

SUPERVISOR

Mr. P. KARTHIK M.E.,

ASSISTANT PROFESSOR

DEPARTMENT OF MECHATRONICS
ENGINEERING,

HINDUSTHAN COLLEGE OF
ENGINEERING AND TECHNOLOGY,
COIMBATORE - 641032.

SIGNATURE

HEAD OF THE DEPARTMENT

Dr. P.T. SARAVANA KUMAR M.E., Ph.D., M.B.A.

PROFESSOR & HEAD

DEPARTMENT OF MECHATRONICS
ENGINEERING,

HINDUSTHAN COLLEGE OF ENGINEERING AND
TECHNOLOGY,
COIMBATORE-641032.

Submitted for Anna University Examination Project Viva Voice held on _____

INTERNAL EXAMINER

EXTERNAL EXAMINER

ACKNOWLEDGEMENT

We express our sincere thanks to mighty God, the guiding light of our life for giving us the potential and courage to complete this project successfully.

We extend our sincere thanks to managing trustee of HINDUSTHAN EDUCATIONAL AND CHARITABLE TRUST, **Mrs.SARASUWATHI KHANNAIYAN** for providing the essential infrastructure.

We would like to express our gratitude to **Dr.J.JAYA, M.Tech., Ph.D.**, Principal, for the encouragement and the facilities provided to complete this project successfully and for strengthening the ray of hope.

We are highly indebted to **Dr.P.T.SARAVANAKUMAR M.E., Ph.D.,M.B.A.**, Professor and Head for the suggestion that have been valuable for our project development and improvement.

We would like to extend a grateful and special thanks to our project guide **Mr.P. KARTHIK M.E.**, for his guidance and constructive criticism.

We whole heartedly thank our faculty members and our parents who spend their time on today for our tomorrow. We thank our friends and all good hearted who helped us to complete our project.

ABSTRACT

The project report has been prepared based on available data, opinions provided by farmers, other provincial agriculture officer and professors. The use of the Web has had many positive effects on education. Teachers and students are now using the Web to access vast amounts of information and resources in the cyberspace. The real life situation can be little different depending on the area of fields, water resources and climates. The project is considered for the Agriculture students and new farmers based on basic ideas, commonly used techniques, new technology's introduces cross field methods, organics fertilizers, etc,.. . The general basic idea of this project to introduce new farming blog writers and readers freely and easily to get more information's abouts traditional and modern Agricultures.

Keywords: Web, Agriculture students, cross field methods, organics fertilizers, traditional, modern Agricultures.

LIST OF FIGURES

SL.NO	FIG NO.	LIST OF FIGURES	PAGE NO.
1		FIG 1 FLOW CHART	2
2		FIG 2 PROJECT PHOTOGRAPH	29
3		FIG 3 APPENDIX NO.1	31
4		FIG 4 APPENDIX NO.2	32
5		FIG 5 APPENDIX NO.3	33

TABLE OF CONTENTS

CHAPTER NO.	TITLE	PAGE NO.
	ACKNOWLEDGEMENT	i
	ABSTRACT	ii
	LIST OF FIGURES	ii
	LIST OF TABLES	Error! Bookmark not defined.
1	INTRODUCTION	1
	1.1 INTRODUCTION	
	1.2 OBJECTIVES	
	1.3 METHODOLOGY	
2	LITERATURE REVIEW	3
3	PROPOSED SYSTEM AND EXISTING	5
	METHOD	
	3.1 PROPOSED SYSTEM DETAILS	
	3.2 EXISTING METHOD	
4	DESIGN SOFTWARES & LANGUAGES	6
	REQUIREMENTS	
	4.1 VISUAL STUDIO CODE (VS CODE)	
	4.1.1 FRONT-END DEVELOPMENT	
	4.1.2 BACK-END DEVELOPMENT	
5	DATABASE INTERGRATION AND WEB	10
	PAGE HOSTING	
	5.1 XAMPP	
	5.2 WEB HOSTING	

6	DIGITAL PROBLEM SOLVING: BUILDING SOLUTIONS WITH CODE	13
7	CONCLUSION	25
	COST ESTIMATION	26
	ANNEXURE	27
	REFERENCE	30
	APPENDIX NO.1	31

CHAPTER 1 INTRODUCTION 1.1 INTRODUCTION

This IT project report presents the development of a website for the agriculture sector, specifically designed to cater to the needs of farmers and students. The website aims to provide a platform that enables farmers to access relevant information on modern farming techniques and practices, while also offering students the opportunity to learn about agriculture and its importance in society.

Agriculture is a critical sector that plays a significant role in the world's economy and food security. However, the sector is faced with various challenges, including limited access to information, outdated farming techniques, and market inefficiencies, which hinder growth and development. The website's primary objective is to address these challenges by providing farmers and students with a platform where they can access information and interact with each other.

The website will be designed to be user-friendly and accessible to farmers and students alike. It will offer a range of resources, including articles, videos, and discussion forums, which will enable farmers to learn about modern farming techniques, best practices, and the latest trends in the industry. Additionally, the website will provide students with a wealth of information on agriculture, including its importance in society, the different farming techniques used, and potential career opportunities.

The website's development process involved several stages, including requirements gathering, design, development, testing, and deployment. The report highlights the technologies used in the project, including HTML, CSS, JavaScript, and PHP, which were chosen for their flexibility, scalability, and ease of use.

In conclusion, the website is expected to play a critical role in the agriculture sector by providing farmers and students with a platform that offers access to relevant information,

modern farming techniques, and market trends. It is hoped that the website will contribute to the growth and development of the sector, while also inspiring a new generation of farmers and agricultural professionals.

1.2 OBJECTIVES

- To facilitate students to improve the knowledge on agriculture.
- Help full for new farmers to clarifies the doubt about the forming.
- Effective ideas for the modern forming techniques will be provided.
- Modern machines and traditional way for the effective forming techniques should be provided.

1.3 METHODOLOGY



FIG 1 FLOW CHART

- Idea was decided and survey is taken according to our idea for the applicability.
- Designed and simulated in blender for the visual checking.
- Then we started web development of the ideology.
- We done various test like logging in, signing up, and stability test.
- Finally, the page is web hosting.

