# Intellectual Property Report 2015


**August 2015**

**ISEKI & CO., LTD.**

# Contents



**Preamble in Publishing Intellectual Property Report 2015**

The business foundations of the ISEKI Group are in agriculture and agricultural machinery. We are constantly endeavoring to improve the functions, performance, quality, and cost and service competitiveness of our products through our development, production, and marketing activities. Through these activities, we are working to strengthen our competitiveness in the market by differentiating our products and securing a superior position. We engage in business activities placing emphasis on intellectual property, through creative activities in core technologies of agricultural machinery, agriculture-related products and others, and securing technical rights and the use of the resultant intellectual achievements of such activities, such as inventions and creations, by strategic intellectual property activities, leading to new creation.

This Intellectual Property Report 2015 covers a wide range of related topics, including our initiatives in R&D, the creation of inventions and patent strategies, product design initiative and trademarks. It also includes the response to the globalization, system for intellectual property, features and technologies of new products, situation of intellectual property, awards received for our patents and inventions, and information risks related to intellectual property.

[Cautionary Statements]

1. This booklet has been prepared to provide information to the public and is not intended to solicit any kind of action.
2. This booklet contains the results of the Company's analyses, including forward-looking statements regarding the outlook for the Company, its plans, policies, prospects, strategies, interpretations of facts, and other information related to the future. All such statements and other information are based on forecasts, assumptions, plans, and other information collected by the Company at the time of preparation of this booklet.
3. In preparing forecasts, with the exception of known facts, the Company makes use of certain assumptions. There are no guarantees that these assumptions are objective and accurate or will prove to be true in the future. These assumptions are dependent on technology and demand trends in Japan and in other countries, economic conditions, competitive conditions, and other factors. If these assumptions change, it is possible that matters and outcomes, other than known facts, stated in this report may differ from the statements in this publication.
4. Data on the number of patents made public stated in this publication, the number of patents held, and other data related to intellectual property are those of Iseki Co., Ltd., and do not include data on subsidiaries or affiliates.

# Message from the President

Since its establishment in 1926, ISEKI Group constantly pursued the streamlining and laborsaving of agriculture as a full-time manufacturer specialized in agricultural machinery. During this process, ISEKI Group has pioneered a great variety of innovative agricultural machinery ahead of the others and has brought them to the market.

In view of the global issues of growing population and food supply, as well as contemporary issues of food self-sufficiency and national land preservation, we are aware that the social mission as an agricultural machinery manufacturer will become progressively more important. ISEKI Group will continue our activities based on our fundamental philosophy of contributing to agriculture in Japan and around the world through “providing products that satisfy customers”.

Japanese agriculture has undergone major changes in response to the government policy to convert agriculture into a growing industry. To cope with this situation, we will continue to provide high quality and low priced products that contribute to energy saving and low cost agriculture as well as to large-scale farming by consolidation of farmland and smart agriculture using ICT technology. We will also strongly engage in business activities in both hardware and software sides such as provision of agricultural management techniques that will be useful for low cost agriculture in support of management of farmers. In overseas, while we have provided products including landscape management and light civil engineering work for European and North American markets so far, we will develop and deliver products in which our rice-growing technology cultivated in Japan is introduced to Asian nations including China and ASEAN countries where the needs for food production are increasing. With respect to these business activities, we are committed to offering active and timely disclosure of corporate information concerning our management strategies, result of activities and other matters with all stakeholders including our customers, shareholders, investors and analysts.

ISEKI Group positions intellectual property as an important managerial resource, and we have reported on our R&D activities and the achievements through various occasions such as a securities report, investor relations presentations and a new product presentation.

In this report, we intend to report on the Group’s basic stance of R&D, its R&D activities, and current state and the use of resultant intellectual properties. We hope this publication will provide you with a good understanding of our commitment as the ISEKI Group.

President

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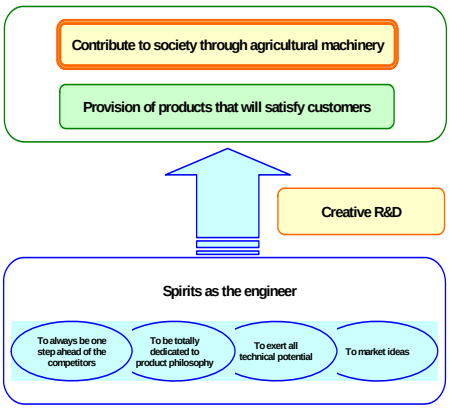
Noriyuki Kimura

# 1. Guideline for Research and Development

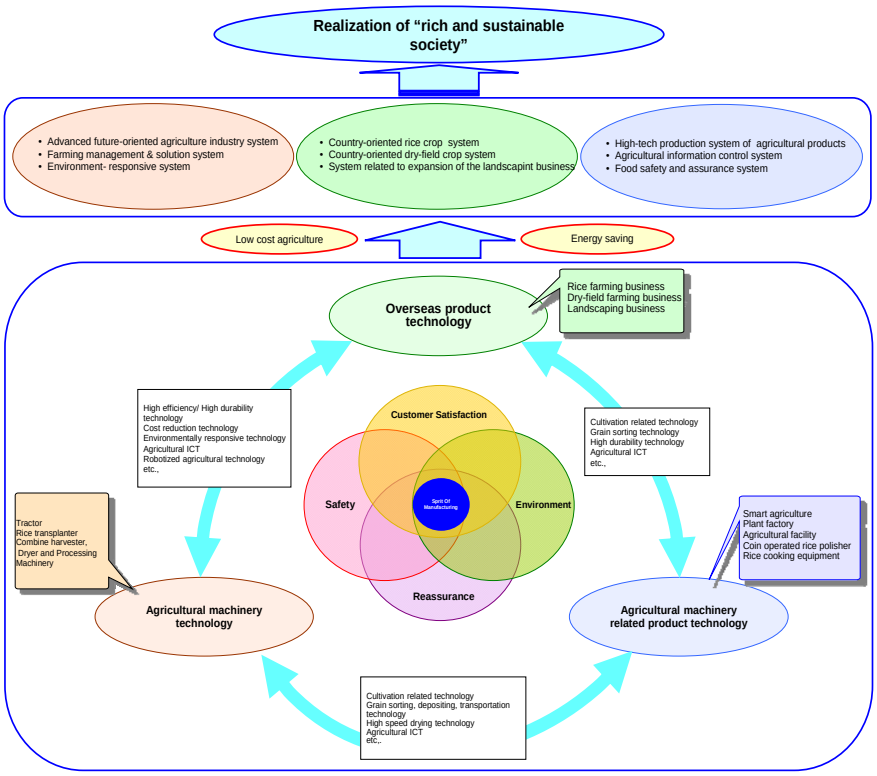



Our founder Kunisaburo Iseki contributed to mechanization and modernization of the Japanese agriculture in pursuit of technological development with ingenuity and originality based on the principle and desire to “free farmers from exhausiting labor”. Having passed 90 years now since the establishment, in the midst of the greately changing environment surrounding the agricultural industry, ISEKI Group holds a mission to “contribute to the society through agricultural machinery”; and each of our technical experts is engaged in creative R&D based on the “spirits as the engineer” with an aim to “provide products that satisfy customers” inheriting principle of the founder. By fully mobilizing our accumulated technologies since its inauguration, we will contribute to agriculture through providing products and service with a high level of satisfaction from the stand point of customers. We will continue to keep abreast of the agriculture industry for years to come.

