



Founding, Actions and Great Significance of Original Theory of Botany (Crop Science)

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Abstract

The most valuable places of original theories were having very strict standards and conditions, furthermore eight attributes. Distinguished specialty theory worker, philosopher, economist, and author Shiqing Chen pointed out: "Original theory in the significance of Science subject was strictly scientific theory or theory system that other people did not say, it can be confirmed and not false." Original Theory had firstly a nuclear concept that had clear and definite connotation and distinct extension, using this concept as the starting point, from abstraction to concrete, on basis of principle of mutual showing identity of logic and history, steps in process forming this theory closely linked and spread out theory system that had close logic and distinct order, using academic paper or book as display form. Original Theory must make its statement consistent in logic (form logic and symmetry logic) and it was able to stand test of practice. On eight attributes of original theory were: unity of bring forth new ideas and scientific nature, unity of bring forth new ideas and system, unity of bring forth new ideas and standards, unity of bring forth new ideas and positive nature, unity to bring forth new ideas and operation, unity of bring forth new ideas and artistry, unity of bring forth new ideas and value, unity of bring forth new ideas and main body. Core of the Original Theory was the unity of bringing forth new ideas and scientificness. Most important one sentence words: Development of any school subject was all passing producing Original Theory to realize, and had not Original Theory and had not marked science development. On the foundation process of Original Theory of Botany (Crop Science): 1. Advancing research, 2. Advancing core concept, 3. Looking for basic contradiction of yield performance, 4. Studied firstly ecology theory, 5. Present situation of variety ecology research in 1950-1980 ages, 6. Deeply studied already had ecological traits and found new ecological traits, 7. Studied yielding ability trait and yielding ability theory, 8. Setting up a completed yield ability theory, 9. Contacting stand side by side whole ecological traits with whole yield ability traits.

“2018-Global Summit on Plant & Plant Physiology” will be conducted during March 12 - 14, 2018 in Kuala Lumpur, Malaysia, the summit direct, Nancy Albert, and other four guest speakers gave me to send out specially inviting. Why development of any science all must pass producing an original theory to be realized? 1. Original Theory having greatly applying value, 2. Original Theory greatly gave a push to produce a new subject, 3. Original Theory of botany (Crop Science) producing new theories, new concepts and new finds, 4. Great actions of Original Theory for developing relation basis subjects. Nine academic papers were published in order to increase understanding of original theory and resolve difficult problems in crop science in 2015-2023. Below listed these problems and gave readers thinking and resolving, 1. Coming breeding ways, why use crossing breeding as leading, molecule breeding supplementary? 2. Sexual crossing breeding and molecule breeding each had what good point and weakness? 3. Why the effect of mutation breeding was no good to crossing breeding compared? 4. What is the nature difference of open and closed breeding? 5. How to transmit experience breeding into science breeding? 6. How to make crop cultivation science become a subject having science theory and technology practice? 7. What should be the core theory of each chapter of crop cultivation science? 8. How to study heterosis problem beginning from gene? 9. Genes of all of different characters in plant body were equality? 10. How to set up an institute of crop breeding on basis of original theory and how to set up a study room, or group? 11. How to recognize the “Bring forth new ideas and forming type combination of ecological traits and raising yield stability of variety” statement? 12. Why to say original theory was a great breakthrough for classical formula, Phenotype = Genotype + Environment? 13. Why say the original theory was a great breakthrough for experience breeding? 14. How to transform experience breeding into science breeding? 15. How to recognize each relationship among genes of different characters? 16. The study showed yield ability trait to be increased in cycle, how to quicken the cycles? 17. How to recognize plant type and plant type breeding? 18. Under what situation, should firstly select vegetative body trait? 19. Study main body of original theory was variety of plant, why it can guide basis study of molecule breeding?

Subject Areas

Agricultural Science

Keywords

Botany, Crop Science, Original theory, Foundation, Action, Great Significance

1. Introduction

Peizhan Tian, a Chinese Scientist, full professor pioneered First original theory of Botany (Crop Science) in modern science history in the World and passed-

forty years unremitting efforts. He was specially invited by “2018·Global Summit on Plant Science & Plant Physiology” and giving an academic lecture, the title was Basic Principle Forming Yield Performance of Crops and Its Importance. Issued Original Theory of Botany (Crop Science) for the world, and obtained generally welcoming and high degree appraisal.

2. What Is Original Theory? What Are Its Standard and Condition? What Are Its Attributes and Most Important Effect and Great Significance?