CHAPTER 2

LITERATURE REVIEW

1. Manish Mahant, Abhishek Shukla, Sunil Dixit, Dileshwer Patel, (2012) This paper The application of Information and Communication Technology (ICT) in agriculture is increasingly important. E-Agriculture involves the conceptualization, design, development, evaluation and application of innovative ways to use information and communication technologies (ICT) in rural domain, with a primary focus on agriculture. Information and Communication Technology (ICT) can play a significant role in maintaining properties of information as it consists of three main technologies. These technologies are applied for processing, exchanging and managing data, information and knowledge.
2. Ugwuishiwu C.H., Udanor C.N., Ugwuishiwu B.O., (2012) This paper proposes an Agro-Information System that enables a farmer to have relevant information about a crop, such as the varieties and other requirements like soil type, temperature, type and quantity of fertilizer, time of planting, time of maturity, planting distance, diseases, pest, pest and Disease control measures, rainfall, sunshine, etc. of that crop. The level of application of this information determines the volume and efficiency of the crop yield. AIS software is designed and implemented which helps the farmer achieve the afore-mentioned objectives.
3. HavliCek, J. Vanek, V. Lohr, E. Cervenкова, (2010) This paper The rapid advancement in Information and Communications Technologies (ICTs) has given rise to new applications that were impossible just few years ago. Agriculture is an important sector with the majority of the rural population in developing countries depending on it. The sector faces major challenges of enhancing production in a situation of dwindling natural resources necessary for production. ICT plays an important role in challenging and uplifting the livelihoods of the rural populace using an agro computer-based information system. This paper proposes an

AgroInformation System that enables a farmer to have relevant information about a crop, such as the varieties and other requirements like soil type, temperature, type and quantity of fertilizer, time of planting, time of maturity, planting distance, diseases, pest, pest and Disease control measures, rainfall, sunshine, etc. of that crop. The level of application of this information determines the volume and efficiency of the crop yield. AIS software is designed and implemented which helps the farmer achieve the afore-mentioned objectives.

4. Sanjeev S Sannakki, Vijay S Rajpurohit, V B Nargund, Arun Kumar R, Prema S Yallur, (2011) Present paper introduces an innovative approach to automatically grade the disease on plant leaves. The system effectively inculcates Information and Communication Technology (ICT) in agriculture and hence contributes to Precision Agriculture. Presently, plant pathologists mainly rely on naked eye prediction and a disease scoring scale to grade the disease. This manual grading is not only time consuming but also not feasible. Hence the paper proposes an image processing based approach to automatically grade the disease spread on plant leaves by employing Fuzzy Logic. The results are proved to be accurate and satisfactory in contrast with manual.grading.

CHAPTER 3 PROPOSED SYSTEM AND EXISTING

METHOD 3.1 PROPOSED SYSTEM DETAILS

Our project ‘Full Stack Development in Agriculture Field’ to introduce new farming blog writers and readers freely and easily to get more information's abouts traditional and modern Agricultures.

3.2 EXISTING METHOD

We know about high-tech tractors and computerized farm management, but can Internet home pages really replace the roadside farm stand?

Probably not. But some farmers in California are toying with the idea. A dairy farmer from Tulare, Calif., is experimenting with the Internet as a way to sell his products. Another fellow is thinking of setting up a World Wide Web site to market plants from a citrus nursery.

Jeff Ennen, manager of the Advanced Technology Information Network at California State University at Fresno, has helped such ag interests as the state's Department of Food and Agriculture and the Diamond Walnut company find a place on the Web. "In about another five years," says Mr. Ennen, "I think everyone will be on the Internet in the agriculture industry."

Surely that doesn't mean the local farmer who used to sell apples, peaches, or ears of corn from under an awning-draped shed will soon be glued to a keyboard, trying to close a deal with buyers in Toronto, or wherever. More likely, a lot of people tired of keys and screens will be clustered at his farm stand, eager to buy food the old-fashioned way.

CHAPTER 4

DESIGN SOFTWARES & LANGUAGES REQUIREMENTS 4.1 VISUAL STUDIO CODE (VS CODE)

Visual Studio Code (VS Code) is a free, open-source code editor developed by Microsoft. It is designed for use by developers of all skill levels, from beginners to experienced professionals. The editor is available for Windows, macOS, and Linux operating systems and supports a wide range of programming languages, including C++, Java, Python, and more.

VS Code has a user-friendly interface and is highly customizable. It includes features like syntax highlighting, code completion, and debugging tools. The editor also has an integrated terminal that allows you to execute commands within the editor, Git integration for version control, and an extension marketplace where you can download additional features and language support.

One of the main advantages of VS Code is its performance. It is lightweight and fast, making it ideal for working with large codebases. The editor also includes a built-in debugger for debugging your code, code snippets that can help you write code faster, and a code formatter that can help you maintain a consistent code style.

VS Code supports Emmet, a plugin that allows you to quickly generate HTML and CSS code. The editor also includes a Live Share feature that allows you to collaborate with other developers in real-time. This can be very helpful when working with remote teams or when you need to troubleshoot code with a colleague.

One of the standout features of VS Code is its extension marketplace. There are thousands of extensions available that can help you customize your editor to fit your workflow. For example, you can download extensions for specific programming languages, add themes and icons, or automate repetitive tasks.

VS Code also has a large and active community of developers who create and maintain extensions and plugins for additional functionality. This means that there is a wealth of resources available to help you get the most out of the editor.

In addition to the features mentioned above, VS Code includes a task runner that allows you to automate repetitive tasks. The editor also supports multiple cursors that allow you to edit multiple lines of code simultaneously. It has a built-in Git client that allows you to commit, push, and pull changes without leaving the editor. Finally, VS Code can be configured to work with your preferred programming environment.

In summary, Visual Studio Code is a powerful and flexible code editor that is suitable for developers of all levels. Its user-friendly interface, performance, and extensive customization options make it a popular tool among developers. The editor's large and active community of developers also ensures that it is continually being improved and expanded upon.

4.1.1 FRONT-END DEVELOPMENT

A Front-end development refers to the creation and maintenance of the client-facing side of a website or web application. This includes the visual and interactive elements that users see and interact with, such as the layout, design, and functionality.