With regard to the R&D investment, we are making a deliberate investment based on a forecast of the demand and market trend in mid- and long- term perspectives. R&D expenditure for the consolidated fiscal year 2014 was approx.JPY4.6 billion.

# 2 Strategic Directions of R&D

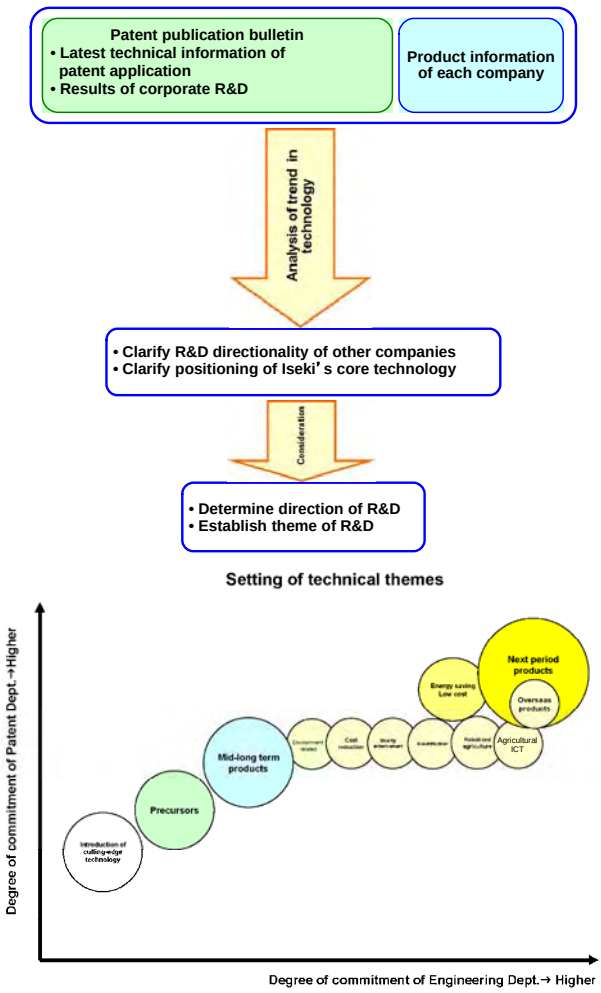
In every sector of agricultural machinery technology, agricultural machinery related technology and overseas product technology, we choose 4 key words, “Customer Satisfaction”, “Safety”, “Conformability” and “Environment” as our “Spirit of Manufacturing”, and promote R&D activities. In particular, we cooperate in realizing “a rich society with sustainable development” engaging in R&D focused on low cost and energy saving agriculture.



# 3 Intellectual Property Strategy

## 1. Creation of inventions/Patent application strategy

We conducted an analysis in the trend of technology of our competitors, clearly defining the positioning of our core technologies, identifying the direction of the R&D of our competitors, establishing the direction of our R&D themes, and making the results common information. These results include technical and planning sections in order to exploit such information as a resource to build business and R&D strategies.
Also, ISEKI Group sets technical themes based on the consensus of the entire company. This consensus includes the development and marketing sections out of core technology and promising technology and the market trend related to core technology, and we are striving for “quality” enhancement and “volume” expansion of inventions by promoting unique invention proposal campaigns employing creative methods addressed to each technical theme centering on our core technologies.
Our technical experts have strong adherence and will to invent / create, proposed inventions regarding technologies which will be put to practical use in the near future are being created actively. Proposed inventions must pass through a vigorous selection process based on our internal regulations and evaluation criteria; furthermore we aggressively apply patents by employing our unique measures for efficient patent application, thus creating the construction of a patent network, promoting to ensure the priority of product development.




## 2. Design / Trade mark strategy

We promote stronger design protection and enhancement of our brand value by product differentiation with our competitors through the accumulation of appealing designs as well as affectionate pet names of design rights and trade mark rights respectively.

### Our philosophy for product design

| | |
|---|---|
| **Basis Policy for design** | • Attractive product which suites the operating environment and product property.<br>• Product which gives bigger attachment in long use. |
| **Design procedure** | • Confirmation of demands and tastes of the destination.<br>• Analysis of the design trends and building of concept. |
| **Development of design** | • Evolution of ourfeatures (product features, product colors)<br>• Creation of fresh appeal to cause innovation in agriculture. |
| **Direction of design** | • Design with unprecedented appeal which satisfies customers in using.<br>• Design which takes the future agricultural machinery in advance. |

## Our stance for trade marks

**Basic understanding of pet names**

- Agricultural machinery is a helpmate that works together with a farmer.
- Agricultural machinery which allows for familiarity and affection through daily work from land preparation, transplanting of seedlings, maintenance, harvesting and shipping.

**Representative trademarks**

- "SANAE" which almost became synonymous for rice transplanter
- "GEAS" represents tractor
- "POLIMATE" for rice weighing and grading machine
- "FRONTIER" which triggered auto threshing combine harvester, unprecedented in the world.
- "DRY BOY" for dryer
- "SUPER MATE" for rice huller
- "NAUERU" for vegetable transplanter

**Strategy ahead of its time**

- Creation of pet names associated with the sales strategy responding to bipolarization of the agricultural structure, and low cost agriculture/energy saving.
- Enhancement of the brand image in line with global development of the business activities.

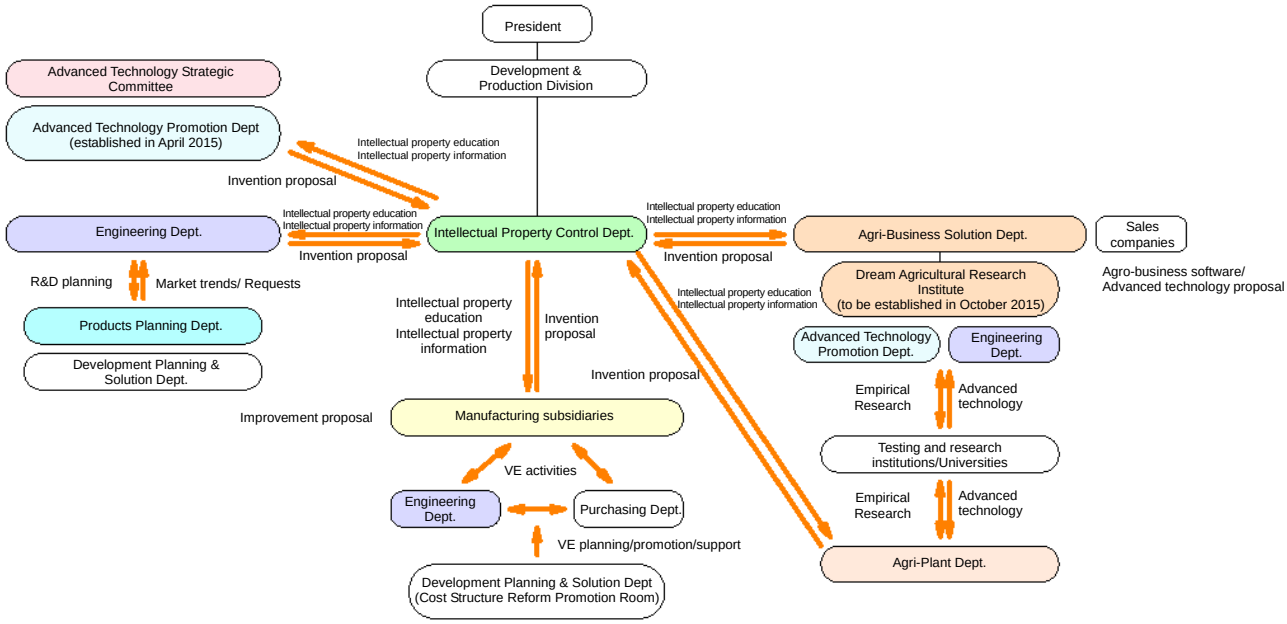
## 3. Our strategy for intellectual property rights overseas