Distinguished specialty theory worker, philosopher, economist, author Shiqing Chen pointed out: “Original theory in significance of Science subject was strictly scientific theory or theory system that other people not said, it can be confirmed and not false.” Original Theory had firstly a nuclear concept that had clear and definite connotation and distinct extension, using this concept as the starting point, from abstraction to concrete, on basis of principle of mutual showing no difference of logic and history, steps in process forming this theory closely linked and spread out theory system that had close logic and distinct order, using academic paper or monograph as display form. Original Theory must make its statement consistent in logic (form logic and symmetry logic) and it was able to stand test of practice. Original Theory was not new point of view, new explanation, new policy, new plan, new model, new pattern, but only was new theory. Original Theory was scientific theory that was unity of bring forth new ideas and scientific nature, unity of bring forth new ideas and system, unity of bring forth new ideas, and standard, unity of bring forth new ideas and positive nature, unity of bring forth new ideas and operation, unity of bring forth new ideas and artistry, unity of bring forth new ideas and value, unity of bring forth new ideas and main body. Core of Original Theory was unity of bring forth new ideas and scientificness. Scientific Original Theory was often development according with logic of former theory or thinking. Development of any school subject was all passing producing Original Theory to realize. Had not Original Theory and had not marked science development” [1].

3. Foundation of Original Theory of Botany (Crop Science)

3.1. Advancing Research

Study reason: I went just to Agricultural Academy of Jilin Province to be engaged work of test basis point of soybean breeding in nineteen seventy three year, I saw that different varieties under all kinds of environment had each different yield display and yield difference, so think that if not know crop yield was how to formed, how can explain yield and its difference? How to can do well crop breeding?

3.2. Advancing Core Concept

Determined firstly core concept, Yield performance, it was reality yield under

any condition, not yield ability or highest yield or yield latent capacity or yield under specially appointed condition.

3.3. Looking for Basic Contradiction of Yield Performance

Passing think long and hard at last looking for this basic contradiction, it consisted of ecology adaptation ability and yielding ability of a variety and to be published [2].

3.4. Studied Firstly Ecology Theory

Because yield performance difference was tremendous under effects of ecology conditions in different years, so studied firstly ecology-adaptation ability and suiting ability characteristics. But situation at once was not clear concept of ecological trait, also not variety ecology theory.

3.5. Present Situation of Variety Ecology Research in 1950-1980 Ages

There were not concepts of variety ecology and ecological theory of variety. In beginning of 1980 age, started ecological test of several crops in China, but in fact was introducing a variety of tests, only because the object of the tests was not clear, feel free to obtain a crowd of test data, also hard to be analyzed and obtained not result that should be obtained. Distinguished plant physiologist in World, professor in USA, Nancy Albert Doctor reported testing physiology target under different ecology conditions in his work, "Physiology and Ecology of Plant" also advanced not concept of ecological traits of crop variety.

3.6. Deeply Studied Already had Ecological Traits and Found New Ecological Traits

In this situation, continued studying forming reason and nature of growing period, pod-bearing habit of soybean, resistance to bursting pod trait. Found and determined resistance to lodging, leaf blade size, root system type, resistance to disease, resistance to insect, varied philosophy resistance, varied nutrition elements pressure as new ecological characteristics. Studied and defined their producing condition, and influencing to stable yield ability and appraising method of stable yielding ability of a variety. We finished dividing of ecological area of soybean varieties in Jilin province in 1985 and arranged region and production trial of soybean varieties on the basis of this division. Practice proved scientific division can marked increase quantity of spreading varieties and planting area, greatly increasing economic benefit. Up to this setting up completely new ecological theory, "Variety Ecology of Crop" (book) was written in 2017 year, and it clearly showed that ecological trait was responsible for stable yielding ability of variety.

3.7. Studied Yielding Ability Trait and Yielding Ability Theory

Since over a long period of time people considered that yield ability trait was

several seed yield factor traits, example soybean, most easily seeing more pods, more seeds and bigger seeds, also was thus selecting in breeding. Scientists in Japan studied theory of sink (seed yield), source (biological yield), flow (transformation ability, economic coefficient or harvest index), results showed that three factors all grew and developed well, balanced developing, can obtain higher yielding, this was an important result. But it included not a quality trait of economic yield, also plant type traits and relationship among them and varied important organs performed functions, metabolism etc. These in regard to a complete yield ability theory and original theory of botany (crop science) very different, because only three traits in it.

3.8. Setting up a Completed Yield Ability Theory

On the basis of sink, source, flow, three yield ability traits added above mentioned and lack traits, function and metabolism of varied organ and some quality traits closed relation with seed yield, plant type traits and organic contacting with other traits etc., formed a complete yield ability traits and yield ability theory.