Front-end developers use various programming languages, such as HTML, CSS, and JavaScript, along with frameworks such as React, Angular, and Vue.js, to create interactive and engaging user interfaces. They work closely with designers to ensure that the website or application's visual and functional aspects align with the user experience and usability requirements.

Front-end development requires a good understanding of web design principles, web standards, and accessibility requirements to ensure that the website or application is accessible to all users, including those with disabilities. Front-end developers also need to stay up-to-date with the latest technologies and trends in web development to create responsive and optimized designs for various devices and screen sizes.

In addition to creating user interfaces, front-end developers also work on optimizing website performance by minimizing load times and improving website speed. They also work on website analytics to track user behavior and monitor website traffic.

Overall, front-end development is essential in creating engaging, responsive, and userfriendly websites and web applications. A good front-end developer should have a

strong understanding of web design principles, user experience, and web development technologies, along with excellent problem-solving and analytical skills.

In summary, a front-end developer is responsible for designing and developing the user-facing side of websites and web applications. They work with design and back-end development teams to ensure seamless integration and optimize website and application performance. They must have a strong understanding of front-end technologies and optimization techniques.

4.1.2 BACK-END DEVELOPMENT

A Back-end development refers to the creation and maintenance of the server-side of a website or web application. It involves writing code that interacts with databases, servers, and other technologies to create and manage the website or application's functionality and logic.

Back-end developers use programming languages such as Python, PHP, Ruby, and Java, along with frameworks such as Django, Flask, Ruby on Rails, and Spring, to create the underlying logic and functionality of a website or web application. They work closely with front-end developers to ensure that the server-side code integrates seamlessly with the client-side code.

Back-end developers are responsible for creating and managing the website's databases, server configurations, and APIs (Application Programming Interfaces). They work on optimizing website performance, scaling website traffic, and maintaining website security.

Back-end development requires a good understanding of software engineering principles, web standards, and security best practices. Back-end developers need to stay up-to-date with the latest technologies and trends in web development to create robust, scalable, and secure web applications.

In addition to creating the underlying logic and functionality of a website or application, back-end developers also work on integrating third-party services and APIs, such as payment gateways, social media platforms, and messaging services.

Overall, back-end development is critical in creating scalable, robust, and secure web applications. A good back-end developer should have a strong understanding of software engineering principles, web development technologies, and security best practices, along with excellent problem-solving and analytical skills.

In summary, a back-end developer is responsible for developing and maintaining the server-side of web applications. They work with databases, server-side programming languages, and web servers to ensure the smooth functioning of web applications. They must have a strong understanding of server-side technologies and optimization techniques, as well as knowledge of web application security and best practices.

CHAPTER 5

DATABASE INTERGRATION AND WEB PAGE HOSTING 5.1. XAMPP

XAMPP is a free and open-source web server software that allows you to run and develop web applications on your computer. It is a popular choice for developers who want to set up a local development environment that mimics a live server environment. XAMPP stands for Cross-platform, Apache, MySQL, PHP and Perl.

XAMPP includes all the components necessary to run a web server, such as Apache HTTP Server, MySQL database, and PHP programming language. It also includes other useful tools such as phpMyAdmin, a web-based interface for managing MySQL databases, and FileZilla, an FTP client that allows you to transfer files between your computer and a remote server.

One of the main advantages of XAMPP is its ease of use. The software is designed to be simple to install and configure, even for beginners. XAMPP is available for Windows, macOS, and Linux operating systems, and it can be installed with just a few clicks.

Another advantage of XAMPP is its flexibility. The software is highly customizable and can be configured to suit your specific needs. For example, you can choose which components to install and configure the software to run on specific ports. This allows you to create a custom development environment that meets your requirements.

XAMPP is also very useful for testing and debugging web applications. Because it runs on your local machine, you can test your web applications without the need for a live server. This allows you to quickly identify and fix any issues before deploying your application to a live server.

XAMPP is also widely used for web development education. Because it is free and easy to install, many educational institutions use XAMPP to teach web development to their students. The software provides a safe and controlled environment for students to learn and experiment with web development.

In summary, XAMPP is a powerful and flexible web server software that allows you to develop and test web applications on your local machine. Its ease of use, flexibility, and usefulness for testing and education make it a popular choice for web developers of all levels.

5.2. WEB HOSTING

Web hosting is a crucial element of making any website accessible to users over the internet. A web hosting service provider provides a platform for individuals or organizations to store their website content on remote servers and makes it available for the users worldwide.

Web hosting companies offer different plans and pricing options to accommodate various website owners' needs. Generally, web hosting services offer different types of

hosting options, including shared hosting, dedicated hosting, VPS hosting, cloud hosting, and reseller hosting.

Shared hosting is the most affordable option, where multiple websites share the same server resources, including storage space, bandwidth, and processing power. The resources are divided between different users, and the cost is spread among them. It is suitable for small businesses and individuals who do not require significant resources and expect less traffic on their website.

Dedicated hosting provides a complete server to a single user. The website owner has full control over the server, including the choice of operating system, hardware, and software. This option is suitable for businesses that require significant resources and high traffic websites.

VPS hosting is a middle ground between shared hosting and dedicated hosting. It offers more control over the server environment and resources compared to shared hosting. A VPS hosting user is allocated a specific amount of server resources and can install and configure software according to their needs.

Cloud hosting is a relatively new hosting option that utilizes cloud computing technology to host websites. It provides scalable resources and is ideal for businesses that require flexibility and high availability. Cloud hosting services typically operate on a pay-as-you-go pricing model, making it a cost-effective solution for websites with varying traffic patterns.

Reseller hosting allows individuals or businesses to resell web hosting services to their clients. It is an excellent option for entrepreneurs looking to start their own web hosting company.

Apart from hosting plans, web hosting companies offer various features such as email hosting, domain name registration, website builders, and security features to ensure website uptime and data protection. Some web hosting companies also provide tools for website optimization and marketing.

Web hosting is a critical component of website development and management. Choosing the right web hosting plan and company can ensure website uptime, high speed, and maximum security, providing a seamless user experience.