In overseas markets, we are making steady efforts in securing intellectual property rights such as very strictly selected patents, design rights and trademark rights inventions which are consistent with our business strategy addressed to Asian countries including China and ASEAN, the U.S., and Europe.

We strive to enhance analytical precision of market trends and situation of intellectual property in each country in line with full-fledged global expansion of our business activities, and to respond quickly in regard to the intellectual property in close tie-ups with divisions in charge of development and overseas operations as well as with patent offices in each country. Furthermore, we utilize overseas patents searching system in order to evaluate the effectiveness of our company's technologies in light of the situation of intellectual property and technical trends in each country.

Thus, we apply highly effective technologies in each country, trying to secure effective rights and accumulate such rights in each country.

# 4 Management System for R&D and Intellectual Property




## 1. R&D organization chart

ISEKI Group has established a system to promote R&D by exerting comprehensive strength of each development/manufacturing/sales division. The Advanced Technology Promotion Department that was established to respond to progress in ICT technologies and trend of agricultural policy hosts the Advanced Technology Strategic Committee and plans advanced technology strategies in cooperation with each department. Based on these strategies, we will promote and accumulate state-of-the-art technology including technology adapting to changes in the crop system, ICT utilization and robotization of agriculture and plant factory and facility. Also, by establishing "Dream Agricultural Research Institute", we will strengthen our function of advanced agri-business technology and diffusion of agricultural management technique which support Japanese agriculture and farmers.

### 1) Engineering Department

As an organization to engage in R&D of each product, they strive to accumulate technology and know-how peculiar to each product. Together with the Product Planning Department which suggests product strategy and direction of the R&D based on the market trends and requests in each area, they make planning of R&D to engage in R&D to respond quickly to clients' needs both domestic and overseas.

In order to promote personal development and OJT effectively, they conduct rank-based intellectual property education according to years of experience to improve their levels. This has resulted in the number of proposed inventions in excess of 20,000 every year in a row, and advanced technologies and innumerable high quality inventions have been generated.

### 2) Manufacturing subsidiaries

We will strive for creation of high quality and low cost products based on our manufacturing technology that has been nurtured for many years. We introduced an improvement proposal system with an aim to promote quality enhancement, cost reduction and man-hour reduction. The number of improvement proposals in 2014 was 60,000, promoting quality enhancement and efficiency of manufacturing.

Outstanding proposals among such improvement proposals have been awarded "Award for Contributes to Creative Ingenuity" of the Minister of Education, Culture, Sports, Science and Technology in recognition of highness of the manufacturing technology. The accumulated number of award-winning of this award has reached 10 cases.

Also, based on planning/promotion/support of the Cost Structure Reform Promotion Room established in Development Planning & Solution Dept, they strive to attain low cost products by VE activities to study cost reduction through changes in designing/manufacturing method/part procurement method, etc.

### 3) Agri-business Solution Department

In the midst of major changes of the environment surrounding agriculture, we established "Dream Agricultural Research Institute", and promote research of advanced agri-business technology and support for diffusion of agri-business in cooperation with various testing and research institutions and universities.

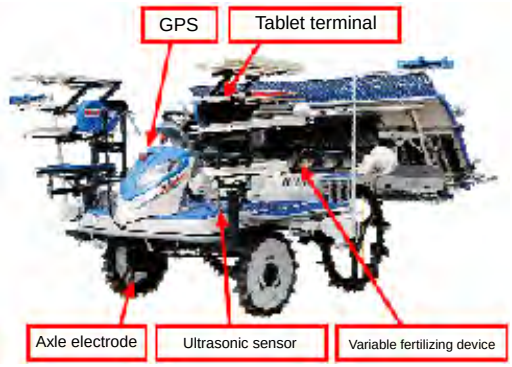
As our research of advanced agri-business technology, we will engage in research of advanced cultivation techniques such as labor saving/low cost cultivation and cultivation of new plant varieties, empirical study of agricultural ICT and robotized agricultural machinery. Also, as our support for diffusion of agri-business, we will engage in giving guidance about cultivation depending on crop/area/purpose, promotion activities of advanced agriculture, training of promising farmers and diffusion of agri-business software.

Established in October 2015

As our specific engagement in low cost agriculture support, our instructors of sparse planting farming propose to farmers proactively the "sparse rice planting techniques" that has been nurtured by us for many years, as a technology which allows substantial reduction in required amount of seedlings and production of high quality rice. In addition, we propose "high density seeding & sparse planting" which is an evolution of "sparse rice planting technology" that reduces further necessary amount of seedling by technology of sparse planting using mat seedling of high seedling density, and promote empirical research towards increased diffusion.

Also, we promote the government's demonstration business for reconstruction of the devastated areas by the Great East Japan Earthquake to restore them as food production areas, "Advanced technology development business for restoration of food production areas" with its "variable fertilizing rice transplanter" which is under joint study with the Ishikawa Prefectural Agriculture and Forestry Research Center, promoting the empirical research. We also promote verification test on a national basis in the "2014 Demonstration business to introduce robotic technology in agriculture, forestry and fishery industries" of the MAFF.

The “variable fertilizing rice transplanter” avoids excessive fertilization by control of the amount of applied fertilizer with high precision according to the depth of prepared soil of the paddy field and its fertility which is detected in sequence during operation. As a result, preventing rice plants falling down, stabilizing rice quality and cutting down unnecessary fertilizer and others, this function can reduce loss of crop yield by combine harvesters. We will promote this technology together with the “sparse planting techniques” in order for farmers to reduce cost more in growing rice.




Also, we are engaged in “Agri- Heroes support projects” in which we support farmers so-called “Agri-Heroes” by means of versatile farm management proposals including production/cultivation control, not limiting to agricultural machinery. We will contribute to Japanese agriculture by way of developing human resources within ISEKI Group, promoting proposals such as proposals of soil preparation/cropping techniques and production management method, as well as advanced agriculture ICT in support of farm management, thus providing on-the-spot support for farming works.