3.9. Contacting Stand Side by Side Whole Ecological Traits with Whole Yield Ability Traits

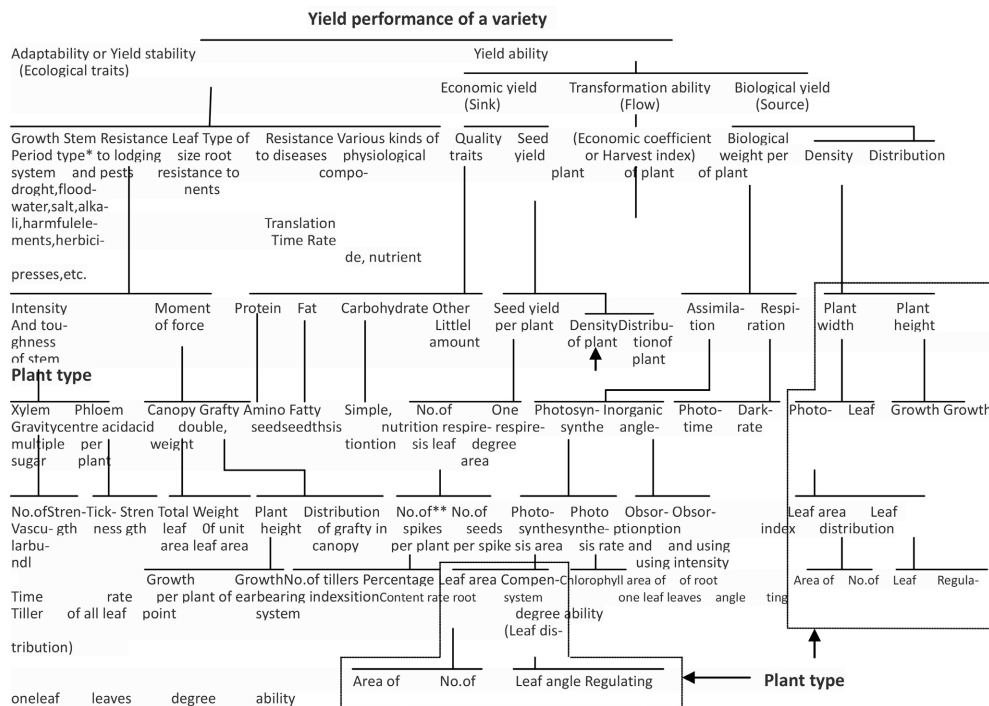
At last contacting stand side by side whole ecological traits with whole yield ability traits produced not only exercising stable yield ability function, but also yield ability, finally formed original theory of botany (crop science) in that all of trait all can producing effect for yield performance (**Figure 1**).[3] “Theoretical Genetics and Breeding Science of Crops”, book was published by Science Technology Publishing House of Jilin in 2014, “Yielding Ability Science of Crop Variety” was written in 2017, both were products of original theory of botany (crop science).

3.10. Knowing from Experience

Original Theory of botany (crop science) was a great basis theory study, research content included more than ten second scale school subjects in four 1th scale school subjects in philosophy, science department in a college, agricultural science etc., three big classes. More than forty ecological characters and more than one hundred and forty yield ability characters were contained in the original theory.

Research practices made me know: Researcher must have listed bellow quality and could set up original theory. Had a dense interest for basis studies and courage special capturing big or great difficult problem and unremitting spirit, abundant both knowledge and expertise prepare. Among them both knowledge and expertise prepare included realizing for scientific development law, had abundant perception knowing and had ability raising perception knowing to reason knowing, knowing for main contradiction and contradiction motion in scientific study, use of thinking method and logic thinking in science theory

study, mastering study making progress of related specialty subjects etc.



*The stem type was pod-bearing habit in soybean; **There were petiole (and its length) and nodule; No. of pod per plant, No. of seed per pod in soybean.

Figure 1. Riginal Theory of Botany (Crop Science), corn and grass family crops.

4. “2018-Globe Summit on Plant & Plant Physiology” Sent Out Special Invitation

In order to extend original theory to the World, I published eleven English papers in 2015-2023, among them “Open Access Library Journal” published three papers, of them two specially discussed Original Theory of Botany (Crop Science), titles were “Basic Principle and Technology System of Crop Breeding” and “A Great Find in Life Science Study” respectively were published in November. 2015, and in January 2016. From starting publishing to present quantity of click and download on one terrace of publishing journal was respectively 630 and 90, most in paper of the same kind.

The thing in my expecting finally took place. “2018-Global Summit on Plant & Plant Physiology” will be conducted during March 12 - 14, 2018 in Kuala Lumpur, Malaysia. Surely my published papers on Original Theory gave rise to taking notice and thinking highly of the summit direct, Nancy Albert, Scientific Program Coordinator, Centre Publishing Group in USA, famous plant physiologist in the World, and other four guest speakers gave me to transmit special inviting.

Dear Dr. Peizhan Tian,
Greetings!!

Hope this email find you in best of health & spirit

We take the privilege to invite you to attend as a speaker at the “**Global Summit on Plan Science & Plant Physiology**” during **March 12 - 14, 2018 in Kuala Lumpur, Malaysia. Plant Science-2018 will focus on “Increasing Sustainability of Plant Management and Efficient of Plant Production Systems”**

Kindly visit the event website at: <http://www.plantscienceconference.org/>

Speaker will have access to:

All the sessions in the conference;

Receive Certificate by Organizing Committee and Conference Proceedings Material;

Be the Chair for the session your interest;

Judge for post-presentation.

