

```
<!DOCTYPE html>

<html lang="pt-BR">

<head>

  <meta charset="UTF-8">

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

  <title>TechJo – Controle Biológico Inteligente</title>

  <script src="https://cdn.tailwindcss.com"></script>

  <link
href="https://fonts.googleapis.com/css2?family=Poppins:wght@300;400;500;600;700&displa
y=swap" rel="stylesheet">

  <link rel="stylesheet"
href="https://cdn.jsdelivr.cloudflare.com/ajax/libs/font-awesome/6.0.0/css/all.min.css">

  <style>

    body {

      font-family: 'Poppins', sans-serif;

      scroll-behavior: smooth;

    }

    .hero-bg {

      background: linear-gradient(rgba(0, 0, 0, 0.5), rgba(0, 0, 0, 0.5)),
url('https://images.unsplash.com/photo-1500382017468-9049fed747ef?ixlib=rb-1.2.1&auto=f
ormat&fit=crop&w=1350&q=80');

      background-size: cover;

      background-position: center;

    }

    .feature-icon {

      width: 60px;

      height: 60px;

      display: flex;
```

```
    align-items: center;

    justify-content: center;

    border-radius: 50%;

    margin: 0 auto 15px;
}

.how-it-works-step {

    position: relative;

    padding-left: 80px;

    margin-bottom: 40px;
}

.step-number {

    position: absolute;

    left: 0;

    top: 0;

    width: 60px;

    height: 60px;

    background-color: #D32F2F;

    color: white;

    border-radius: 50%;

    display: flex;

    align-items: center;

    justify-content: center;

    font-size: 24px;

    font-weight: bold;
}

.calculator-input {
```

```

        border: 1px solid #e2e8f0;

        border-radius: 0.375rem;

        padding: 0.5rem 0.75rem;

        width: 100%;
    }

    .calculator-input:focus {

        outline: none;

        border-color: #4CAF50;

        box-shadow: 0 0 0 3px rgba(76, 175, 80, 0.2);
    }
</style>
</head>
<body class="bg-gray-50">

<!-- Navigation -->

<nav class="bg-white shadow-md sticky top-0 z-50">

    <div class="container mx-auto px-4 py-3 flex justify-between items-center">

        <div class="flex items-center">

            <div class="w-12 h-12 mr-3">

                

            </div>

            <a href="#" class="text-2xl font-bold text-gray-800">TechJo</a>

        </div>

    </div>

```

```
<div class="hidden md:flex space-x-8">

  <a href="#home" class="text-gray-800 hover:text-green-500">Home</a>

  <a href="#about" class="text-gray-800 hover:text-green-500">Sobre</a>

  <a href="#how-it-works" class="text-gray-800 hover:text-green-500">Como
Funciona</a>

  <a href="#science" class="text-gray-800 hover:text-green-500">Base
Científica</a>

  <a href="#community" class="text-gray-800
hover:text-green-500">Comunidade</a>

  <a href="#contact" class="text-gray-800 hover:text-green-500">Contato</a>

</div>
```

```
<button class="md:hidden text-gray-800 focus:outline-none">

  <i class="fas fa-bars text-xl"></i>

</button>

</div>

</nav>
```