### 4) Agri-Plant Department

We engage in sophisticated facility business like advanced green houses in proactive interexchange in cooperation with universities and experiment and research institutions. Specifically, we are promoting a study regarding plant factory of “intelligent food production system” with Ehime University, and we are promoting studies for “sophistication of intelligent plant factory and enhancement and establishment of production technology” in the course of plant factory design engineering at Ehime University (endowed course).

Also, the plant growth diagnosis system jointly developed with Ehime University and commercialized for the first time in the industry, by photographing at night with CCD camera chlorophyll fluorescence of plants while automatically travelling inside of agricultural facilities, which is measured /recorded automatically, growth condition of plants which cannot be recognized by visual observation can be assessed with a high precision, allowing early response to damage due to disease and improvement of cultivation environment. It attracts attention as a next-generation agricultural technology.

## 2. Cooperation system with research institutions

We promote joint research and development in cooperation with testing and research institutions and universities which have superb technologies and research achievements in order to accomplish speedy and efficient R& D.

In 2015, we are engaging in joint studies for 7 themes with testing and research institutions and a theme with a university.

## 3. System for Intellectual Property

ISEKI Group has an integrated administration system to conduct administration / guidance / education of intellectual property of the ISEKI Group as a whole by our Intellectual Property Control Department.

Intellectual Property Control Department conducts appropriate administration of intellectual property, promoting acquisition of high quality intellectual property rights and effective use of intellectual property rights.

As for inventions and ideas, acquisition and management of rights, corporate confidential information, etc., to conduct a thorough compliance, we stipulated how to handle these information in our working regulations, regulations for the handling of inventions created by job

assignment, regulations for treatment of trade marks, code of conduct of the ISEKI Group, patent business manual, etc.,.
We provide incentives for inventions and creation to the inventors with compensation for transfer of inventions, compensation for implementation, awards and prizes in and outside the company through interpretation and use of these regulations.
We also strictly manage intellectual property by numerous regulations and standards from the time of creation of invention until its renouncement. For instance, in evaluating the value of patents, we created our "Criteria for Evaluation of Patent Rights" which sets forth methods for calculating the price of patent rights. We conduct periodical review of these criteria to ensure that they are in accord with common understanding and practices in the society, taking advantage of it in our patent assets management, patent rights negotiations and so forth.
Furthermore, in order to realize activation of creativeness of the ISEKI group as a whole and exert its full technical capacity, we make efforts in personnel training, providing intellectual education/creativeness education.
ISEKI Group also holds presentation meeting of technical research every year. It was 25th meeting last year, and it boosts the skills of the entire ISEKI Group by sharing R&D results, communicating each other through profound discussion.

## 5 Implementation of Intellectual Property for Each Product (Example)

### 1. Agricultural Machinery Technology

Hereunder we explain the features of new products and associated technologies regarding tractors, rice transplanters, combine harvesters and others.

**1) Tractor** In commemoration of the 90th anniversary, we developed a low priced small tractor "Z15" that provides easy operation for anybody, whether old persons, female farmers or starters of agriculture, adopting universal design such as easy to look meter panels and levers which are colored for distinction. In addition to the basic functions like position control lever and automatic plowing depth controller, it is equipped with "DECERA (i.e. Deceleration)" function.


We have participated in "Nougyou-Joshi Project" promoted by the Ministry of Agriculture, Forestry and Fisheries, since the beginning and launched "Nougyou-Joshi Support Project". In addition to implementation of seminars like how to handle agricultural machinery, we engage in "Nougyou-Joshi tractor project" to commercialize tractors from women's standpoint.
Having exchanged opinion, problems and requests through the meetings with women engaging in agriculture, we developed a tractor "Shiropuchi Z15" which is easy to use and attractive with an elaborated design. It also features light white color and conventional image of tractors has been renewed.
It is equipped with suspension sheet with adjusting function in the front-back direction, sun visor, cup holder which allows comfortable operation. It is also equipped with "auxiliary grip", "sub-step" and "fuel supply stand".

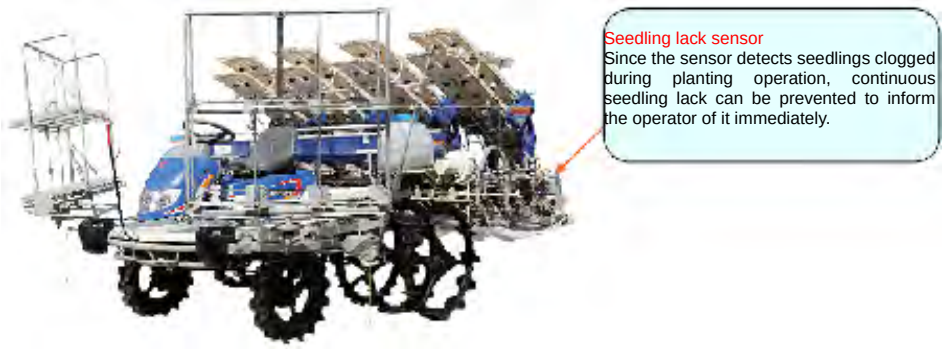
On the occasion of the 90th anniversary, we developed “GEAS NTA3” series and “GEAS NT3” series which adopted a new color “Ocean Blue”, mounting new engine that corresponds to the exhaust emission regulation in Japan (3rd phase).
“GEAS NTA3” series are equipped with “ISEKI AGRISUPPORT” for large tractors, and also equipped with “Acceleration and deceleration sensitivity adjustment dial” in addition to well reputed no clutch brake stopping for NTA series.


NTA3 Series

NT3 Series

**2) Rice transplanter** We developed “PGZ5” series with a new image of light and fresh. It is equipped with a front cover of new design and center mascot with LED, in addition to Sanae Z turn, Sanae seedling rail, Sanae lever and deluxe step.

In commemoration of the 90th anniversary, we developed molding pot rice transplanter “PZP83” with a renewed image by changing to blue based coloring. It is equipped with “sensor for lack of seedling” in addition to Sanae Z turn, Sanae Z shift and Sanae Z rotor.



**3) Combine harvester** Into our flagship model “Japan” Series, we introduced “Japan HJ4045” with the biggest power and fastest working speed in the industry as a 4 row harvesting combine harvester. It has a light and compact body and yet takes over not only high precision, performance, durability of the former model but also newly equips “feed chain synchronizer” and “HST driven-type reverse rotation cooling fan”, in addition to our unique features; twin eight threshers/swing & zoom augers /i-T.A.C.H., recovery chamber for stuck grains, new automatic height control for reaping and safety device for paddy rice supply by hand.

Feed chain synchronizer
During harvesting operation, it increases threshing performance by driving feed chain at a speed synchronized with the vehicle speed, and by stabilizing posture of the harvested grain which is supplied from harvesting device to threshing part. During threshing operation by hand, supplying grain culm can be made easily by driving feed chain from the side of dust exhaust fan case at a certain low speed.

HST driven-type reverse rotation cooling
Engine overheat is prevented by turning on the cooling fan controlled by a HST mounted in the rear of engine, blowing off straw waste adhered to the dust proof net by reverse rotation of the fan. Furthermore, when cooling water temperature rises, cooling effect of the engine is enhanced by accelerating rotation speed of the fan and the stable engine performance is exerted even under heavy load such as high speed rice reaping.