Invited Guest Speakers@Plant Science 2018

Prof. Peter Gresshoff, Emertus Professor, University of Queensland, Australia;

Dr. Manjit S. Kang, Adjunct Professor, Kansas State, University, USA;

Prof. Mohammad Babadoost, Professor, University of Illinois, USA;

Prof. Simon Jones, Prpessor, RMIT University, Australia.

It is an honor and privilege to have your participation in this *Conference as Speaker*. We believe that your contribution to this field is unparalleled and a presentation under any of the sessions will be great benefit.

We hope to see you in *Kuala Lumpur, Malaysia*.

Best Regards

Nancy Albert

Scientific Program Coordinater

Centre Publishing Group

I and my Original Theory of Botany (Crop Science) were attached and highly appraised by “Global Summit of Plant-Plant Physiology”. Said: “Attending the summit in that having me as speaker and listening to my lecture” were things that made director feeling very honoured, men participating in the summit feeling very good fortune. Before once not saw director Nancy Albert and four international scientists who saw or read my two papers on the open publishing journal, and gave high degree appraising for my academy contribution that is unparalleled and a presentation under any of the sessions will be great benefit. They seek truth from facts, strict science style, having systematic and also unassuming, seeing someone else having big achievement they firstly congratulated, their thinking consciousness for someone else happy well-done making human admiring.

On the “Global Summit of Plant-Plant Physiology”, I respected arrangement of organizer, did lecture of “Basic Principle Forming Yield of Crops and Its importance”, formally issued “Original Theory of Botany (Crop Science)”. At this stage first Original Theory of Botany (Crop Science) in science class school subject was pioneered by Chinese and obtained general acknowledge in the World. Due to influence factors of crop yield performance were very much and also high degree life body, so this Original theory is the most complicated and study

difficult degree biggest, so also later appearing theory.

5. Why Development of Any Science All Are Passing Producing Original Theory to Realize

5.1. Original Theory Having Great Applying Value

Original Theory was first time published and it can be confirmed and not false. It had eight attributes that unity of bring forth new ideas and scientificness as core: unity of bring forth new ideas and scientific nature, unity of bring forth new ideas and system, unity of bring forth new ideas, and standard, unity of bring forth new ideas and positive nature, unity of bring forth new ideas and operation, unity of bring forth new ideas and artistry, unity of bring forth new ideas and value, unity of bring forth new ideas and main body. Original Theory is thus clear that was not general science theory, but is very difficult to see it, highest also most basic theory. Was theory most distinct reflecting the real situation forming yield performance of crop population or variety colony. It contained four first class subjects and more than ten second class subjects and was whole theory of beingre searching thing also theory being varied consisting parts and theory of different layer in varied consisting parts, it also uses more basis subject knowledge synthesizing an organic life body, having order included all of plant (crop) organs and metabolism activity in the organ and bearing ecological or physiological function. Thus theory is advanced theory in our ideal, if only use it and very easily operate, realized operating at once very had easily effect, producing its applying value. At once this was developing science, and promoted related industry development. Some man said: “Any science development all were passing production of original theory to realize, at once was just right, Thus result and evaluating only having original theory can obtain, this special honor only Original Theory can go well together. On the basis of Original Theory increasing yield ability had more and more way. I used it to guide, successfully bred four new soybean varieties that yield/per hectare (ha.) all of more than 5000 kg, this made me sense this theory too had magical power!

5.2. Original Theory Greatly Gave a Push and Produced New Subject

Original Theory of Botany (Crop Science) consisted of ecology adapting characters and ecological theory, yield ability characters and yielding ability theory (included plant type traits and plant type theory), and then separately producing “Ecology of Crop Variety” “Yielding Ability Science of Crop variety”, both merging, also under whole theory guiding, producing “Theoretical Genetics and Breeding of Crops”, these three new subjects all have themselves main contradiction and research contents, their every definition:

Theoretical Genetics and Breeding of Crops: New subject using Original Theory of Botany (Crop Science) to explain and illustrate research genetic relationship among variety traits or genes, and lay down scientific crop breeding technique system and concrete implement plan.

Variety Ecology of Crops: Science being study relationship between crop variety and ecological environment conditions (factors), its concrete content was studying ecological trait directly happening response for environment and its type forming, effects, great significance and its test method etc. It was theory basis of crop variety adaptability, in crop production being resolved stable yield problem of variety, but in the final analysis was resolving problem of that variety more can reasonable use natural environment resource and obtain more bigger economic result.