<!-- Hero Section -->

```
<section id="home" class="hero-bg text-white py-20 md:py-32">

  <div class="container mx-auto px-4 text-center">

    <h1 class="text-4xl md:text-6xl font-bold mb-4">TechJo</h1>

    <h2 class="text-xl md:text-2xl mb-8">Controle Biológico: aplicação inteligente</h2>

    <p class="text-lg md:text-xl mb-10 max-w-2xl mx-auto">Tecnologia sustentável para
proteger sua lavoura de forma natural</p>

    <a href="#how-it-works" class="bg-red-600 hover:bg-red-700 text-white font-bold
py-3 px-8 rounded-full text-lg transition duration-300 inline-block">Saiba como funciona</a>

  </div>

</section>
```

```
<div class="flex items-center my-12">
```

```
<div class="flex-grow h-px bg-green-300"></div>

<span class="mx-4 text-green-600 text-2xl">🌿</span>

<div class="flex-grow h-px bg-green-300"></div>

</div>
```

```
<!-- About Section (Apimorada) -->
```

```
<section id="about" class="py-20 bg-gradient-to-br from-green-50 via-white to-green-100">
```

```
  <div class="container mx-auto px-6">
```

```
    <div class="text-center mb-14">
```

```
      <h2 class="text-4xl font-extrabold text-green-700 mb-3 drop-shadow-md">Sobre o TechJo</h2>
```

```
      <div class="w-24 h-1 bg-gradient-to-r from-green-400 to-green-600 mx-auto rounded-full"></div>
```

```
    </div>
```

```
  <div class="flex flex-col md:flex-row items-center gap-10">
```

```
    <!-- Imagem -->
```

```
    <div class="md:w-1/2">
```

```
      
```

```
</div>
```

<!-- Texto -->

<div class="md:w-1/2">

<p class="text-green-800 text-lg leading-relaxed mb-6">

<strong>TechJo</strong> é um aplicativo inovador focado em promover uma agricultura mais sustentável e conectada.

Ele une produtores orgânicos através de uma comunidade interativa e inteligente.

</p>

<p class="text-green-800 text-lg leading-relaxed mb-8">

A partir das informações fornecidas pelo agricultor, o sistema calcula automaticamente a quantidade ideal de inimigos naturais, como joaninhas, e gera um plano personalizado com rota para drones, usando georreferenciamento.

</p>

<!-- Destaques -->

<div class="grid grid-cols-2 gap-6">

<div class="bg-white shadow-md rounded-lg p-4 text-center hover:shadow-xl transition">

<div class="mx-auto mb-3 w-12 h-12 flex items-center justify-center rounded-full bg-gradient-to-br from-green-300 to-green-500 text-white">

<i class="fas fa-leaf text-xl"></i>

</div>

<h3 class="font-semibold text-green-700">Sustentável</h3>

<p class="text-sm text-green-800">Solução ecológica no combate às pragas</p>

</div>

<div class="bg-white shadow-md rounded-lg p-4 text-center hover:shadow-xl transition">

```
<div class="mx-auto mb-3 w-12 h-12 flex items-center justify-center rounded-full
bg-gradient-to-br from-red-300 to-red-500 text-white">
```

```
<i class="fas fa-flask text-xl"></i>
```

```
</div>
```

```
<h3 class="font-semibold text-red-700">Base Científica</h3>
```

```
<p class="text-sm text-red-800">Fundamentado em estudos confiáveis</p>
```

```
</div>
```

```
<div class="bg-white shadow-md rounded-lg p-4 text-center hover:shadow-xl
transition">
```

```
<div class="mx-auto mb-3 w-12 h-12 flex items-center justify-center rounded-full
bg-gradient-to-br from-yellow-300 to-yellow-500 text-white">
```

```
<i class="fas fa-robot text-xl"></i>
```

```
</div>
```

```
<h3 class="font-semibold text-yellow-700">Automatizado</h3>
```

```
<p class="text-sm text-yellow-800">Cálculos inteligentes e eficientes</p>
```

```
</div>
```

```
<div class="bg-white shadow-md rounded-lg p-4 text-center hover:shadow-xl
transition">
```

```
<div class="mx-auto mb-3 w-12 h-12 flex items-center justify-center rounded-full
bg-gradient-to-br from-blue-300 to-blue-500 text-white">
```

```
<i class="fas fa-drone-alt text-xl"></i>
```

```
</div>
```

```
<h3 class="font-semibold text-blue-700">Drones</h3>
```

```
<p class="text-sm text-blue-800">Aplicação de precisão na lavoura</p>
```

```
</div>
```

```
</div>
```

```
</div>
```