We developed combine harvester dedicated to large-scale farming “FRONTIER FIGHTER HFR” series with substantially increased processing capacity and enriched equipment.
Full-fledged 4 row harvesting combine harvester “HFR463” is newly equipped with “Feed chain synchronizer”, “Emergency stop device for paddy rice supply by hand”, and “Backflow twin cooling fan” in addition to ISEKI’s unique twin flapper and sieve scraper. Compact 5 row harvesting combine harvester “HFR575” is equipped with “Feed chain synchronizer” and “HST driven-type reverse rotation cooling fan”.

HFR463

Emergency stop device for paddy rice supply by hand
When pushing an emergency stop button located near the feed chain, the engine stops and power to the feed chain is disconnected and the threshing cover slightly opens, which enhances the safety of hand threshing operation.

Backflow twin cooling fan
By installing suction fan for engine cooling and induced draft fan for dust removal on the same axle, drives both fans selectively at designated time intervals. While driving suction fan, cooling effect of the engine is enhanced by blowing off stuck grain on dust proof net to provide stable engine performance even under high load operation at high-speed paddy reaping.

HFR575

Feed chain synchronizer

HST driven-type reverse rotation cooling fan

**4) Drying machine** We developed a large grain dryer “GHL” with enhanced grain adoptability enabling anew soybean drying in addition to conventional rice, wheat and buck wheat. It is equipped with well-reputed “Far-infrared heat recycling” for GML.

Far-infrared heat recycling
By synergetic effect of heat recycling to supply mixture of residual heat and humidity contained with hot-air to a drying chamber, and far-infrared heat effect by a far-infrared radiation radiator mounted, energy saving and short-time drying of high quality rice is realized.

We developed rice hullers of easy usability “MG33, MGJ33”. It is equipped with a further evolved version of well-reputed Oshirase-navigation that indicates lever operation timing in sequence, “OSHIRASENAVI＋”.

OSHIRASENAVI＋
By a single lever operation, husking and shaking selection are started and once sorting is stably completed, the rice is discharged automatically from the machine. Without changing lever and watching paddy hulled and husked until the last moment, it provides easy operability.

**5) Riding pest control machine** We added tread 120cm specification that corresponds to space between planting rows of leafy vegetables to the pest control machine “JK18” Series which realized low price by Asian common design. By mounting a diesel engine of large displacement and providing changeability for front wheel steering (FWS), rear wheel steering (RWS) and four wheels steering (4WS), allowing efficient spraying work. It is equipped with boom operation switch for stepping on and off.

Operation switch for stepping on and off
By operating boom operation switch near the step, vertical movement of the entire spraying boom can be made, enabling smooth stepping on and off to the machine.

## 2. Product technology related to agricultural machinery

We introduce the Smart-Agriculture related features and incorporated technologies of new products.
With respect to our engagement in agricultural machinery (Smart agricultural machinery) that incorporates state-of-the art technologies like robotic agricultural technology and agricultural ICT, we promote development through regularly holding of the Advanced Technology Strategy Committee by Advanced Technology Promotion Department coordinating issues from each engineering department based on the established strategy.
We developed a new “LEADEYE”, “Yield combine” and “Dryer AGRISUPPORT” having evolved “ISEKI AGRISUPPORT” that supports agricultural management by displaying/recording/analyzing working information and machine condition.

LEADEYE
Optimum running route is guided by a guidance system that adopted GPS which grasps position information with a high precision and simple and easy screen. Also, it records position locus to provide work management with high precision.


Yield combine
Being equipped with a moisture sensor that detects moisture amount in rice grain to be fed into the grain tank and a weight sensor that measures weight of rice grain fed, it displays moisture amount of harvested rice grain and weight on the tablet. According to the data, working plan such as drying work can be made efficiently.


Dryer AGRISUPPORT
By transmitting dryer data to a portable terminal like tablet, operation data including moisture change, unevenness of crop moisture and fuel data are recorded. Also, since it informs drying condition, completion of drying and error occurrence by mail, operators can check the working condition even at night.

## 3. Overseas product technology

Hereunder, we introduce the features of our products launched in overseas markets and the current situation of development, according to each area.

**1) Europe** We developed medium-size tractors ”TG Series” that respond to various needs from landscaping to agriculture use. We also developed rotary dedicated tiller “KCR700” with renewed design for ordinary gardeners, and axle type tending machine “SA 150” and 2 axle tending machine “SA600” for individual users.

Medium-size tractors “TG Series” have lineup of HST model and mechanical transmission model adopting the engine hood design of NTA Series for Japanese market. HST model is equipped with speed memory function of auto cruise control which enhances working efficiency. The other model is equipped with a dual clutch transmission with minimum gear shifting shock which is well-reputed for medium-size tractors in Japan and provides increased working efficiency.

Rotary dedicated tiller “KCR700” is equipped with a main clutch lever with restraining device that is capable of on-operation while the restraining device is released, thus enhancing safety. Also, it is equipped with a main clutch interlocking type parking brake which is well-reputed in domestic models and releases the parking brake by on-operation of the main clutch.

Wheelless tiller “SA 150” and tiller “SA600” are equipped with main clutch lever with restraining device to enhance safety.

**2) North America** We developed low priced medium-size tractors “MF2700 Series”. It is equipped with mechanical auto cruising control function to enhance working efficiency.

**3) China** We developed large tractor “T954/804” suitable for rice cultivation, which allows higher maneuverability than the former general-purpose combine harvester “HC758”.

General-purpose combine harvester “HC758” has a discharge auger whose angle can be adjusted by the hydraulic cylinder which is operated by a switch. Thus, it makes easier to move the auger to the back of a truck which enhances the operation of discharging grain.

In spite of mounting high-power engines, large tractor “T954/804” are light and compact which enables small turning radius and without the necessity of operation the clutch, the forward-reverse lever realizes various work in the fields. ROPS and cabin model are also available and cabin model is equipped with an air conditioner for higher comfort.

**4) Korea** We developed ride-on rice transplanters “NP80/60” for Korea market ,whose design is common with other Asian models. It is equipped with the function of SANAE PITA UE, SANAE DX ROTOR and SANAE DX SHIFT to enhance maneuverability and work efficiency.

**5) Taiwan** We developed medium-sized tractors “NTA55/35” with enhanced durability, ride-on rice transplanter “NP80” whose design is common with other Asian models, and introduced highly efficient and durable combine harvesters “HJ6120/7120” with 6/7 row harvesting.

The medium-sized tractors “NTA55/35” which we improved durability, working machine and comfort is equipped with no clutch brake stop system well-accepted in Japan.

The rice transplanter “NP80” is equipped with the function of SANAE PITA UE, SANAE HIRYOARM, SANAE DX ROTOR and SANAE DX SHIFT.

The combine harvesters “HJ6120/7120” mounts environmentally-friendly 120HP common rail engine and equips electronic control HST, cabin open, dust proof screen, feed chain with 2 step gearshift control to improve environmental performance, work efficiency and maneuverability.

