Agricultural Science & Technology, 2015, 16(12): 2664–2669

Analysis on Characters and Growth Factors of academicians of Agriculture Faculty of Chinese Academy of Engineering

Wen DENG[1*], Yang SHAN[2]

1.Agricultural Economy and Zoning Research Institute, Hunan Academy of Agricultural Sciences, Changsha 410125, China; 2.Hunan Academy of Agricultural Sciences, Changsha 410125, China

Abstract The research analyzed birthplace, work site and Work unit, discipline, agricultural product variety, current age, and selected age, as well as internal and external factors for growth, which providers references for exploring development of high-level agricultural S&T talents and formulation of relevant policies.

Key words Chinese Academy of Engineering; Faculty of Agriculture; Group characteristics; Growth factors

Academicians of Faculty of Agriculture of Chinese Academy of Engineering are representatives of high-level agricultural scientific manpower, playing a leading role in advancement of agricultural S&T, economy and improvement of comprehensive national strength. Therefore, to explore characters and growth factors of the group is of great significance for formulating relevant policies, implementation of the strategy of reinvigorating China through human resource development and innovation driven development strategy high-level agricultural S&T talents and growth rules.

Academician-group Characteristics of Faculty of Agriculture of Chinese Academy of Engineering

The Faculty of Agriculture includes 72 academicians, excluding 20 deceased academicians, and 29 academicians are senior fellows. For convenience of comparisons, the research classified provinces, work units, subjects, agricultural products and age groups into dominant and sub-dominant ones upon academician population (over, equal to or lower than three academicians).

Distribution of birthplace and working place

The birthplace is more in the east and few in the west. As shown in Table 1, 10 dominant provinces in terms of birthplace distribution include 58 academicians, representing 81.69% and every province averaged 5.8, which is 9.37 times as many as 21 sub-dominant provinces, showing significant differences. From economic division, the birth populations in the east, central, northeast and west were 41, 19, 6 and 5 respectively. It can be concluded that the population in the east is 9.84 times as high as that in the west, showing extremely significant differences.

The working places are increasingly concentrating in the advanced areas in terms of politics, economics, culture and dominant agricultural products. Besides, the dominant provinces include 53 academicians, increasing by 60.61% compared with birthplaces and representing 74.65% of national gross, with an average of 6.63. It is 8.47 times as many as sub-dominant provinces, with extremely significant differences. Specifically, Beijing is the nation's political, cultural and educational center, and academicians of Agriculture Faculty reach 20,

Supported by Key Project of Ministry of Agriculture ([2015] No.6).
* Corresponding author. E-mail: dengwen66@126.com
Received: September 6, 2015 Accepted: November 5, 2015

中国工程院农业学部院士群体特征及成长因素分析

邓文[1*],单杨[2] (1.湖南省农业科学院农业经济和农业区划研究所,湖南长沙 410125;2. 湖南省农业科学院,湖南长沙 410125)

摘 要 该文通过分析中国工程院农业学部院士群体的出生地、工作地、工作单位、学科、农产品种类、目前年龄、当选年龄分布特征,以及成长的内在因素和外部因素,为探索我国高层次农业科研人才成长规律,制定相关政策提供了有益参考。

关键词 中国工程院;农业学部;群体特征;成长因素

基金项目 农业部重点课题(农办政[2015]6号)。
作者简介 邓文(1967–),男,湖南涟源人,博士,研究员,从事农业经济研究,E-mail:dengwen66@126.com。*通讯作者。
收稿日期 2015-09-06
修回日期 2015-11-05

taking up to 28.17% of national level. Xinjiang, Heilongjiang and Jilin, where none academician is born, are advantageous places of agricultural products such as cotton, watermelon, mutton, rice, and edible mushroom, and 9 academicians are employed in the working places.

Distribution of work units

The universities and colleges, and R & D institutions are cradle of academicians. As shown in Table 2, 71 academicians, with an exception of academician Xin (similarly hereinafter), are all from universities and colleges, and R & D institutions. Specifically, academicians from universities and colleges represent 54.93% and from R & D institutions 45.07%.