In summary, web hosting is a service that allows individuals and organizations to publish their websites on the internet by storing and delivering website content on a remote server accessible over the internet. Web hosting services offer different options and features to suit different needs and budgets.

CHAPTER 6

DIGITAL PROBLEM SOLVING: BUILDING SOLUTIONS WITH CODE 6.1. SAMPEL CODE

```
<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta http-equiv="X-UA-Compatible" content="IE=edge">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>Document</title>

    <style>

        *{

            margin:          0px;

            padding: 0px;
```

```

} html{ height:100%; width:100%;
background-image:url("image/Main.jpg");
background-size: cover;
}
body{
    height: auto; width:auto; font-
family: Montserrat,sans-serif;
} ::-webkit-scrollbar{
width: 8px;
}
::-webkit-scrollbar-track{ background-
color: #4d4d4d;
}
::-webkit-scrollbar-thumb{ border-
radius: 1rem; background-color: black;
}
::-webkit-scrollbar-thumb:hover{
border-radius: 1rem; background-color:
rgb(162, 253, 223)
}
.ch h1{

```

```

    font-family: 'Times New Roman', Times, serif;
font-size:70px;    color: rgb(207, 207, 207);
} .ch{    height: 100vh;
width: 100%;    align-
items: center;    justify-
content: center;
} .ch div{
padding-top: 10%;
position: absolute;
} section{    width:
auto;    height: fit-
content;    padding:
10px 30px;    display:
flex;    align-items:
center;    color:
aliceblue;
} section span{    font-
size: 2.5rem;    font-
weight: 600; } section
p{    font-size:
1.5rem;    font-weight:

```

```

400;    line-height:
1.3; } section img{
width: 100%;
height: max-content;
margin: 10px;
border-radius: 10%; }
section .left{    width:
100%;    padding:
10px 15px;
}
.b1{
    background-color: rgb(0, 0, 0);
} .b2{    background-color: rgb(32,
32, 32);
} nav{
height:60px;
width: 100%;
position: fixed;
    -webkit-backdrop-filter:blur(10px);
backdrop-filter:blur(10px);    background-

```

```
color: rgba(20, 20, 20, 0.644);    box-shadow:
```

```
0px 0px 6px 4px black;
```

```
} nav img{
```

```
width: 20%;
```

```
padding: 4px;
```

```
}
```

```
</style>
```

```
<script src="https://code.jquery.com/jquery-3.3.1.js"
```

```
integrity="sha256-2Kok7MbOyxpgUVvAk/HJ2jigOSYS2auK4Pfzbm7uH60="
crossorigin="anonymous">
```

```
</script>
```

```
<script type=
```

```
$(function(){
```

```
$("#footerM").load("http://localhost/new/footer.html");
```

```
});
```

```
</script>
```

```
</head>
```

```
<body>
```

```
<nav>
```

```

```

```
</nav>
```

<center><div class="ch">

<div>

<h1 id="headMe">

Drone

Technology In Agriculture

</h1>

<h2 style="text-shadow: none;

color: rgb(215 215 215);">Agriculture drones are revolutionizing the way we cultivate and harvest crops. They provide real-time data that allows farmers to make more informed decisions and increase crop yields.

</h2> </div>

</div></center>

<section class="b1">

<div class="left">

<center>Monitoring Field
Conditions</center>

<p align="justify">

  Drone field monitoring is also being used to monitor the health of soil and field conditions. Drones can provide accurate field mapping including elevation information that allow growers to find any irregularities in the field. Having information on field elevation is useful in determining drainage patterns and wet/dry spots which allow for more efficient watering techniques. Some agricultural drone retailers and service providers also offer nitrogen level monitoring in soil using enhanced sensors. This

allows for precise application of fertilizers, eliminating poor growing spots and improving soil health for years to come.

</p> </div>

</section>

<section class="b2">

<div class="left">

<center>Planting &
Seeding</center>

<p align="justify">

  One of the newer and less wide spread uses of drones in agriculture is for planting seeds. Automated drone seeders are mostly being used in forestry industries right now, but the potential for more widespread use is on the horizon. Planting with drones means very hard to reach areas can be replanted without endangering workers. They are also able to plant much more efficiently with a team of two operators and ten drones capable of planting 400,000 trees a day.

</p> </div>

</section>

<section class="b1">

<div class="left">

<center>Spray
Application</center>

<p align="justify">

  Drone use to apply spray treatments is already widespread in south-east Asia, with South Korea using drones for approximately 30% of their agriculture spraying. Drone sprayers are able to navigate very hard to reach areas, such as steep tea fields at high elevations. Drone sprayers save workers from having to navigate fields with backpack sprayers, which can be hazardous to their health. Drones sprayers delivery very fine spray applications that can be targeted to specific areas to maximize efficiency and save on chemical costs. Currently drone sprayer regulations vary widely between countries. In Canada, they are not currently legal as more testing needs to be done to understand the impact of spray drift. Some regulation proposals recommend that only trained professionals be tasked with flying spray drones as is the case with Yamaha, who does not sell the spray drones they manufacture, but leases spray drone services complete with licenced operators.

</p>

</div>

</section>

<section class="b2">

<div class="left">

<center>Security</center>

<p align="justify">

  Drone security is a fast growing industry apart from agriculture but is also extremely useful to farm management. Using drones to monitor the far reaches of a farm without having to get there saves valuable time and allows for more frequent monitoring of hard to reach areas. Drone cameras can provide an overview of farm

operations throughout the day to ensure operations are running smoothly and to locate equipment being used. Security drones can be deployed to monitor fencing and perimeters of more valuable crops like cannabis instead of employing more security personnel. Drone cameras are also being used in exciting ways to protect farm animals by locating missing or injured herd animals in far off grazing areas. Monitoring remote areas, which used to take hours of walking can now be completed in a few minutes.

</p>

</div>

</section>

<section class="b1">

<div class="left">

<center>Drone

Pollination</center>

<p align="justify">

  Some of the newer uses for drone use in agriculture are still in testing and development. One of the most publicized (and often fictionalized) uses is pollinating drone technology. Researchers in the Netherlands and Japan are developing small drones that are capable of pollinating plants without damaging them. The next step is to create autonomous pollinating drones that will work and monitor crop health without constant instruction from operators.

