NEW FARMERS CONTRIBUTE INTELLIGENCE & POWER TO CHINESE MODERN AGRICULTURE

WEI QIAO
CHAIRMAN, ZHENJIANG NEW DISTRICT YONGXING FARM MECHANIZATION PROFESSIONAL COOPERATIVE;
CHIEF EXPERT, JIANGSU RUNGUO AGRICULTURAL DEVELOPMENT CO. LTD., CHINA
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New Models of Modern Agriculture Via Technology

- Jiangsu Runguo Agricultural Development Company integrates cultivation, planting, management, harvesting, drying, warehousing, processing and sales.
- It is an agricultural technology-based company. Our company grow rice, wheat and rapeseed.
- Provide our customers with socialized services throughout agricultural planting process.
- 2 plant bases: The Zhenjiang base (1200 hectare) and Suzhou base (416 hectare)
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A Whole Industry Chain Operation Model - beginning from soil tillage to serving food at the table

- Rice Seeding Raising
- Mechanized Rice Transplanting
- Plant Protection Drone
- Plant Protection
- Harvesting
- Straw Bundling
- Intelligent Dryer
- Rice Processing Factory
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"Full-process mechanization and comprehensive agricultural service" & "Excellent Cases of Smart Agriculture Construction" (from the Ministry of Agriculture and Rural Affairs of China)
“Who will farm in the future and how to farm well?”

Now, agricultural development in China is undergoing transition. The business model of modern agriculture is an effective approach to resolve the above-mentioned contradictions.

Around the scale of the rural land circulation, how to farm? How to ask for benefits from scale? We carry out various work from the aspects of cost saving, reducing labor intensity, improving farming efficiency, and how to work better in agriculture through mechanization/information technology.
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How To Deal With The Issue Of The Agriculture, The Countryside And Farmers As A New Farmer In The New Era
(the 14th National People's Congress on March 5)

Suggestions On How To Promote The Solution Of The Problem Of Who Will Farm And How To Farm Well In The New Era
(the 5th meeting of the 14th National People's Congress Standing Committee)
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Cooperating with scientific research institutions such as the Institute of Intelligent Machinery of the Chinese Academy of Sciences, we applied for piloting the field digital agriculture project initiated by the Ministry of Agriculture and Rural Affairs of China. And we successfully became one of the pilots with our space-air-ground integrated technology aiming at empowering agricultural production.

- Supported by big data, Internet of Things (IoT), mobile Internet, cloud computing;
- Use agricultural intelligent equipment (robots);
- Aiming at unmanned, less manned, precise and intelligent in the whole process of agricultural production.

Big Data-Driven Decisions

UAV Aerial Monitoring
Satellite Remote Sensing Surveillance
Gas Sensor
Flow Sensor
Temperature & Humidity Sensor
Speed Sensor
Soil Fertility Sensor

Runqiu Agriculture
Through satellite and UAV’s remote sensing, crop nutrient distribution maps, pest and disease trend early warning maps, soil moisture maps, crop yield prediction maps, crop stress degree maps, crop maturity, etc. are dynamically generated during the important growth period of crops.

- UAV remote sensing - obtain agricultural information accurately and rapidly
- Satellite remote sensing--quickly obtain crop information over a large area

Rust situation in wheat fields (red areas indicate areas with severe infection)

Maturity Monitoring
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Basics: Soil Fertilizing Prescription Maps & Satellite Positioning

Equipment: Agricultural machinery variable controller

Execution: Real-time and precisely control the amount of fertilizer and pesticide applied in each field, which is based on variable rate fertilization and pesticide application technology.
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Automatic-Driving Agricultural Machinery and Equipment

Quality Monitoring of Agricultural Machinery Operations
- Satellite positioning
- Machine operating parameters

Wireless Communication
- Wireless Data Sending and receiving

Work Accurately & Highly Efficient Management

Driverless Agricultural Machinery
- Self-driving
- Route planning

Remote Scheduling
- Remote Mission Planning
- Navigating route delivery
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From "Observing The Sky And Working" To "Knowing The Sky And Working" 从 “靠天吃饭” 到 “知天而作”

Grain Production Forecasting
- Biomass
- Historical Data
- Real-Time Data
- Remote Sensing
- Meteorological Monitoring
- Farmland Environmental Monitoring

Crop Growth Inversion at Grain Production
- Soil Status
- Agronomic Condition
- Management Status

Grain Production Forecasting and Management
The yield of wheat is around 400 kg/mu
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Smart technologies in irrigation, water and fertilizer integration:
• Save the use of water, fertilizer and pesticides
• Control dosages
• Reduce labor costs
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Digital Agriculture Platform For Farm
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1) The core competency of the Runguo Datian segment is to apply data to agricultural production to improve the per mu efficiency.

2) So far we have achieved 50% saving in labor, 15% saving in chemicals, 30% decrease in water, 10% increase in production, 17% decrease in fertilization, and 20% in efficiency improvement.

In November 2019, the program team of CCTV-17 Agricultural Channel filmed the entire field operation of unmanned agricultural machinery at Jiangsu Runguo Zhenjiang Base, and broadcast it on the "I Love Inventions" program on January 8, 2020.

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Using the integrated technology of transplanting depth, measurement and fertilization, and slow-controlled release fertilizer technology, fertilizer use has been reduced by 20%, and the demonstration application is 667 hectares.
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**Green Development To Ensure The Quality And Safety Of Agricultural Products**

Utilizing biopesticides and other ecological measures to prevent the pests from damaging farmland

<table>
<thead>
<tr>
<th>Image</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
<td>Trichogramma</td>
<td>Most is Lepidoptera, such as <em>Homoeogryllus japonicus</em>, <em>Heliothis assulta Guenée</em>, Corn borer, rice borer, forest pest, etc.</td>
</tr>
<tr>
<td><img src="image2.png" alt="Image" /></td>
<td>Ladybug</td>
<td>Aphid, scale insect, etc.</td>
</tr>
<tr>
<td><img src="image3.png" alt="Image" /></td>
<td>Encarsia Formosa</td>
<td><em>Trialeurodes Vaporariorum</em>, <em>Bemisia tabaci</em>, etc.</td>
</tr>
<tr>
<td><img src="image4.png" alt="Image" /></td>
<td>Chrysopidae</td>
<td><em>Trialeurodes Vaporariorum</em>, <em>Bemisia tabaci</em>, etc.</td>
</tr>
<tr>
<td><img src="image5.png" alt="Image" /></td>
<td>Phytoseiulus Persimilis</td>
<td>Mite, <em>Tetranychus cinnbarinus</em>, etc.</td>
</tr>
<tr>
<td><img src="image6.png" alt="Image" /></td>
<td>Orius</td>
<td>Thrips, etc.</td>
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Establish an ecological island to form a predator database

Natural areas near biologically diverse farmland, formed naturally or artificially, have the function of collecting predator and are called "predator banks". When there are many pests in farmland, insects migrate to ecological islands. When there are fewer pests in farmland, they migrate to ecological islands.
Rice from our brand ‘Runguo JiuDu’ has been carefully crafted through a strict 39-step process to ensure high quality and the reality.
• Provide agricultural socialization services to farmers in nearby farmlands covering an area of 6,667 hectares of land.
• Provide technical training, employment assistance, and material assistance to farmers in the area. About 10,960 households have been mobilized, and 63.4% are women.
THANKS FOR LISTENING