</div>

</div>

</section>

<div class="flex items-center my-12">

<div class="flex-grow h-px bg-green-300"></div>

<span class="mx-4 text-green-600 text-2xl">🌿</span>

<div class="flex-grow h-px bg-green-300"></div>

</div>

<!-- How It Works Section -->

<section id="how-it-works" class="py-20 bg-gradient-to-b from-green-50 to-white">

<div class="container mx-auto px-4">

<div class="text-center mb-16">

<h2 class="text-4xl font-extrabold text-green-700 mb-4">Como Funciona</h2>

<p class="text-gray-600 max-w-2xl mx-auto">Do campo à solução — conheça as etapas do nosso sistema inteligente de controle biológico.</p>

<div class="w-24 h-1 bg-green-500 mx-auto mt-4"></div>

</div>

<div class="grid grid-cols-1 md:grid-cols-2 gap-12 max-w-6xl mx-auto">

<!-- Step 1 -->

<div class="flex items-start space-x-4">

<div class="text-white bg-green-500 w-10 h-10 rounded-full flex items-center justify-center text-lg font-bold shadow-lg">1</div>

<div>

<h3 class="text-xl font-semibold text-gray-800 mb-2">Entrada de Dados</h3>



<p class="text-gray-600">O agricultor insere as informações sobre a praga, cultura e localização via GPS usando uma interface amigável.</p>

</div>

</div>

<!-- Step 2 -->

<div class="flex items-start space-x-4">

<div class="text-white bg-green-500 w-10 h-10 rounded-full flex items-center justify-center text-lg font-bold shadow-lg">2</div>

<div>

<h3 class="text-xl font-semibold text-gray-800 mb-2">Cálculo Inteligente</h3>

<p class="text-gray-600">O sistema analisa os dados e calcula automaticamente a quantidade ideal de joaninhas com base em pesquisas científicas.</p>

</div>

</div>

<!-- Step 3 -->

<div class="flex items-start space-x-4">

<div class="text-white bg-green-500 w-10 h-10 rounded-full flex items-center justify-center text-lg font-bold shadow-lg">3</div>

<div>

<h3 class="text-xl font-semibold text-gray-800 mb-2">Geração de Rota</h3>

<p class="text-gray-600">Criamos uma rota otimizada para os drones aplicarem o controle biológico nos pontos estratégicos da lavoura.</p>

</div>

</div>

<!-- Step 4 -->

<div class="flex items-start space-x-4">

```
<div class="text-white bg-green-500 w-10 h-10 rounded-full flex items-center justify-center text-lg font-bold shadow-lg">4</div>
```

```
<div>
```

```
<h3 class="text-xl font-semibold text-gray-800 mb-2">Aplicação Prática</h3>
```

```
<p class="text-gray-600">Drones liberam as cápsulas com insetos benéficos de forma precisa, promovendo um controle sustentável e eficiente.</p>
```

```
</div>
```

```
</div>
```

```
</div>
```

```
</div>
```

```
</section>
```

```
<div class="flex items-center my-12">
```

```
<div class="flex-grow h-px bg-green-300"></div>
```

```
<span class="mx-4 text-green-600 text-2xl">🌿</span>
```

```
<div class="flex-grow h-px bg-green-300"></div>
```

```
</div>
```

```
<!-- Calculator Section -->
```

```
<div class="mt-16 bg-white p-8 rounded-lg shadow-lg max-w-2xl mx-auto">
```

```
<h3 class="text-2xl font-bold text-center text-gray-800 mb-6">Simulador de Controle Biológico</h3>
```

```
<div class="grid grid-cols-1 md:grid-cols-2 gap-6 mb-6">
```

```
<div>
```

```
<label class="block text-gray-700 mb-2">Tipo de Cultura</label>
```

```
<select class="calculator-input" id="cultura">
```

```
<option>Feijão</option>
```

```
<option>Milho</option>
<option>Soja</option>
<option>Tomate</option>
<option>Outra</option>
</select>
```

```
</div>
```

```
<div>
```

```
<label class="block text-gray-700 mb-2">Tipo de Praga</label>
```

```
<select class="calculator-input" id="praga">
```

```
<option>Pulgões</option>
```

```
<option>Mosca-branca</option>
```

```
<option>Tripes</option>
```

```
<option>Outra</option>
```

```
</select>
```

```
</div>
```

```
</div>
```

```
<div class="grid grid-cols-1 md:grid-cols-2 gap-6 mb-6">
```

```
<div>
```

```
<label class="block text-gray-700 mb-2">Densidade de Pragas (unidades/m2)</label>
```

```
<input type="number" class="calculator-input" id="densidade" placeholder="Ex: 50">
```

```
</div>
```

```
<div>
```

```
<label class="block text-gray-700 mb-2">Área Total (hectares)</label>
```

```
<input type="number" class="calculator-input" id="area" placeholder="Ex: 10">
```

```
</div>
```