</p>

</div>

</section>

<section class="b2">

<div class="left">

<center>Drone AI</center>

<p align="justify">

  Another drone technology in development also involves machine learning. Improving Artificial Intelligence (AI) in drones is important to be able to make them more useful to smaller farmers in developing nations. Current drone technologies are more effective in monitoring well known crops like corn which are planted in large monocultural field patterns. Drone monitoring programs, as they stand, have a hard time recognizing areas with increased crop diversity, less well known produce, and grains which look similar throughout their growth stages and so are less effective in monitoring crop growth and health. More work is needed to be able to train AI systems to recognize less common crops and more diverse planting patterns.

</p> </div>

</section>

<section class="b1">

<div class="left">

<center>Drone Irrigation</center>

<p align="justify">

  New research out of Australia is also creating exciting opportunities for drone use in agriculture. As climate change increasingly affects drought conditions, creating more efficient irrigation solutions is vital. Using microwave sensing, drones are able to capture very accurate soil health information including moisture levels

without the plants getting in the way. This means water can be distributed in a field in the most efficient way in an effort to conserve resources.

</p>

</div>

</section>

<section class="b2">

<div class="left">

<center>Conclusion</center>

<p align="justify">

  Drones have already vastly altered the agricultural industry and will continue to grow in the coming years. While drone use is becoming more useful to small farmers,there is still a ways to go before they become part of every farmer’s equipment roster, particularly in developing nations. Regulations around drone use need to be made and revised in many countries and more research needs to be done on their effectiveness at certain tasks, such as pesticide application and spraying. There are many ways drones can be useful to farmers but it is important to understand their limitations and functions before investing in expensive equipment. Drone Deploy, an agricultural drone supplier and programming company, suggest starting small and incorporating drone data into your organization slowly for the best results.

</p>

</div>

</section>

<div id="footerM"></div>

```
<script>  function  
  
backHome(){  
  
window.history.go(-1)  
  
}  
  
</script>  
  
</body>  
  
</html>
```

CHAPTER 7

CONCLUSION

The entire project web page describes the scope and feasibility of the agricultural sector and mainly its financial, technical and market potential. The project ensures sufficient agricultural knowledge to teach agricultural students and provides a good return on investment in knowledge capital. By analyzing modern agricultural and their techniques, this project can produce more than 5 modern teachers in small towns to grow the Morden agriculture. It helps meet trading demand and increase the forming products and services that other entities provide to service and support these Morden formers. Hence, more circular employment and livelihood generation. Therefore, in every sense, we can conclude that the project is technically and socially viable, as well as commercially sound to Agricultures.

COST ESTIMATION

SL. NO.	COMPONENTS	COST
1.	Domain name & database (agritoy.info)	5000/year
2.	Images and Graphics	1000
3.	Logo Design	1200
	Sub Total	2200+(5000/year)
	Net Total	7200

(All are in Indian Rupee)

COST ESTIMATION

The screenshot displays the Agritoy website's homepage. At the top, the header includes the Agritoy logo, a user greeting 'Hi guest', navigation links for 'Home', 'Crops Data', and 'Modern Machine', a 'Login/Sign' link with a user icon, and a search bar. The main visual area features a large background image of a field with a yellow tractor. Overlaid on this is a grid of six diamond-shaped images: a drone, a field of crops, a heart shape made of seeds, a close-up of seeds, a tractor, and a person holding a large carrot. Below the grid, the text 'AGRIToy' is prominently displayed. The footer section contains the Agritoy logo, a paragraph describing the site as a resource for agricultural knowledge, and three columns of links: 'Double cropping' (Sorghum, Soyabeans, Corn, Sunflower, Atrazine), 'Mixed Farming' (Mud Crab, Fish), and 'Support' (AgritoyMap, About Us, Private Policy, Help Us).



REGISTER



User Name

enter username

Email Id

enter email id here

Password

enter password

Confirm Password

re-enter password

Register

← Login



25

Modern cultivator model Information for agri!

A cultivator is not just a cultivator. It's a farmer's livelihood. It's his pride and joy. It's his passion.



Mahindra Rigid 13 Tyne

It saves time and offers precision in work as it is simple to operate and quick to adjust. Strong and robust and designed for breaking up hard land and mixing crop residue. Suitable for inter-culture operations by adjusting the distance between the tyne as per crop requirement. Especially useful for paddy cultivation areas requiring shallow ploughing on hard clay mixed up soil.

The spring loaded tiller is suitable for use in stone and root obstructed soil as the spring allows the tyne of the cultivator to lift upward when any kind of stone comes into the passage. The Mahindra Rigid type cultivator is sturdy and capable of withstanding tough working conditions in heavy soil. This implement can break hard soil efficiently and spread residue to leave the ground perfectly worked, long lasting and well clay mixed up soil.

Mahindra Rigid features:

- Simple To Operate And Quick To Adjust
- Long Lasting And Fuel Efficient
- Break Hard Soil Efficiently
- Capable Of Withstanding Tough Working Conditions
- Strong And Robust Tool Designed

Applications:

- Tilling
- Paddy Cultivation

Mahindra Duckfoot

Applines Spring loaded Cultivator has a longer life as the spring allow the tyne of the cultivator to lift upward when any kind of stone comes into the passage. Applines duck foot has a longer life due to heavy construction and special material discs.

Makes the rows for vegetable crops. Operates as a light chisel plough.

Features:

Track width of rear and front can be adjusted which prevents crop damage. This implement is used especially in hard and conditions.

Special Features:

Mahindra Duckfoot features:

- Duck-foot cultivator is widely used in the black-soil type soil.
- It is used for field preparation and fine pulverization of the top soil immediately before sowing.
- It operates at light chisel plough.
- This cultivator is presently manufactured by using the best grade raw material and modern technology.
- Useful for Cultivating the Land immediately after harvest.
- Can cultivate hard top in such a helpful manner of left over weeds.

Sonalika Mini Hybrid

You, it provides effective work on the field that makes Sonalika Mini Hybrid Series perfect for farming. It comes under the Jetanator Category. And it has 27 HP Implement Power that provides fuel efficient work. It is an implement that comes from the Sonalika brand name known for its superb quality niches.