The dominant departments are mainly in national S&D institutions, local agricultural Universities and Forestry Universities, as well as Academy of Agricultural Sciences. Besides, there are 9, 8 and 6 academicians in Chinese Academy of Agricultural Sciences, Chinese Academy of Sciences and China Agricultural University, representing 1/3 of national level. In addition, there are 24 and 9 academicians in 15 local agricultural universities and 8 Academy of Agricultural Sciences, taking up to 46.48% of national level.

Distribution of disciplines

The disciplines are classified as per research fields in accordance with Increased Disciplinary Partitionment of Academician of China Engineering Academy in 2013.

As shown in Table 3, first-level disciplines are all dominant ones. For example, the proportion of crop science keeps high, and of others much balance. Specifically, among the 12 first-level disciplines, academician in crop science represents 23.94%, which is 3.46 times as many as that in other disciplines, showing extremely significant differences.

Academicians in second-class discipline are unevenly distributed. For example, the academicians in crop genetics and breeding dominate. Of 48 second-class disciplines, dominant ones only takes account for s, dominant ones only account for 16.67% , but academicians represent 53.52% . The academicians engaged in crop genetics and breeding take up to 19.72% that is 11.54 times as many as

Table 1 The distribution of birthplace and working place of academicians

Number	Province	Births	The number of working staff	Number	Province	Births	The number of working staff	Number	Province	Births	The number of working staff
1	Beijing	1	20	10	Jiangsu	8	6	19	Hainan	1	0
2	Tianjin	1	1	11	Zhejiang	4	2	20	Chongqing	2	1
3	Hebei	3	0	12	Fujian	3	1	21	Sichuan	0	1
4	Shanxi	1	0	13	Jiangxi	2	1	22	Yunnan	1	1
5	Inner Mongolia	1	1	14	Shandong	10	10	23	Shaanxi	1	2
6	Liaoning	6	1	15	Henan	2	2	24	Gansu	0	2
7	Jilin	0	3	16	Hubei	8	5	25	Xinjiang	0	3
8	Heilongjiang	0	3	17	Hunan	6	3		Total	71	71
9	Shanghai	5	0	18	Guangdong	5	2				

Provinces or cities such as Anhui, Guangxi, Guizhou, Tibet, Qinghai and Ningxia are not irrelevant to birthplace or working place of academicians and are not list in the Table. The total figures do not contain one academician born in other country and one academician working in other areas.

Table 2 Distribution of academician working places

Number	Work unit	The number of people	Number	Work unit	The number of people
1	Beijing Forestry University	2	20	Shandong Academy of Agricultural Sciences	1
2	Chang'an University	1	21	Shenyang Agricultural University	1
3	Northeast Forestry University	2	22	Sichuan Agricultural University	1
4	Northeast Agricultural University	1	23	Tianjin Academy of Agricultural Sciences	1
5	Third Institution of Oceanography, State Oceanic Administration	1	24	Wuhan University	1
6	Henan Agricultural University	1	25	Southwest University	1
7	Hunan Agricultural University	1	26	Xinjiang Academy of Agricultural Sciences	1
8	Hunan Academy of Agricultural Sciences	1	27	Xinjiang Academy of Agricultural and Reclamation Science	2
9	South China Agricultural University	1	28	Yangzhou University	1
10	Huazhong Agricultural University	4	29	Yunnan Agricultural University	1
11	Jilin Agricultural University	1	30	Zhejiang Academy of Agricultural Sciences	1
12	Jiangsu Academy of Agricultural Sciences	1	31	Ocean University of China	2
13	Jiangxi Academy of Agricultural Sciences	1	32	Chinese Academy of Sciences	8
14	Academy of Military Medical Sciences	1	33	Chinese Academy of Forestry	1
15	Lanzhou University	2	34	China Agricultural University	6
16	Inner Mongolia University	1	35	Chinese Academy of Agricultural Sciences	9
17	Nanjing Forestry University	2	36	Chinese Academy of Fishery Sciences	3
18	Nanjing Agricultural University	2	37	Sun Yat-sen University	1
19	Shandong Agricultural University	3		Total	71

academicians in other disciplines.