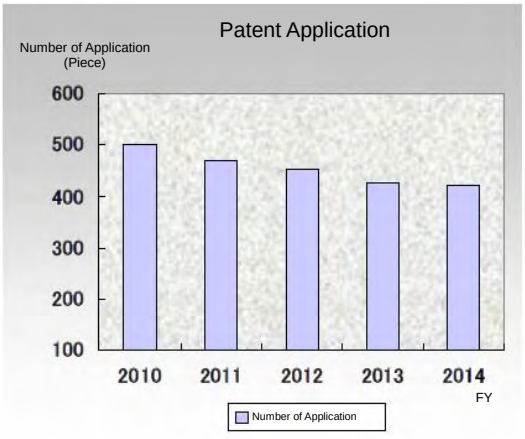
**6) ASEAN** We developed tractor “NT540” for the market in Thailand. With enhanced image and high grade sense, it was designed to tone in well with the canopy. It mounts new type direct fuel-injection engine of in house production to realize low fuel consumption and equips a durable clutch, large radiator, large diameter front axle and large fuel filter for higher durability.

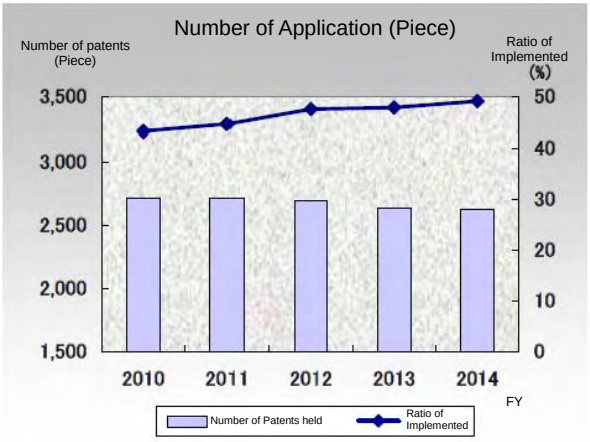
# 6 Situation of Intellectual Property

## 1. Patents Held

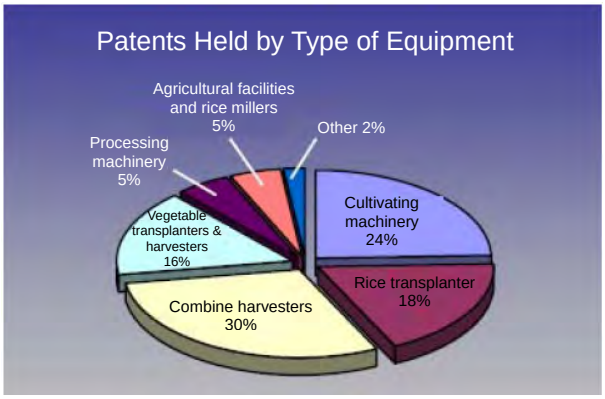
### 1) In Japan

We make application of inventions that are strictly screened by our internal regulations and the evaluation criteria in a proactive manner, trying to acquire and build up effective patent rights, which reached approx. 2,600 patents as of the end of March, 2015.



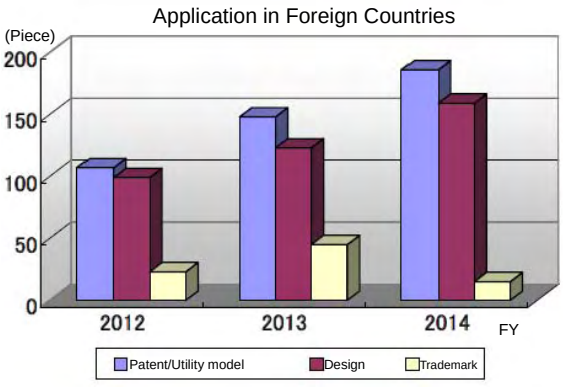



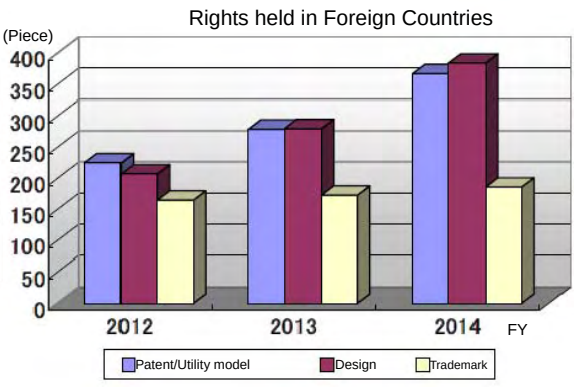

As of March 31, 2015, the number of patents for cultivating machinery, rice transplanters, combine harvesters and vegetable transplanters & harvesters accounted for 88% of the total patents held.




### 2) Overseas

We are making applications for carefully selected intellectual property to Europe, USA and Asian nations including China/ASEAN countries. The number of intellectual property rights is on the rise every year. In particular, we make active applications of our design and trade marks in the Asian countries in order to eliminate imitation and mockery.



## 2. Patent Application and Assessment Ratio

In the agriculture and fishery sector among the sectional list of public patents in Japan, ISEKI Group ranked top for 7 consecutive years from 2000 to 2006, followed by the top rank in the "other special machinery sector" for 7 consecutive years from 2007 to 2013.This means ISEKI Group has ranked top for 14 consecutive years.

| Sector | Agriculture and fisheries | | | | | | | *The other special machinery | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| Rank | First | First | First | First | First | First | First | First | First | First | First | First | First | First |

* Since the 2009 edition, the sector classification has been changed, and agriculture and fisheries were included in [the other special machinery sector].

ISEKI Group maintains high patent assessment ratio every year. It ranked top in all industries between 2004 and 2010, the second in 2011.It got back and has been in the top since 2012.

| Year | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Patent assessment ratio | 84.6% | 83.7% | 90.4% | 89.3% | 85.8% | 88.5% | 91.8% | 91.8% | 94.7% | 97.0 | 99.2 |
| Rank in all industries | First | First | First | First | First | First | First | Second | First | First | First |

Patent assessment ratio = Number of decision to patent grant / (Number of decision to patent grant + Number of decision of refusal + Number of withdrawals or abandonment)

* Number of withdrawals or abandonment = The number of applications withdrawn or abandoned after notice on the reason of rejection.

(Patent Administration Annual Report 2002 edition − 2015 edition)

# 7 Awards and Recognitions

## 1. History of Awards

ISEKI Group has developed a long list of prize-winning technical experts who receive national decorations, national medals of honor, citations as contributor to scientific technology, citations for inventions, official commendations by the Minister of Education, Culture, Sports, Science and Technology, official commendations by the Agricultural Machinery Academy for their contribution to the development, improvement and commercialization of agricultural machinery technology.

In 1952, our founder Kunisaburo Iseki received a national prize for invention from the Japan Institute of Invention and Innovation.

In 1993, ISEKI Group was awarded the President's Award of A Century Commemorative Society of Agricultural Testing and study (jointly sponsored by the Ministry of Agriculture, Forestry and Fishery and the Association to Commemorate a Century of Agricultural Experimentation and Research) in recognition of our development and diffusion of self-threshing combine harvesters equipped with automatic threshers which we commercialized for the first time in the industry.