Yielding Ability Science of Crop Variety: Yielding ability science of crop variety was science concerning variety population yielding ability. Its main study content were traits of crop variety yield ability and consisted parts, character consisting of every part, and relationship each other among these traits and place and effect of every trait in yield ability forming, evolving and reality level, coming developing direction of yield ability trait in variety developing process. At last researched how to apply theory, “Yield ability Science of Crop Variety” in using variety and breeding and set up scientific breeding engineer technology system of yield ability breeding. Especially studied and used type difference of important ecology character to increase heterosis of seed yield, more efficacious used additive effect between traits in breeding of self crossing crop variety and breeding of self-bred line of heterosis use crop. It was with Variety Ecology of Crops became theory basis of science breeding in modern times, transforming from present experience breeding to coming scientific breeding.

5.3. Original Theory of Botany (Crop Science) Producing New Theories, New Concepts and New Finds

Any new theory production all inevitably followed producing new concepts, new theories and new finds, theory not producing new concepts, new finds cannot be called new theory. Below discussed that produced new theories, new concepts and new finds in applying original theory in crop genetics and breeding study.

- 01 Yield performance of variety;
- 02 Basic contradiction between adaptable-stable yield ability and yielding ability of variety 0;
- 03 Character of both ecological adaptation ability and yielding ability of variety;
- 04 Theory of both ecological adaptation ability and yielding ability of variety;
- 05 Plant type character and plant type theory;
- 06 Each other action between ecological adaptation ability trait and yielding ability trait;
- 07 Each other action among ecological adaptation ability character;
- 08 Theory of each other action among yield ability;
- 09 New concepts and their theory of open breeding and closed breeding;
- 10 Important ecological trait and important yield ability trait;
- 11 Voluntary selection and passive selection for crossing progeny;
- 12 Quickening fine gene getting together;
- 13 Prepare breeding;

- 14 Individual event breeding;
- 15 Primary synthesizing breeding;
- 16 High-grade synthesizing breeding;
- 17 Variety resources classification adapting scientific breeding;
- 18 Experience breeding;
- 19 Scientific breeding;
- 20 Selecting and germplasm opening up of scientific breeding;
- 21 Appearing, distinguishing and selecting of addition effect of yield ability characters;
- 22 New theory producing heterosis of crops;
- 23 Character being most intrinsic basis;
- 24 Correctly looking on crossing breeding and molecule breeding;
- 25 Astonishing unity of opposites among genes (traits) and regulating balance relationship in a variety;
- 26 Forming bring forth new ideas ecological trait combination type to raise yield stability of variety;
- 27 Relationship between vegetative body trait and generative body trait and selection of parents and progeny;
- 28 Two inferences of basic contradiction formula of variety yield performance;
- 29 Original Theory of botany (Crop Science) also can guide basic study of molecule breeding.

5.4. Great Action of Original Theory for Developing Relation Basis Subjects

When had not this original theory, peoples only know photosynthesis being most important machine-made and source producing dry matter, yield performance mainly displayed on number of seed and seed size, seed weight of a plant, harvest plant dense. In experience breeding mainly selected for seed yield and selecting parents also use seed yield as first selecting trait.

But original theory made more than forty ecological traits and more than one hundred and forty yielding ability traits to form crop yield performance and to become a whole body. Improved one or more among them all can increase yield performance. From only paying attention to selecting several yield trait in the past breeding to present study and defining one hundred and eighty traits increasing yield traits this undoubtedly was great break through. In the past time only excavated increasing yield latent capacity of several yield ability traits, in present can excavated that of forty ecological traits and one hundred and forty yield ability traits. In long-lasting peoples only excavated latent capacity of less than 10% increasing yield traits, had more than 90% latent capacity of increase yield traits was not excavated, may see this latent capacity was maximum. Saying “Increasing action of sexual crossing breeding yet lost, only molecule breeding can salvage the crisis” was having not basis and not depending on.

Producing original theory again proved that scientific philosophical, dialectical materialism and contradiction theory was a key correctly resolving science

theory problem. Basic contradiction of yield performance was starting point of original theory, not passing abstract concept lost starting point resolving problem and the original theory had no way to do [4].