The distribution of agricultural product varieties

Of 71 academicians, 62 academicians are engaged in agricultural products, accounting for 87.32% . It can be concluded from Table 4 that rice, wheat, cotton, forest, pig, and fish dominate in 34 agricultural products, representing 45.16% of the concerning academicians.

The distribution of current age and elected age

At present, academicians are generally older and dominant age is in the range from 76 to 85. As shown in Table 5, the age of 71 academicians averages 75.28, which is higher than that of academician of China Engineering Academy [1]. Besides, the oldest academician is 94 years old and the youngest 51. In addition to that, the academicians in the ranges of 51–75, 76–85 and over 86 represent 36.62%, 50.70% and 12.68%, respectively.

For the elected academicians, the ages focus on 50–70. For example, the age of the 71 elected academicians averages 62.37, which keeps one year older, 4 years older, and 9 years older than the academicians in China Engineering Academy, Chinese Academy of Sciences and National

Table 3 Distribution of discipline

Number	The first-level disciplines	The number of people	Number	The second-class disciplines	The number of people
1	Crop sciences	17	1	Crop Cultivation and Farming System	3
			2	Crop genetic improvement	14
			3	Plant nutrition	0
2	Agricultural and Biological Engineering	6	4	Plant biotechnology	2
			5	Animal (aquatic animal) biological engineering	3
			6	Microbial engineering	1
3	Horticulture	5	7	Pomology	2
			8	olericulture	2
			9	Tea science	1
			10	Floriculture	0
4	Agricultural resources	3	11	Edaphology	1
			12	Germplasm resources	1
			13	Land resources	1
			14	Agrometeorology	0
5	Plant protection	4	15	Phytopathology	2
			16	Agricultural insect and pest control	2
			17	Agricultural pharmacology	0
6	Applied ecology	3	18	Agroecology	0
			19	Forest ecology	2
			20	Grassland ecology	0
			21	Wetland ecology	1
			22	Environmental ecology	0
7	Forestry	4	23	Forest tree genetics and breeding	1
			24	Silviculture	2
			25	Forest protection	0
			26	Forest management	0
			27	Wildlife conservation and utilization	1
			28	Ornamental plants and horticulture	0
			29	Soil conservation and desertification control	0
8	Agricultural engineering	7	30	Agricultural mechanization engineering	3
			31	Generality of Agricultural Engineering	2
			32	Agricultural Informatization Engineering	2
			33	Agricultural product processing and storage engineering	0
9	Forestry engineering	3	34	Forest engineering	0
			35	Wood science and technology	1
			36	Chemical processing engineering of forest products	2
10	Animal husbandry	8	37	Animal genetics, breeding and reproduction science	3
			38	Animal nutrition and feed science	3
			39	Pratacultural science	2
			40	Special economic animal cultivation	0
11	Veterinary medicine	4	41	Basic veterinary medicine	0
			42	Preventive veterinary medicine	4
			43	Clinical veterinary medicine	0
			44	Veteriary pharmacy	0
12	Fishery science	7	45	Aquaculture	5
			46	Fishing and engineering	0
			47	Fishery resources	1
			48	Aquatic products processing and storage engineering	1
Total		71	Total		71

Academy of Sciences, United States [2]. The oldest academician is 76 years old and the youngest 45 years old. Besides, the academicians represent 14.08% , 73.24% and 12.68% in the ranges of 45–55, 56–70 and 71–76.

It is notable that the elected academicians are increasingly younger in average age. For isntance, the elected 17 academicians averaged 57.47 years old in 2009 –2013, which was 6.44 years younger than that of academicians elected in 1994 –2007, with significant differences.

As for gender, the 71 academicians include only 3 women representing 4.23%, showing 1.13 percentage points lower than that of Chinese Academy of Engineering[2]. On the other hand, the 42 senior academicians are all male and the proportion of senior female academician is just 5.00% of Chinese Academy of Engineering.

Growth Factors for Academicians in Faculty of Agriculture

The growth of academicians in Faculty of Agriculture is under influence of both inner and external factors, and inner factors play a leading role.