In 2008, ISEKI Group received the "Meritorious Award for Intellectual Property" (Award for Excellent Enterprises Active in the Industrial Property Rights System, Commissioner of the Japan Patent Office Award) in recognition of our traditional management policy of placing importance on intellectual property rights.

In 2013, ISEKI Group tractor GEAS NTA received Development Special Award of development awards sponsored by the Japanese Society of Agricultural Machinery and Food Engineers (Old Agricultural Machinery Society).

ISEKI Group received excellent awards in FY2010, 2011, 2013 and 2014 in the R&D/New Technology Division of FOOD ACTION NIPPON AWARDS sponsored by the Ministry of Fishery, Agriculture and Forestry.

In the 2014, the plant growth diagnosis system jointly developed with Ehime University received "Development Award of Shikoku Branch, Japanese Society of Agricultural, Biological and Environmental Engineers and Scientists" in addition to "Excellent Award" of FOOD ACTION NIPPON AWARDS.

## 2. Awards for Invention

ISEKI Group has received award from the public utilities corporation, the Japan Institute of Invention and Innovation every year, and to date, 204 awards including 18 national awards have been received. The frontier spirit of the founder towards research and development has been succeeded consistently, which creates tradition within the company to invent new practical technologies through creative activities.

### 1) Details of Awards

**Number of Award-wining Inventions 204 (As of March 31, 2015)**

**○ National Awards for Invention 18**

| | | |
|---|---|---|
| National Awards for Invention | President's Award of the Japan Institute of Invention and Innovation | 1 |
| | The Asahi Shimbun Award | 1 |
| National Awards for Invention | | 2 |
| Invention Awards | | 14 |

**○ Regional Awards for Invention 186**

| | | |
|---|---|---|
| Special Awards | Encouragement Award of the Minister of Education, Culture, Sports, Science and Technology (Former Encouragement Award of the Director-General of the Science and Technology Agency) | 9 |
| | Encouragement Award of the Commissioner of the Japan Patent Office | 6 |
| | Award of the Director-General of the Regional Bureau of International Trade and Industry (Award of the Director-General of the Shikoku Regional Bureau of International Trade and Industry) | 8 |
| | Encouragement Award of the President of the Japan Institute of Invention and Innovation | 7 |
| | Encouragement Award of the President of the Japan Patent Attorneys Association | 4 |
| | Total | 34 |
| Award of the President of the Ehime Institute of Invention and Innovation ( District Head Award) | | 13 |
| Outstanding Invention Awards etc. | | 37 |
| Invention Encouragement Awards | | 101 |
| Investment Encouragement and Merit Award | | 1 |

### 2) Fiscal Year 2014 Shikoku Region Invention Award

Special Award　Encouragement Award of the Commissioner of the Japan Patent Office
　　Patent No.4389122　　Land preparation rotor of riding-type rice transplanter
Invention Encouragement Prize (3 awards)
　　Patent No.5035312　　7 row harvesting combine harvester
　　Patent No.5194603　　Tread variable travelling device of agricultural tractor
　　Patent No.4561422　　Forward/reverse rotary for cultivation/ridge preparation

## 3. FOOD ACTION NIPPON AWARDS

As the first registrant, ISEKI Group participates in FOOD ACTION NIPPON Headquarters established in MAFF to contribute for better food self-sufficiency.
We received the award for excellence for two years in a row in the R&D/New Technology Division of FOOD ACTION NIPPON AWARD in FY2011 for the development of 7 row harvesting combine harvester “HJ7120” for the first time in the industry to follow the “sparse planting rice transplanter” in FY2010, and the development of far-infrared rays grain drying machine won an award in 2012. Furthermore in 2013, our tractor GEAS NTA received excellent award. With this, three major machine categories attained entry in the awards. In 2014, “The plant growth diagnosis system to enhance productivity of sun light plant factory” developed jointly with Ehime University received excellent award, and “Rice transplanter: Development of new model “SANAE NP series” was awarded. This represents a high evaluation of our competence in development, and we will support low cost agriculture towards further improvement of the food self-sufficiency ratio.






In 2014, the plant growth diagnosis system received “Development Award of Shikoku Branch, Japanese Society of Agricultural, Biological and Environmental Engineers and Scientists” in addition to Excellent Award of FOOD ACTION NIPPON AWARDS 2014”. This is the first product in the industry which provides numerical assessment of growth condition of plants and health by analysis of photonic synthesis function, and its great contribution of biological and environmental engineers.
ISEKI Group will continue to contribute to the society through development of advanced agricultural technology.