</div>

<div class="mb-6">

<label class="block text-gray-700 mb-2">Tempo Desejado para Controle (dias)</label>

<input type="number" class="calculator-input" id="tempo" placeholder="Ex: 7">

</div>

<button onclick="calcularJoaninhas()" class="w-full bg-green-500 hover:bg-green-600 text-white font-bold py-3 px-4 rounded transition duration-300">

Calcular Quantidade de Joaninhas

</button>

<div class="mt-6 p-4 bg-gray-100 rounded hidden" id="result">

<h4 class="font-bold text-gray-800 mb-2">Resultado:</h4>

<p class="text-gray-700">Quantidade estimada de joaninhas: <span class="font-bold text-green-600" id="ladybugs-count">0</span></p>

<p class="text-gray-700 text-sm mt-2">\* Esta estimativa é baseada em pesquisas científicas e pode variar conforme condições ambientais.</p>

</div>

<p class="text-gray-600 text-sm mt-6">

O TechJo pode ser adaptado para diferentes culturas (milho, feijão, soja, tomate etc.) e pragas (pulgões, mosca-branca, tripses etc.), desde que existam dados de eficácia dos inimigos naturais correspondentes.

</p>

</div>

<section id="geo-map" class="py-16 bg-green-100">

<div class="container mx-auto px-4">

## <h2 class="text-3xl font-bold text-center text-green-800 mb-6">Distribuição Estratégica de Joaninhas</h2>

<p class="text-center text-gray-700 mb-10">Baseado nos dados informados, veja os pontos simulados da propriedade onde as cápsulas serão lançadas.</p>

<div id="map-grid" class="grid grid-cols-5 gap-4 justify-center text-center"></div>

</div>

</section>

<section class="py-8 bg-white">

<div class="container mx-auto px-4">

<h3 class="text-2xl font-bold text-center text-gray-800 mb-4">Mapa da Propriedade</h3>

<p class="text-center text-gray-600 mb-6">Demonstração da área com os pontos simulados de liberação das joaninhas.</p>

<div class="flex justify-center">

<canvas id="propertyMap" width="500" height="400" class="border border-gray-300 rounded-lg shadow-md"></canvas>

</div>

</div>

</section>

<script>

const canvas = document.getElementById("propertyMap");

const ctx = canvas.getContext("2d");

// Desenhar a área da propriedade (simples retângulo verde claro)

ctx.fillStyle = "#e6f5e9";

ctx.fillRect(0, 0, canvas.width, canvas.height);