Sonalika Mini Hybrid Series price is available at Tractor Junction. You can just log on to us and register your number. After that, our customer support team will help you out with Sonalika Mini Hybrid Series. For further, you have to stay tuned with us.




Sonalika Mini features:

- Choice of L-Blades, Spikes Blades.
- Adjustable rearing hitches.
- It operates at light chisel plough.
- Single Speed / Multi Speed gear box.
- Spring loaded adjustable trailing board.
- Choice of Chain drive or gear drive.
- Remote speed stacked 210 R.P.M. optional 235 R.P.M.
- Automatic spring loaded chain tensioner.

Swaraj Spring Loaded Cultivator

It provides effective work on the field that makes Swaraj Spring Loaded Cultivator perfect for farming. It comes under the Cultivator Category. And it has 60-65 HP Implement Power that provides fuel efficient work. It is an implement that comes from the Swaraj brand name known for its superb quality niches.

Swaraj Spring Loaded Cultivator price is available at Tractor Junction. You can just log on to us and register your number. After that, our customer support team will help you out with Swaraj Spring Loaded Cultivator. For further, you have to stay tuned with us.



Swaraj Spring Loaded features:

- Spring loaded Tyne assemblies derive their strength from heavy duty springs which once fixed to the immensely strong main frame ensure precise and stress out of position.
- Extra Heavy Duty Type Spring Loaded Tyler is designed for toughest operations.
- It is suitable for hard top and spread condition and farms.
- Provision for spring adjustment between tyne is for various conditions and various crops.
- Free over the top up to 7 to 9 inches to hard soil.
- The spring loaded Tyne swing back under break away pressure of 160KG pass over the obstruction and return to the working position without affecting the working depth of the implement.

	Double cropping	Mixed Farming	Support
	Highly suitable	Highly suitable	Highly suitable
	Highly suitable	Highly suitable	Highly suitable
	Highly suitable	Highly suitable	Highly suitable

Copyright © 2023 by Tractor 148 Rights Reserved

Modern tractor model Information for agri!

A tractor is not just a tractor. It's a farmer's livelihood. It's his pride and joy. It's his passion.



Mahindra 250

Representing the modern Mahindra 250 design of compact tractor, it is a perfect choice for inter-culture operations. From 14.5 kW (19.7 HP) to 24.6 kW (33.3 HP), these tractors are powered by the best Mahindra 250 engine and are equipped with latest features working in a new time to help you maximize the yield of crops.

These tractors can be used for all types of crops including rice, wheat, cotton, sugarcane, oilseed, and pulses. Their highly efficient maintenance ensures that you can run 250 hours of operation without any downtime in your operations.

Mahindra 250 features:



SONALIKA DE 50

Sonalika DE 50 is a tractor in one of the popular tractor models from the Sonalika series based in India. Sonalika is a popular brand for its high-quality tractors, and the Sonalika DE 50 is no exception. It is a 50 HP tractor that is designed for inter-culture operations. It is a 50 HP tractor that is designed for inter-culture operations. It is a 50 HP tractor that is designed for inter-culture operations.

SONALIKA DE 50 features:



Mahindra 250

Representing the modern Mahindra 250 design of compact tractor, it is a perfect choice for inter-culture operations. From 14.5 kW (19.7 HP) to 24.6 kW (33.3 HP), these tractors are powered by the best Mahindra 250 engine and are equipped with latest features working in a new time to help you maximize the yield of crops.

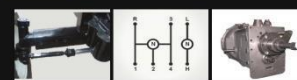
Mahindra 250 features:



INDO FARM 3008 DE

The Indo Farm 3008 DE is a tractor in one of the popular tractor models from the Indo Farm series based in India. Indo Farm is a popular brand for its high-quality tractors, and the Indo Farm 3008 DE is no exception. It is a 3008 HP tractor that is designed for inter-culture operations. It is a 3008 HP tractor that is designed for inter-culture operations. It is a 3008 HP tractor that is designed for inter-culture operations.

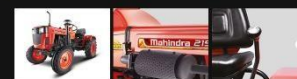
INDO FARM features:



MAHINDRA YUVAKI 215 NXT

The Mahindra YUVAKI 215 NXT is a tractor in one of the popular tractor models from the Mahindra series based in India. Mahindra is a popular brand for its high-quality tractors, and the Mahindra YUVAKI 215 NXT is no exception. It is a 215 HP tractor that is designed for inter-culture operations. It is a 215 HP tractor that is designed for inter-culture operations. It is a 215 HP tractor that is designed for inter-culture operations.

MAHINDRA YUVAKI 215 features:




	Double cropping	Mixed Farming	Support
	Highly suitable	Highly suitable	Highly suitable
	Highly suitable	Highly suitable	Highly suitable
	Highly suitable	Highly suitable	Highly suitable

Copyright © 2023 by Tractor 148 Rights Reserved

Carrots are divine... You get a dozen for a dime, it's mellow, it's yellow, it's carrot.

A carrot a day keeps the eye doctor away.



Explore



Introduction to Carrot Farming:
Carrots are easy to grow in a garden with deep, loose soil, and as you may have guessed from the name, they are packed with beta carotene. A 12 cup serving gives you four times the recommended daily allowance of vitamin A in the form of beta carotene. Growing and harvesting carrots is a great way to take advantage of their nutritional benefits. Carrot farming gives a major role in the Indian economy as it is a major vegetable crop in India.

Carrots - form - data

Best Soil for Growing Carrots:

Carrot is a cool climate season crop and when grown at 15°C to 20°C will develop good color. The carrot crop needs a deep loose loamy soil. It requires a pH ranging from 6.0 to 7.0 for higher yielding.

Best Season for growing Carrots:

Hills: At an elevation above 1500 meters, Carrot can be grown throughout the year under assured irrigation. At elevations between 1000 – 1500 meters, Carrot can be grown in July – February.
Plains: August.

Preparation of Land for Carrot Plantation:

Hills: Prepare the land to a fine 8th and form raised beds of 15 cm height, one-meter breadth, and convenient length.

Plains: Two ploughings are given and ridges and furrows are formed at 30 cm spacing.