In studies on quantitative genetics and on probability theory on mathematical statistics in mathematics in science producing great majority of formula or result sourced from derivation of simple gene in past time. But in present yield performance was determined by forty ecological traits and more than one hundred and forty yield ability traits, the past mathematical statistics and quantitative genetics analysis adapted obviously not already new situation, and needed keeping pace with new basis that original theory set up and created or set up new mathematical theory and quantitative genetics could be obtained new developing. Plant science, plant physiology, genetics, development biology, cell biology, biological chemical and molecule biology, ecology etc. basis subjects in science subject class, their some contents were as consist element to participate or include in original theory, but their study object were all plant (crop) of whole body, in order to raising their whole level as final objective, so must according to principle of part submitting whole body need, these basis subjects must used "Plant (Crop Science) Original Theory" as most basic theory basis, under its premise gave play to strong point of each basic subject, and looked for correct study direction and contributed force for whole botany (crop science) development, at the same time encouraged studies of new both results and finds of the basic subject, fully bring into play zeal and strong point of part or consist part. Original Theory of Botany (crop science) was a great theory concerning whole plant science, it included relation content that belong to more than both ten crop subjects and relation basic subjects, contained every organ, organization, nutrition, metabolism etc. more than one hundred and eighty characters in a whole body. Every character had all contribution for yield performance, but was different. Ecological traits were qualitative character that be controlled by less genes and action of every gene was bigger. Action of most above layer in all of yield ability traits also was bigger, because included synthesis action of some lower level traits, for example sink, source, flow etc. Some traits like photosynthesis efficiency, said from written documents it was most important, the person that learned plant physiology all knew it was important source of photosynthesis product, But since 1980 years started study screening C_4 crop and transformation C_3 plant into C_4 , in the hope of big range raising photosynthesis efficiency and increasing yield, but up to now had yet fifty years and not succeeded. The reasons one was that overdo estimated increasing yield action of this trait, second analysis of good point and defect for this trait was not enough, overdo estimated that action of a character being not very big. Contrary crop breeding workers firstly used all changing leaf size and posture, attained enlarging leaf area index and increasing yield, all obtained successes, rice yet achieved 10 - 11, wheat 8 - 10, author bred first soybean plant type improvement variety in the world, its leaf area index 6.5, increase 30% more than common variety, highest yield 5114 kg/hm², but also lowered breeding cost. It was thus clear seeing and

understanding, comprehending well “Botany (Crop Science) Original Theory” had great significance for finding correct study direction, so suggested developing individual event breeding of sink, source, flow, plant type, superior quality and important ecological characters and going a step further synthetic breeding. Basic subjects also had layers, for example plant physiology and molecule physiology, plant genetics and molecule genetics, original theory itself not only was original theory of character level, but also that of molecule level, genetic relationship among character or molecule was already revealed, two were same, only different layers and different display shape. But genetic relationship of character level was bases studying molecule genetics.

6. Under Guiding of Original Theory Analyzing and Explaining Difficult Problem and Leading New Tide of Crop Science Development

Due to having most advanced original theory, we may used it to analyze and explaining difficult problem and developing crop science. Since 2015 to 2023 year published ten English papers rounding problems in breeding and cultivation science of crop, among them four were published for giving publicity to and universalizing original theory.

1) **“Basic Principle and Technique System of Crop Breeding”** [5] was my first English paper. It gave first place to figure, simply and clearly introduced and issued “Original Theory of Botany (Crop Science)” abstraction was key setting up original theory, for example “yield performance” “ecological adaptable ability” “yield ability” “ecological character” “yielding ability character”. Not had abstraction, and not had the theory. Producing Original Theory showed that using new original theory to overall lead crop science study new time stating.

2) **“A Great Find in Life Science Study”** [5] mainly discussed action and significance of original theory. It was a great breakthrough for classical formula, Phenotype = Genotype + Environment since more than one hundred years. It will be a certainly important theory basis of study of molecular biology and molecular genetics or molecular physiology. It was milestone transforming experience breeding into scientific breeding of living things, also transition milestone from Mendel’s genetics that could only explained quality characters inheritance into both quality and quantity, transition milestone from small workshop type of breeding into collective engineering of technique system, transition milestone from art and experience into science. It initiated a revolutionary road of breeding of living things.

3) **“Improvement Cycle for Yield Ability of Crop Variety”** [6] was using yield ability evolution in middle area of Jilin province in eighty years from 1940 to 2020 years to expound cycle law of crop variety yielding ability increase. Each of big cycle was forty years, first big cycle from 1940 to 1969, second from 1980 to 2019, third from 2020 to 2059. There were four small cycles in a big cycle, each of small cycle was about decade. In each of four small cycles number of ear (or number of plant) and seed weight per ear were alternatively or together

heightened. In improvement of most ear type variety change of plant type were very obvious, but in biggest ear breeding not obvious and in middle type breeding gradually obvious. On basis of cycle phenomenon and three of types of yield ability improvement author point that breeding target of three parent combination ways, on basis of higher yield selecting most ear \times mostear, biggest ear \times biggest, and most ear \times biggest should be persisted. Especially, selection for two extreme type should be first accomplished enhancing and development of middle type could be guided.

Present problem was how to quicken revolving of big and small cycles: (1) Setting up Individualevent breeding of important ecological traits and important yield ability traits. (2) Setting up further synthetic breeding. (3) According to breeding need conducted variety resource study. Only thus could continue supplying good parent materials.