// Adiciona pontos simulados de liberação

```
const points = [  
  { x: 80, y: 60 },  
  { x: 200, y: 100 },  
  { x: 350, y: 90 },  
  { x: 120, y: 200 },  
  { x: 280, y: 180 },  
  { x: 400, y: 250 },  
  { x: 150, y: 300 },  
  { x: 300, y: 330 },  
];
```

```
ctx.fillStyle = "#38a169"; // cor verde escura para os pontos  
points.forEach((point) => {  
  ctx.beginPath();  
  ctx.arc(point.x, point.y, 8, 0, Math.PI * 2);  
  ctx.fill();  
});
```

```
// Opcional: legenda
```

```
ctx.fillStyle = "#000";  
ctx.font = "14px sans-serif";  
ctx.fillText("● Ponto de Liberação", 20, canvas.height - 20);  
</script>
```

```
<div class="flex items-center my-12">

  <div class="flex-grow h-px bg-green-300"></div>

  <span class="mx-4 text-green-600 text-2xl">🌿</span>

  <div class="flex-grow h-px bg-green-300"></div>

</div>
```

```
<!-- Community Section -->

<section id="community" class="py-16 bg-green-600 text-white">

  <div class="container mx-auto px-4">

    <div class="text-center mb-12">

      <h2 class="text-3xl font-bold mb-4">AgroChat TechJo</h2>

      <div class="w-20 h-1 bg-white mx-auto"></div>

    </div>

    <div class="max-w-6xl mx-auto">

      <div class="bg-white text-gray-800 rounded-lg shadow-xl overflow-hidden flex
flex-col md:flex-row">
```

```

      <!-- Texto e recursos -->

      <div class="md:w-1/2 p-8">

        <h3 class="text-2xl font-bold text-green-700 mb-4">Comunidade
AgroChat</h3>

        <p class="text-gray-700 mb-4">O TechJo vai além da tecnologia: oferece
também a AgroChat, uma comunidade colaborativa que conecta produtores, pesquisadores
e consumidores interessados em agricultura sustentável.</p>

        <p class="text-gray-700 mb-6">Troque experiências, tire dúvidas, compartilhe
resultados e forme redes de apoio com outros membros da comunidade agrícola.</p>

      </div>

    </div>

  </div>

</section>
```

```
<div class="space-y-4">

  <div class="flex items-start">

    <div class="bg-green-100 text-green-600 p-3 rounded-full mr-4">

      <i class="fas fa-comments text-lg"></i>

    </div>

    <p class="text-gray-700">Fórum direto entre produtores e
consumidores</p>

  </div>

  <div class="flex items-start">

    <div class="bg-green-100 text-green-600 p-3 rounded-full mr-4">

      <i class="fas fa-star text-lg"></i>

    </div>

    <p class="text-gray-700">Valorização do produto orgânico</p>

  </div>

  <div class="flex items-start">

    <div class="bg-green-100 text-green-600 p-3 rounded-full mr-4">

      <i class="fas fa-hands-helping text-lg"></i>

    </div>

    <p class="text-gray-700">Troca de boas práticas e saberes do campo</p>

  </div>

</div>

</div>

</div>

<!-- Caixa de convite -->

<div class="md:w-1/2 bg-gray-100 p-8 flex items-center justify-center">

  <div class="text-center w-full">

    <div class="bg-white p-6 rounded-lg shadow-inner mb-6">
```



<i class="fas fa-comment-dots text-5xl text-green-600 mb-4"></i>

<h4 class="text-xl font-bold text-gray-800 mb-2">Junte-se à  
Comunidade</h4>

<p class="text-gray-600 mb-2">Conecte-se com outros produtores e  
especialistas em controle biológico.</p>

</div>

<<a href="https://chat.whatsapp.com/lvEHN5YxrhYJ4eTTqXH3IS?mode=ac\_t"

target="\_blank"

rel="noopener"

class="bg-green-600 hover:bg-green-700 text-white font-bold py-3 px-6 rounded transition  
duration-300">

Acessar AgroChat

</a>

</a>

</button>

</div>

</div>

</div>

</div>

</div>

</section>

<div class="flex items-center my-12">

<div class="flex-grow h-px bg-green-300"></div>

<span class="mx-4 text-green-600 text-2xl">🌿</span>

<div class="flex-grow h-px bg-green-300"></div>

</div>

<!-- Team Section -->

<section class="py-16 bg-gray-50">

<div class="container mx-auto px-4">

<div class="text-center mb-12">

<h2 class="text-3xl font-bold text-gray-800 mb-4">Criadoras do Projeto</h2>

<div class="w-20 h-1 bg-green-500 mx-auto"></div>

</div>

<div class="grid grid-cols-1 md:grid-cols-3 gap-8 max-w-4xl mx-auto">

<!-- Ana Clara - Azul -->

<div class="bg-white p-6 rounded-lg shadow-md text-center">

<div class="w-24 h-24 bg-blue-100 rounded-full mx-auto mb-4 flex items-center justify-center">