Seed treatment of Carrot:

Seed treatment with cow pat pit @ 3 g in 1 liter of water for 24 hours.
Seed treatment with 5% *Trichoderma viride*
Seedling root dip with 5% *Pseudomonas fluorescens* before transplanting

Irrigation for growing Carrots:

Water supply should be given once in five days. During the drought period, after giving irrigation in the evening, beds should be covered with wet gunny bags. This prevents excessive water loss during sunny days. Germination of the seeds is also improved.

Growth regulators in Carrot Farming:

Foliar spraying of panchagavya @ 3 percent at 10 days interval from the 1st month after sowing
Spraying 10% vermiwash 5 times at 15 days interval from one month after sowing
Foliar spray of horn silica @ 25 g/l in 50 liters of water on the 65th day after sowing to increase the yield and quality of the carrot roots

Fertilizers and Manures

Fertilizers and Manures in Carrot:-

Timely application of fertilizers and manures ensure the high yields of carrot. Here is the manures and fertilizer requirement in Carrot growing.

Green manuring with lupin 80 days before planting
Spraying horn manure to the soil at the time of land preparation @ 75g/ha by dissolving it in 40 liters of water
Applying of well-decomposed farm and manure @ 50 t/ha at the time of land preparation
Applying of biodynamic compost @ 5 t/ha at the time of land preparation
Applying of vermicompost @ 5 t/ha at the time of land preparation
Applying neem cake @ 250 kg/ha at the time of land preparation
Applying of biofertilizers, Azospirillum, and Phosphobacteria @ 25 kg each/ha at the time of land preparation
Spraying cow pat pit @ 5 kg/ha in 100 liters of water on 45th, 60th and 75th day after planting

CARROT PRODUCTION



	Double cropping	Mixed Farming	Support
	Highly suitable	Highly suitable	Highly suitable
	Highly suitable	Highly suitable	Highly suitable
	Highly suitable	Highly suitable	Highly suitable

Copyright © 2023 by Tractor 148 Rights Reserved

FIG.2. PROJECT PHOTOGRAPH

REFERENCE

- [1] Nielson, J. (1999). Designing websites with authority. United States: New Riders.
- [2] IBM Design Language. IBM Design Language / Visual: Layout. [online]
Available at: <http://www.ibm.com/design/language/framework/visual/layout/>
- [3] Nngroup.com. Guidelines for Visualizing Links. [online] Available at:
<https://www.nngroup.com/artides/guidelines-for-visualizing-links/>
- [4] Circle S Studio. 25 web Design and Development Terms Every Marketer Should Know. [online] Available
at: <https://www.circlesstudio.commog/25-web-design-development-terms-every-marketer-know/>
- [5] Alistapart.com. More Meaningful Typography. [online] Available at:
<http://alistapart.wm/article/moremeaningful-typography>
- [6] Antân, A., Carter, R., Earp, J. and Williams, L. (2001). EPRAM: Evolutionary prototyping risk analysis &
mitigation (eCommerce Software Development Process Document). North Carolina State University.
- [7] Istqbexamcertification.com. What is Prototype model- advantages, disadvantages and when to use it?.
[online] Available at: <http://istqbexamcertification.com/what-is-prototype-model-advantagesdisadvantages-and-when-to-use-it/>
- [8] "Tips For Making Print More Readable - American Foundation For The Blind".Afb.org.N.p.
- [9] "Use Legible Font Sizes I Pagespeed Insights I Google Developers". Google Developers. N.p.
- [10] Varvy.com. How to use legible font sizesfor all devices. [online]
Available at: <https://varvy.com/mobile/legible-font-size.html>
- [11] Thesitewizard.com. Which Font Should I Usefor My Web Page? Tips on Choosing Fonts for Your Website
(thesitewizard.com). [online] Available at: <https://www.thesitewizard.com/webdesign/which-fonts-touse.shtml>
- [12] Thesitewizard.com. Which Font Should I Use for My Web Page? Tips onChoosing Fonts for Your Website
(thesitewizard.com). [online] Available at: <https://www.thesitewizard.com/webdesign/which-fonts-touse.shtml>
- [13] Thesitewizard.com. Which Font Should I Use for My Web Page? Tips on ChoosingFonts for Your Website
(thesitewizard.com) . [online] Available at: <https://www.thesitewizard.com/webdesign/which-fonts-touse.shtml>
- [14] Bootstrapdocs.com.Static Top Navbar Example for Bootstrap 3.0.3Documentation - BootstrapDocs.
[online] Available at: <http://bootstrapdocs.com/v3.0.3/docs/examples/navbar-static-top/>
- [15] Htmlgoodies.com. A Quick Tutorial on JavaScript Variable Passing . [online]Available at:
<http://www.htmlgoodies.com/beyond/javascript/article.php/3471111>

APPENDIX

AGRITORY SURVEYS

Organic Tomato Cultivation

A Guide to Tomatoes Cultivation.

Tomatoes are a popular and versatile crop grown in many parts of the world. They are used in a variety of dishes and are also a good source of vitamins and minerals. Here are some basic guidelines for growing tomatoes.

1. Climate: Tomatoes grow best in warm temperatures, ideally between 70-85°F (21-27°C). They can be grown in a wide range of climates but may require protection from frost in colder regions.

2. Soil: Tomatoes prefer well-draining, nutrient-rich soil with a pH between 6.0-7.0. Soil should be prepared by adding organic matter, such as compost or aged manure, to improve fertility and structure.

3. Planting: Tomatoes can be started from seed or purchased as transplants. They should be planted in a sunny location with good air circulation, spaced at least 12-24 inches apart. It is important to plant them deep, burying the stem up to the first set of leaves to encourage root growth.

4. Watering: Tomatoes require consistent moisture, but over-watering can lead to disease and reduced fruit quality. They should be watered deeply, about 1 inch per week, and mulched to help retain soil moisture.

5. Fertilizing: Tomatoes benefit from regular fertilization throughout the growing season. A balanced fertilizer with equal parts nitrogen, phosphorus, and potassium can be applied every 3-4 weeks.

© 2023 Agritory Surveys. All rights reserved.
Digitized by Srujan Kumar Mishra (srujan1983)

b. Pruning: Indeterminate varieties of tomatoes benefit from pruning to remove suckers, or side shoots, that develop, more productive fruit and better air circulation.