4) **“Problem on Nuclear Theory of Cultivation Science of Crops”** [7] was fifth English papers, since 25 March 2016 was published by OALibJ, it had most click amount 501, download 50, still increased in present. Crop Cultivation Science in China and Agronomy in East States all were not true science. In science subjects classification in China only had “Crop Science, but not” Crop Cultivation Science. Present situation of crop cultivation science was (1) borrowing much other subject content for example organ and its function in botany, metabolism in physiology, (2) not clearly explaining content, program and key points, (3) most teaching materials had excessive practice and operation content, but lacking theory concluding. This paper on the basis of main contradiction of crop cultivation science and crop production process to suggest that could overcome above weakness, each of chapters all had a clear key theory point and outline of crop cultivation science raising technique practice level.

Cultivation Science of Crops (Overview)

Introduction: Law of Scientific Development and Original theory of Botany (Crop Science)

Chapter 1 Sunshine Activity, Global Atmosphere Environment, Ecology, Ecological System and Crop Production

Chapter 2 Community and Individual in Crop Production

Chapter 3 Change Regularity of Reasonable Density of Crops

Chapter 4 Evolution of Ecological Adaptability and Yielding Ability of Crop Variety

Chapter 5 Distribution of Plant in Field

Chapter 6 High-Yielding Machine: Reasonable Tendency of growth and Development of Community and Regular and Control for It

Chapter 7 Essential Increasing Yield: Uninterruptedly Resolving Contradiction between Utilization Efficiency for Light energy and for soil Fertility of Crop Population

5) **“Open and Closed Breeding of Crops”** [8] was first derivative theory from original theory of botany (crop science), it differentiated difference in nature between crossing breeding and other breeding ways, explained and illu-

strated why mutation breeding (including any sudden and molecule breeding) could not increased yield ability? Why are men doing mutation breeding later doing sexual crossing breeding? Why said:” had variation and had breeding” was wrong? Reason was that sexual crossing breeding was open breeding, and other breeding ways all were closed. Theory of closed and open breeding was a generalization of most essential distinction for different breeding way, also theory basis of correct evolution these. It made people abandon concept that only had variation and also emergence of new variety, and also made people refute mythology on basis of theory that depending on closed breeding could obtain higher yield variety. Openness of sexual cross-breeding etc. decided that it will forever be foothold in an invincible position, develop always any breeding way will not all replace it.

6) “A New Theory Producing Heterosis of Crops” [9] Early period study on heterosis was on basis of mutual action between genes of two parents, dominance or epistatic dominance etc., non-additive effect produced, later transformed difference of blood relationship between genotype of parents to lead. Increased not-determining from genes to genotype, produced big amount test crossing. This paper attempted to use non-additive effect of important ecological character to be controlled by less genes made all of quantitative character to produce heterosis. This said: “heterosis was not quantitative characters themselves producing, but non-additive effect between important ecological character types decided heterosis size of all of quantitative characters. On the basis of study, considered growing period and stem type being source producing heterosis, but relative heterosis with growing period was not-dependable and beneficially increased crossing seed yield, so only depended on stem type. But since long period, not saw papers on maize variety ecology, which showed that maize breeders not knew maize variety ecology character. I investigated corn variety in Zhengzhou in Henan province in 2017-2019 and proved that also had similar to difference of soybean pod-bearing habit.(**Figures 2-3**) At the same time also determined difference between soybean pod-bearing habit the bigger, the heterosis the bigger. It was only having hope hypothesis, I hope maize breeders to continue doing. Only selecting indeterminant and determinant stem type self crossing line and not use to do test crossing.

7) “Where Is Way Out of Crop Crossing Breeding?” [10] Since having transformation gene breeding, many crop breeders cry out in alarm: transformation gene breeding will go to replace sexual crossing breeding! It does surely mean that this will be true! I think not. Sexual crossing breeding cannot be always replaced by molecule breeding, but crossing breeding should transform from experience breeding into scientific breeding. Original theory of botany (crop science) was a basic principle that overall guided crossing breeding transformed into true science breeding. Its eight attribute tell us: Principle, guiding thinking, draw up and put into effect of plan and program, concrete operate, all start from original theory and it was approximately all-powerful. This was about to look at breeders mastering and using degree for original theory. Firstly should

believe original theory, second was according to important characters in original theory to prepare, collect, create, use good parent material and conducted individual event breeding and further synthetic breeding. I even more believe that original theory is the savior of experience breeding, have it and crossing breeding have hope and glorious foreground, it is not to fall low as tributary and will be always leading.