<i class="fas fa-user text-3xl text-blue-600"></i>

</div>

<h3 class="text-xl font-bold text-gray-800 mb-1">Ana Clara Tenedini</h3>

<p class="text-gray-600 mb-3">(55) 9 9629-3852</p>

<a href="mailto:at004570@cfjl.com.br" class="text-blue-600 hover:text-blue-800 text-sm">at004570@cfjl.com.br</a>

</div>

<!-- Bruna - Roxo -->

<div class="bg-white p-6 rounded-lg shadow-md text-center">

<div class="w-24 h-24 bg-purple-100 rounded-full mx-auto mb-4 flex items-center justify-center">

<i class="fas fa-user text-3xl text-purple-600"></i>

</div>

<h3 class="text-xl font-bold text-gray-800 mb-1">Bruna Reckziegel Binsfeld</h3>

<p class="text-gray-600 mb-3">(55) 9 9626-9010</p>

<a href="mailto:bb004475@cfjl.com.br" class="text-purple-600 hover:text-purple-800 text-sm">bb004475@cfjl.com.br</a>

</div>

<!-- Isadora - Rosa -->

<div class="bg-white p-6 rounded-lg shadow-md text-center">

<div class="w-24 h-24 bg-pink-100 rounded-full mx-auto mb-4 flex items-center justify-center">

<i class="fas fa-user text-3xl text-pink-600"></i>

</div>

<h3 class="text-xl font-bold text-gray-800 mb-1">Isadora Helena Cabral Salanti</h3>

<p class="text-gray-600 mb-3">(55) 9 9119-1726</p>

<a href="mailto:is004392@cfjl.com.br" class="text-pink-600 hover:text-pink-800 text-sm">is004392@cfjl.com.br</a>

</div>

</div>

</div>

</section>

<div class="flex items-center my-12">

<div class="flex-grow h-px bg-green-300"></div>

<span class="mx-4 text-green-600 text-2xl">🌿</span>

<div class="flex-grow h-px bg-green-300"></div>

</div>

<!-- Contact Section -->

<section id="contact" class="py-16 bg-white">

<div class="container mx-auto px-4">

<div class="text-center mb-12">

<h2 class="text-3xl font-bold text-gray-800 mb-4">Contato / Colaboração</h2>

<div class="w-20 h-1 bg-green-500 mx-auto"></div>

</div>

<div class="max-w-2xl mx-auto">

<form class="bg-gray-50 p-8 rounded-lg shadow-md">

<div class="mb-6">

<label class="block text-gray-700 mb-2">Nome</label>

<input type="text" class="calculator-input" placeholder="Seu nome completo">

</div>

<div class="mb-6">

<label class="block text-gray-700 mb-2">E-mail</label>

<input type="email" class="calculator-input" placeholder="seu@email.com">

</div>

<div class="mb-6">

<label class="block text-gray-700 mb-2">Tipo de Usuário</label>

<select class="calculator-input">

<option>Agricultor</option>

<option>Pesquisador</option>

<option>Investidor</option>

<option>Outro</option>

</select>

</div>

<div class="mb-6">

<label class="block text-gray-700 mb-2">Mensagem</label>

<textarea class="calculator-input" rows="4" placeholder="Como podemos te ajudar?"></textarea>

</div>

<button class="w-full bg-green-600 hover:bg-green-700 text-white font-bold py-3 px-4 rounded transition duration-300">