7. Disease and Pest Control: Tomatoes are susceptible to a variety of diseases and pests, including blight, wilt, and tomato hornworms. Regular monitoring and control measures, such as crop rotation, use of resistant varieties, and organic pest control methods, can help prevent these issues.

With proper care and attention, tomatoes can provide a bountiful harvest and delicious addition to your meals.

Organic Potato Cultivation.

Potatoes are a widely cultivated crop that are grown for their edible tubers. They are an important source of carbohydrates and can be grown in a variety of climates and soil types. Here are some guidelines for potato cultivation.

1. Soil: Potatoes prefer well-drained soil with a pH between 5.0 and 6.5. The soil should be fertile and loose, with good aeration.

2. Seed Selection: Use only certified seed potatoes from a reliable source. The seed potatoes should be disease-free and have at least one eye or bud per piece.

3. Planting: Potatoes can be planted in the spring after the last frost or in the fall for a winter harvest. The planting depth should be about 4 inches deep and 12 inches apart. Rows should be spaced 30 to 36 inches apart.

4. Fertilization: Potatoes require a lot of nutrients, especially nitrogen, phosphorus, and potassium. Fertilize with a balanced fertilizer before planting and then again when the plants are about 6 inches tall.

FIG.3. APPENDIX NO.1

AGRITORY SURVEYS

Cabbage Cultivation

Cabbage is a popular culture of the Brassica family, also known as Brassica Capitata. It is used in the country as a leafy and green leafy vegetable. It is available in various colours such as purple, red & green colour. Here, are the steps to follow for successful cabbage cultivation:

Soil Preparation: Cabbage grows well in well-drained & fertile soil with pH between 6.0 and 7.0. Organic manure should be added to the soil before planting for improving drainage and fertility. Mix some compost and/or aged manure to it to some soil for improving drainage and adding nutrients.

Seed Selection: Select high quality seeds from nursery or garden centre or online and soak them in water for 24 hours before sowing.

Planting: Cabbage can be planted directly on ground or indoor. For indoor, seeds must be sown in seedling trays filled with moistened potting mix. Place the trays in warm area & keep monitoring.

உருவாக்கப்பட்டது: ஆகஸ்ட் 2022
எழுப்பப்பட்டது: செப்டம்பர் 2022

Seedlings should emerge within 7-10 days, when they reach 4 inches tall, shift them to outdoors.

Watering: It requires more water and keep the soil moist but not soggy.

Fertilization: Apply balanced fertilizer like 10-10-10 or 8-8-8 at rate of 1 pound per 100 sq ft. Apply fertilizer when preparing bed for planting, side dress when plants are 6-8 weeks old & again when heads formed.

Weed Control: Mechanical Control such as hoe, pangs or chemical control such as Clomdown, 480SL 200ml/20l can be used for weed control.

Pest & Disease Management: Pest and Disease problems can be minimized by choosing disease resistant varieties, rotating crops annually, clearing debris and watering early in the day, etc.

Harvesting: Cut the cabbage head when they are about 6-8 inches in diameter. Use a sharp knife or garden shears to avoid crushing the head. Cut the stem at an angle and harvest early in the morning. For longer storage, cut off any outer leaves that are damaged or browning.

FIG.4. APPENDIX NO.2



Organic Basmati Rice Cultivation.

A Guide to Growing Basmati Rice:-

- Varieties :- The main varieties of basmati rice grown in India are Basmati 370 and Jaldi Basmati. Other improved varieties include Pusa 1121, CSR 30, and Pusa Basmati 1.

- Soil :- Basmati rice can be grown in any type of soil, but heavy and neutral soils such as clay loam and loamy soils are suitable for cultivation. The optimum soil pH range for high yield is 5.0 to 8.5. Alkaline or saline soils are not suitable for farming.

- Seed Selection and planting rate :- Select good quality and genetic seeds from a reliable source. The sowing rate for basmati rice is about 6-8 kg/acre of land.

- Seed treatment :- Immerse 8-10 kg of seeds in a solution of 1 kg of salt mixed with 10 liters of water. Choose high quality seeds and rinse bitter seeds with salt. Soak the seeds several times in water and store them. After a day, place the seeds in a place where the seed bag is wet. The bag should then be watered continuously or intermittently to initiate the germination process.

- Soil preparation and sowing :- Dry the roots 2-3 weeks before sowing and apply 10-12 tons of organic product or 10-25 tons of organic matter after adding water. The area should be

properly leveled. Keep the field wet for at least 3-4 days before planting.

- Climatic requirements :- Basmati rice requires evenly distributed rainfall, and the optimum temperature for cultivation is 20-35°C.

- Methods of cultivation :- Cultivate rice by planting and rearing seedlings in nurseries. The best time for transplanting is the 1st to the 2nd week of July. Plant 3-4 weeks old plants in virgin soil. The distance between two plants should be between 15 to 20 cm, and the distance between the rows should be between 20 to 25 cm.

- Fertilizers :- Apply 5-2 t/ha of farm yard manure and 5-6 t/ha of vermicompost.

- Irrigation :- Basmati rice requires 2-4 cm of water during the growing season. A small amount of water may be required during certain stages of growth.

- Weed control :- Weeds grow less in rice fields because the plants grow in water. After planting, hand pull the plants 3-4 times 3-3 weeks apart.

- Harvesting :- To reduce height and prevent leaf drop, cut the shoots above 10 cm above the upper leaves so that they do not affect the result. The crop will be ready for harvesting when it turns golden. To get maximum yield, harvested 25 to 30 days after flowering in early and medium-duration varieties. In late varieties, harvesting should be done 35-40 days after flowering.

- Yield :- In organic farming, the yield reduces in the conversion period as chemical fertilizers are withdrawn. The crop yield stabilizes and reaches 95% normal yield rate in the 4th year of cultivation.

Some state in India that known for organic basmati rice cultivation are Uttarakhand, Himachal Pradesh, and Punjab.

செய்துள்ள (1) செவ்வாய் 2.2.2023 அன்று

2.15.2023 2.14.2023 (31)

FIG.5. APPENDIX NO.3