Inner factors

Lofty ideal

A Lofty ideal is a kind of pursuit on basis of right world outlook, outlook on life, and values, as well as strong patriotism, entrepreneur spirit, sense of responsibility and sense of justice. It is the lofty ideal that lays foundation for contribution made by academicians including Yuan Longping in developing hybrid rice, Chen Xuegeng in developing agricultural implements, Fang Zhiyuan in cultivating new vegetables, Guan Chunyun in culturing rapeseed, Guan Huashi in establishing a powerful marine country, Wu Mingkong in cotton protection, and Fan Yunliu´s contribution.

Profound knowledge

Knowledge includes immediate knowledge, mediate knowledge, theoretical and practical knowledge. It is the prerequisite to discovery, utilization, and creation. However, knowledge could only be required by long–term learning and practice. For example, academician Yuan Longping, who rates "knowledge" as the secret of success [3], is equipped with solid and specific knowledge and use of English, as well as philosophy quality. Academician Chen Jianping insists on the importance of S&T, and knowledge [4]. Academician Yu Shuxun once said that it is easier for the researchers who frequently work in farmlands to get the tiny variations of cotton, which is a kind of comprehensive capacity relying on knowledge accumulation for a long term [6].

Innovation capacity

Innovation is a basic character for agricultural academicians to grow, consisting of remarkable intelligence and wit, courage to create, and special methods. Specifically, remarkable intelligence and wit lays foundation for success, covering sharp observation, accurate memory, expansive thinking, rich imaging ability, and skilled operation force. What's more, the courage to create is key for success. For instance, academician Yuan Longping challenged traditional genetic view that self-pollinated crops do not have advantages by researching natural hybrid rice and began to study on using of hybrid rice advantages. In addition, a special method is a guarantee of success. For example, academician Zhang Gaiping used rough papers for experiment without theories or technologies available and changed to pregnancy test strips and introduced relevant equipment. Finally, he developed rapid detection test strips of animal epidemic disease and amphixenosis and safe and rapid detection test strips on animal-derived food.

The faith of practice

Practice is crucial for success of academicians in Faculty of Agriculture, especially for long-term and complicated agricultural scientific research with high applicability. According to incomplete statistics, the average age is 54.69 of 51 academicians presided over the state science and technology awarding meeting and rewarded by state science and technology awards. Assuming they started research at 25 years old, it would take 16.8 years for 10 academicians below 45 years old to preside over the meeting and rewarded. In other words, it generally takes over 16 years for high-level agricultural scientific research talents to get achievements. Academician Zhao Zhendong cultivated super-high yield, stable yield, multi-resistant new species Jimai No. 22 with the adaptability to a wide range of conditions for 17 years. Yuan Longping detected and observed more than 14 000 rice ears in farmlands in summer for two con-

Table 4 The distribution of agricultural products

Number	Agricultural product variety	The number of people	Number	Agricultural product variety	The number of people	Number	Agricultural product variety	The number of people
1	Rice	8	13	Apple	1	25	Grass	1
2	Wheat	6	14	Citrus	1	26	Animal genes	1
3	Maize	2	15	Germplasm resources	1	27	Animal feed	2
4	Soybean	1	16	Forest	4	28	Animal virus	2
5	Potato	1	17	Timber	1	29	Animal vaccine	1
6	Cotton	4	18	Bamboo	1	30	Fish	3
7	Rapeseed	2	19	Aspen	1	31	Prawn	2
8	Cucumber	1	20	Rosin	1	32	Marine shellfish	1
9	Cabbage	1	21	Wild animals	1	33	Marine pharmacology	1
10	Edible mushroom	1	22	Swine	3	34	Aquatic feed	1
11	Watermelon	1	23	Flocks and herds	2		Total	62
12	Tea	1	24	Silkworm	1			

Table 5 The distribution of current age and elected age

Age	The number of people at different ages	The number of selected people
45–50 years old	0	7
51–55 years old	6	3
56–60 years old	4	17
61–65 years old	5	18
66–70 years old	3	17
71–75 years old	8	8
76–80 years old	18	1
81–85 years old	18	0
86–90 years old	6	0
Older than 91 years old	3	0
Total	71	71

secutive years in order to seek natural male-sterile rice.