Quero Participar

</button>

</form>

</div>

</div>

</section>

<!-- Footer -->

<footer class="bg-green-100 text-green-900 py-8">

<div class="container mx-auto px-4">

<div class="flex flex-col md:flex-row justify-between items-center">

<!-- Logo e texto -->

<div class="mb-6 md:mb-0 max-w-sm">

<div class="flex items-center">

```
<div class="w-10 h-10 bg-red-600 rounded-full flex items-center justify-center mr-3">

  

  </div>

  <span class="text-xl font-bold">TechJo</span>

</div>

<p class="text-green-700 text-sm mt-2">

  Controle biológico inteligente para uma agricultura sustentável.

</p>

</div>

<!-- Contatos com ícones e texto -->

<div class="flex flex-col space-y-3 mb-6 md:mb-0 text-green-800 text-sm font-medium">

  <a href="mailto:equipetechjo@gmail.com" class="flex items-center space-x-2
hover:text-red-600 transition-colors">

    <i class="fas fa-envelope text-red-600"></i>

    <span>equipetechjo@gmail.com</span>

  </a>

  <a href="https://instagram.com/_techjo" target="_blank" rel="noopener" class="flex
items-center space-x-2 hover:text-red-600 transition-colors">

    <i class="fab fa-instagram text-red-600"></i>

    <span>@_techjo</span>

  </a>

</div>

<!-- Créditos -->

<div class="text-center md:text-right text-green-700 text-sm max-w-xs">
```

<p>Desenvolvido por alunos do</p>

<p class="font-semibold">CFJL – Colégio Frederico Jorge Logemann</p>

<p class="mt-2 text-xs">&copy; 2023 TechJo. Todos os direitos reservados.</p>

</div>

</div>

</div>

</footer>

<script>

```
function gerarMapaDistribuicao(qtdJoaninhas, hectares) {
```

```
    const totalBlocos = 25;
```

```
    const mapGrid = document.getElementById('map-grid');
```

```
    mapGrid.innerHTML = '';
```

```
    const blocosPorHectare = Math.ceil(totalBlocos / hectares);
```

```
    const joaninhasPorBloco = Math.floor(qtdJoaninhas / (hectares * blocosPorHectare));
```

```
    for (let i = 1; i <= totalBlocos; i++) {
```

```
        const bloco = document.createElement('div');
```

```
        bloco.className = "bg-white rounded shadow p-4 border min-w-[60px]";
```

```
        const joaninhasNesteBloco = i <= hectares * blocosPorHectare ? joaninhasPorBloco : 0;
```

```
        bloco.innerHTML = `<strong>P${i}</strong><br>Joaninhas: ${joaninhasNesteBloco}`;
```

```
        mapGrid.appendChild(bloco);
```

```
    }
```

```
}
```

```
function calcularJoaninhas() {  
  
    const pestDensity = parseFloat(document.getElementById('densidade').value);  
  
    const totalArea = parseFloat(document.getElementById('area').value);  
  
    const desiredTime = parseFloat(document.getElementById('tempo').value);  
  
  
    if (isNaN(pestDensity) || pestDensity <= 0) {  
  
        alert('Por favor, informe uma densidade de pragas válida (maior que zero).');  
  
        return;  
  
    }  
  
    if (isNaN(totalArea) || totalArea <= 0) {  
  
        alert('Por favor, informe uma área total válida (maior que zero).');  
  
        return;  
  
    }  
  
    if (isNaN(desiredTime) || desiredTime <= 0) {  
  
        alert('Por favor, informe um tempo desejado válido (maior que zero).');  
  
        return;  
  
    }  
  
  
    const predationCapacity = 50;  
  
    const totalAreaM2 = totalArea * 10000;  
  
  
    const ladybugsCount = Math.ceil((pestDensity * totalAreaM2) / (predationCapacity *  
desiredTime));  
  
    gerarMapaDistribuicao(ladybugsCount, totalArea);  
  
  
    document.getElementById('ladybugs-count').textContent =  
ladybugsCount.toLocaleString('pt-BR');
```



```
document.getElementById('result').classList.remove('hidden');  
document.getElementById('result').scrollIntoView({ behavior: 'smooth' });  
}  
  
</script>
```