## 4. History of Main Awards for R&D

| Awarded Fiscal Year | Name of Awards | Details of Awards/Object |
|---|---|---|
| 1952 | National Awards for Invention, Special Award | Automatic wind power control device of revolving thresher |
| 1954 | National Awards for Invention, Invention Award | Automatic rope slant control device of rice huller Banseki |
| 1956 | National Awards for Invention, Invention Award | Second processing device of self-feeding thresher |
| 1959 | National Awards for Invention, President's Award of the Japan Institute of Invention and Innovation | Feeding device of thresher |
| 1960 | National Awards for Invention, Special Award | Rice plant mower with binding device |
| | National Awards for Invention, Invention Award | Rice break preventive device of self-feeding thresher |
| | Regional Awards for Invention, Encouragement Award of the Director-General of the Science and Technology Agency | Second slot delivery machine to install to thresher |
| 1961 | National Awards for Invention, Invention Award | Second slot delivery machine to install to thresher |
| 1962 | National Awards for Invention, Invention Award | Rice huller |
| 1963 | National Awards for Invention, Invention Award | Suction selection type thresher |
| 1964 | National Awards for Invention, Invention Award | Rice huller |
| 1966 | National Awards for Invention, Invention Award | Power transmission device of power tiller |
| 1968 | National Awards for Invention, Invention Award | Crimp net frame removal device of thresher |
| | National Awards for Invention, Invention Award | Pressure control grouping device of reaping binder |
| 1969 | Regional Awards for Invention, Encouragement Award of the Commissioner of the Japan Patent Office | Reaping thresher |
| 1970 | National Awards for Invention, Invention Award | Reaping thresher |
| | National Awards for Invention, Invention Award | Tilling device of power tiller |
| 1975 | Regional Awards for Invention, Encouragement Award of the Commissioner of the Japan Patent Office | Rice planting device of rice planter |
| 1976 | Regional Awards for Invention, Encouragement Award of the Director-General of the Science and Technology Agency, | Rice feeding device of rice planter |
| 1978 | Regional Awards for Invention, Encouragement Award of the Director-General of the Science and Technology Agency, | Traveling device of rice planter |
| 1979 | National Awards for Invention, Asahi Shinbun Award | Traveling device of rice planter |
| | Regional Awards for Invention, Encouragement Award of the Director-General of the Science and Technology Agency | Grain haulm transfer device of combine harvester |
| 1981 | Regional Awards for Invention, Encouragement Award of the Commissioner of the Japan Patent Office | Reaping portion vertical position control device of harvester |
| 1982 | Regional Awards for Invention, Encouragement Award of the Director-General of the Science and Technology Agency | Traveling device of rice planter |
| 1983 | Regional Awards for Invention, Encouragement Award of the Director-General of the Science and Technology Agency | Planting device of rice planter |
| 1985 | National Awards for Invention, Invention Award | Seedling raising method |
| 1993 | President's Award of A Century Commemorative Society of Agricultural Testing and Study | Development and diffusion of self-reaping combine harvester |
| 1998 | Regional Awards for Invention, Encouragement Award of the Commissioner of the Japan Patent Office | Rice transplanter with fertilizing device |
| | The Japanese Society of Agricultural Machinery, Mori Technical Award | Research concerning development of hydroponic seedling raising and transplanting technology of wet rice |
| 2000 | Regional Awards for Invention, Encouragement Award of the Director-General of the Science and Technology Agency | Transmission device of speed-change gear of combine harvester |
| 2002 | Regional Awards for Invention, Encouragement Award of the Minister of Education, Culture, Sports, Science and Technology, | Transplanter |
| 2003 | National Awards for Invention, Invention Award | Transplanter |
| | Regional Awards for Invention Encouragement Award of the Commissioner of the Japan Patent Office, | Agricultural work machine |
| 2004 | The Japanese Society of Agricultural Machinery, Kansai Branch, Technical Development Award | Development of air emission system of small size general purpose combine harvester |
| 2005 | Encouragement Award of the Minister of Education, Culture, Sports, Science and Technology, Development Division, Science and Technology Award | Development of high performance riding type rice transplanter |
| 2006 | The Japanese Society of Agricultural Machinery, Academic Award | Research on wind selection of gain by combine harvester |
| 2008 | Intellectual Property Merit Award, Award for Excellent Companies utilizing Industrial Property Rights, Award of the Commissioner of the Japan Patent Office | Patent utilizing excellent company |
| | Regional Awards for Invention Encouragement Award of the Minister of Education, Culture, Sports, Science and Technology, | Speed-change control system of powered vehicle |
| 2010 | FOOD ACTION NIPPON Awards 2010, R&D/New technology, Excellent Award | Sparse planting rice transplanter |
| 2011 | FOOD ACTION NIPPON Awards 2010, R&D/New technology, Excellent Award | Development of industry's first 7 lane reaping combine harvester "HJ7120" |
| 2012 | Regional Awards for Invention Shikoku Bureau of Economy. Trade and Industry Bureau Head Award | Fertilizer air emission system fertilizing machine |
| | FOOD ACTION NIPPON Awards 2012, R&D/New technology, Excellent Award | FOOD ACTION NIPPON Awards 2013, R&D/New technology, Agricultural machine that can be driven with a feeling Excellent Award ry! Development of [Far-infrared rays grain drying machine] |
| 2013 | FOOD ACTION NIPPON Awards 2013, R&D/New technology, Excellent Award | Agricultural machine that can be driven with a feeling of a car which increased efficiency of farm work (Tractor GEAS NTA) |
| | Development Award of the Japanese Society of Agricultural Machinery and Food Engineers (Old Agricultural Machinery Society) Development Awards, Development Special Award | Developed product "Tractor GEAS NTA" |
| 2014 | Regional Awards for Invention Encouragement Award of the Commissioner of the Japan Patent Office | Land preparation rotor of walking-type rice transplanter |
| | FOOD ACTION NIPPON Awards 2014, R&D/New Technology Excellent Award | Plant growth diagnosis system to enhance productivity of sun light plant factory |
| | FOOD ACTION NIPPON Awards 2014, R&D/New Technology Award | Development of rice transplanter new model "SANAE NP series" |
| 2015 | Development Award of Shikoku Branch, Japanese Society of Agricultural, Biological and Environmental Engineers and Scientists | Product development "Plant diagnosis device" |

# 8 Topics

## 1. 100 Postwar Japanese Inventions

As the110th anniversary commemorative project of the Japan Institute of Invention and Innovation, “100 Postwar Japanese Inventions” is to select innovations that achieved growth after the war in Japan and contributed to development of Japanese industry and economy.
Among 38 innovations in the first announcement of 2014, “Self-threshing combine harvester and rice transplanter” were selected along with electric rice cooker and CRT television.
Referring to our walk-behind combine harvester ”HD50”, the announcement says ”It was ISEKI that developed self-threshing combine harvesters and brought them to the market for the first time in the industry. It is the first ingenious combine harvester that Japan boasts to the world”.
As our record of major awards, “National Awards for Invention, Invention Award” (Reaping thresher) in 1970 and “President’s Award of A Century Commemorative Society of Agricultural Testing and study” (Development of practical auto-detachable combine harvester) have been introduced.

For further development of agriculture, ISEKI Group will dedicate itself to developing innovative agricultural machinery

## 2. Top 10 Research Topics by MAFF

Among the “Ten Outstanding Topics and Research in Agriculture, Forestry and Fisheries in 2014” selected by the Agriculture, Forestry and Fisheries Research Council (AFFRC) Secretariat, our “In-Ridge Partial Fertilizer” based on joint study with the NARO Agricultural Research Center (NARO/ARC) of the National Agriculture and Food Research Organization was chosen because it “completed the lineup of “In-Ridge Partial Fertilizer” and is expected to reduce the amount of fertilizer significantly”.
This fertilizer is an implement for tractor that reduces the amount of fertilizer by 30% to 50% by applying fertilizer only in the central portion of ridges. As low cost/energy saving and environmental load-reducing technology, it is expected to be more popular in the market.

For further development of agriculture, ISEKI Group will dedicate itself to developing/spreading agricultural machinery with advanced technologies introduced.

# 9 Information on Legal Actions Related to Intellectual Property

There is no suit at issue related to intellectual property rights which could affect our management in or outside the country. In promoting our business and R&D, we will implement intellectual property strategies steadily with the greatest of care.

## Corporate Data

| | | |
|---|---|---|
| **Company Name** | ISEKI & CO., LTD. | |
| **Head Office** | 700 Umaki-cho, Matsuyama, Ehime , Japan | |
| **Tokyo Headquarters** | 3-14, Nishi-Nippori 5-chome, Arakawa-ku, Tokyo, Japan | |
| **Foundation** | August 1926 | |
| **Paid-in Capital** | 23,344 million yen (as of March 31,2015) | |
| **Employees** | Consolidated: 6,039 (as of March 31, 2015) | |
| **Principal Business** | ISEKI'S principal business is the manufacture and sale of following products; | |
| | Cultivating machinery | Tractors, Tillers, Mowers, High clearance multipurpose vehicles |
| | Planting machinery | Rice transplanters, Vegetable transplanters |
| | Harvesting machinery | Combine harvesters, Binders |
| | Processing machinery | Rice hullers, Dryers, Rice Cleaners, Rice Graders, Vegetable harvesting and Processing Machinery |
| | Others | Implements, Spare parts, Agricultural facilities |


**For further information, please refer to our website or contact below;**

Intellectual Property Control Department
Development & Production Division ISEKI & CO., LTD.
1 Yakura, Tobe-cho, Iyo-gun, Ehime, Japan 791-2193
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(From outside Japan) +81-89-956-9810
Facsimile: (In Japan) (089)956-9818
(From outside Japan) +81-89-956-9818
URL: http://www.iseki.co.jp/
E-mail: pat-matsuyama@iseki.co.jp