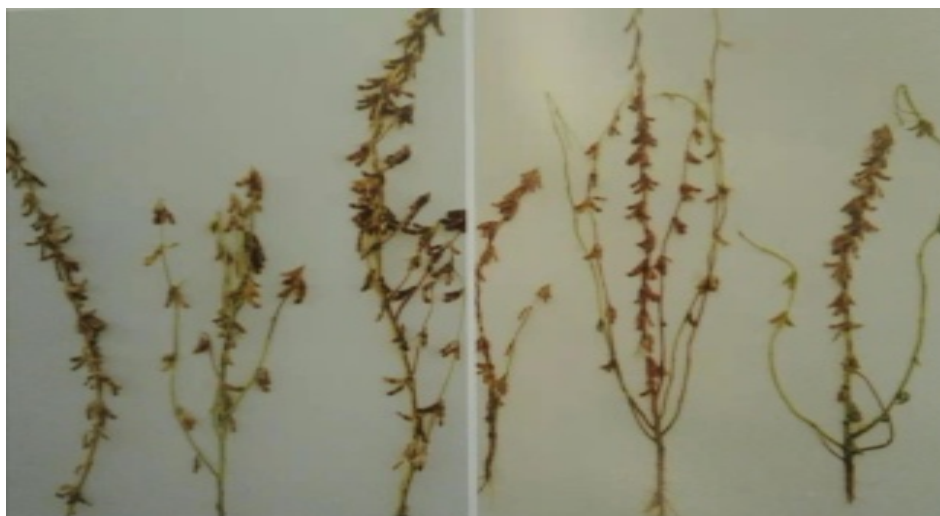
Above the Left In, the middle In-Simi, the right Simi; Below the Left Simi-de, the right de; In: Indeterminet, Simi: Simideterminet, de: determinnet.

Figure 2. Finding different stem type in summer maize in Zhengzhou in Henan (2018).

8) “Selecting Firstly Vegetative Body Characters Bing an Important Way of Crossing Breeding of Crops” [11]. This paper was a summary for a new variety only having small leaf blade, most leaf area index, and plant type to be firstly improved and the highest yield 5114 kg/hm². In past modern crop breeding history, such doing always had not and gave rise to maximum interest of many crop breeders and scientific workers. An editor in “Meteorology and Soil” Journal in USA transmit abstract of this paper into net and using color to beautify it. A secretary of “Continued Developing Society in the World” saw this paper and invited me to contribute the society.

Two parents must all have small leaf genes, from F2 population stating select-

ing plant with small leaf blade. After F3 progeny plant vegetative body stating segregation and selected plant or line according with breeding objective.



Left: simi × De, F1 was equity heterosis; Right: simi × In, F1 was simideterminet

Figure 3. Inheritance of F1 stem type in soybean.

9) “Sexual Crossing Breeding and Transformation Gene Breeding” [12].

This paper for great majority of Chinese was treason and heresy because they thought present yet was molecule breeding time. But the author maintained crop crossing breeding will always be the leading breeding way, and molecule breeding only supplementary. My several reasons were (1) breeding nature, sexual crossing breeding was opening way breeding that could increase yield ability, but molecule breeding was closed way breeding that could not increase yield ability, (2) transformation gene breeding always not doing without sexual crossing breeding, always used good variety in crossing breeding to do as acceptor, (3) only rely on molecule breeding operation not producing whole plant and not accomplish generation transmission, (4) amazingly high input of transformation gene breeding making it hard to continue, especially study amount and difficulty degree of basic research of molecule breeding were all maximum, and duration too long to lead the lose outweighs the gain. (5) The contradiction of between amazingly high input and cheap grain product could not be solved. At the same time this also was not only having many could be resolved, (6) original theory of botany (crop science) using plant character as main body was more beneficial for transformation crossing breeding into scientific breeding and continuously raised breeding efficiency. But the original theory of botany (crop science) included more than forty ecological and more than one hundred and forty yield ability trait total more than one hundred and eighty characters for basic study of molecule breeding was a greatly bad thing, because this basic study must included cloning these genes, defining molecule structure, each other connecting, each other acting, machine of connecting and acting, etc. of the more than 180 characters or among them, these things cannot be completed in one hundred

years, least input 30,000 million and million Yuan RMB, (7) sexual crossing breeding nimbly using or introducing new breeding material and parents in breeding order, but the latter did not. (8) Result of molecule breeding still returns production to test, but crossing breeding not, breeder early knew all of situations for its progeny lines.

7. Conclusions

The study and discussion contents in this paper all were the study of problem on forward position of crop science, foundation, effects, the great significance of Original Theory of Botany (Crop Science) and it to be universalized and used in crop breeding. Original theory was a theory that most reflected the real situation forming yield performance, and the most perfect leading principle of crop research, and most worth learning, mastering, applying science theory, use it to raise crop breeding efficiency and can be realized. This original theory will have great significance for crop breeding patterns, more scientificness of crop cultivation science, transformation experience breeding into scientific breeding, lay down breeding plan and program.

These contents all were important fields of forward position of crop science and all were in the lead of forward position. Related papers were subjected to welcome by workers of crop science, except these papers were published by OA-LibJ, also by the famous academic book publishing house in the World, for example, Book Publisher International and LAP, etc., readers of these papers yet surpassed in 2800 men, formed leading new tide of crop science development. They will sign document of epoch-making crop science development, and strongly give a push to crop science to turn towards more scientificness and sustainable direction development.

Conflicts of Interest

The author declares no conflicts of interest.

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