Cooperation spirit

Cooperation becomes necessary with scientific socialization and differentiation and systemization of discipline. For example, after a new hybrid rice "Yebai" was discovered, Yuan Longping sent the materials into relevant departments for further research and such workload is accomplished within three years by teamwork. In 1987, Yuan presided over national cooperation on two-line rice hybrids of "863 Plan" and the research of hybrid rice breeding was list as a president project. What's more, Yuan invited some scientific research institutions in different typical paddy fields for cooperation, so that the key targets of super hybrid rice are accomplished on time and even in advance.

Robust body

A robust body lays foundation for growth of agricultural academicians. For example, average lifetime is 81.63 of the 20 departed agricultural academicians. The maximum life span reaches 95 and the minimum 67. Besides, the departed academicians over 80 years old represent 60%. It can be concluded that the average lifetime is 6.33 higher than expected lifetime in 2014 recorded in the 2014 Human Development Report. At present, average age of the 71 academicians exceeds 75, including 40% academicians over 80 years old and they still work at the front line. It is notable that the robust body is contributed by long-term scientific research activities, diversified hobbies and interests, strong will, optimistic mood, and scientific diet.

External factors

Good education

Elite universities are crucial for agricultural academicians to integrate congenital quality and acquired education. It is a start of independent creativity [6]. For instance, all of the academicians have received higher education and as many as 85% academicians receive education in famous universities. Besides, 98.6% academicians hold bachelor degrees or above. In addition to that, 46.8% academicians have obtained postgraduate certificate and 35.2% have obtained doctorate. After establishment of PRC, 13 academicians all obtained doctorate and 12 are educated in key universities at home and abroad [7]. With popularization of higher education, undergraduate and postgraduate are increasing, and agricultural academicians with doctorate would be a new character.

National demand

National demand refers to social and political demand, economic development demand and scientific culture demand and agricultural academicians could better grow only when the demands are met. For example, research and development of hybrid rice just meet the demands in different phases. Grain first is always a key agricultural policy in the 30 years after establishment of PRC, because China is the most populous country with relatively less arable lands. It is urgent to improve rice yield at that time. Therefore, research and promotion of hybrid rice gained supports even in the Cultural Revolution. In the 1980s, the issue of grain supply was basically resolved. Meanwhile, it started to recognize that rice species with different ripening terms should be taken into consideration, as well as rice for different uses and rice with adaptability to a wide range of conditions. Hence, two–line hybrid rice and super hybrid rice develop recently. In other words, the history of national demands is just a development history of hybrid rice. Still, mechanization is key for agriculture and in the 1980s China proposed the target to popularize mechanization. Academician Luo initiatively explored synchronized system of furrowing and ridging-based fertilization and mechanical precision hill-direct-seeded rice cultivation and developed precision rice hill-drop drilling machine and laser leveler for paddy field, as well as unmanned rice transplanter and tractor, which makes great contribution to mechanization in southern paddy fields in China.

Rich resources

The rich resources include natural and germplasm resources, which are bases of agricultural S&T innovation. The birthplace and work sites of agricultural academicians have demonstrated that resources play a key role in their development in terms of growth and innovation. Heilongjiang, Jilin and Xinjiang, where birthplace of academicians is not distributed, have become dominant work sites due to advantageous natural resources and rich germplasm resources. Hainan Island is an ideal natural greenhouse, providing superior conditions for rice generation-adding breeding and reduction of breeding process. On the other hand, male sterile materials, Yebai, japonica and indica P (T)GMS lines, as well as the gene responsible of rice wide–compatibility, apomictic materials in earlier researches are all on basis of rich rice germplasm, laying foundation for further exploration and development of hybrid rice. And that national advanced breeding technology and high yield of rice gives a platform for hybrid rice breeding. Academician Wu Mingzhu collected and sorted germplasm of Xinjiang watermelon and bred more than 30 high-quality species by multiple-parent hybridization, backcross and radiation breeding. The promotion area represents 80% of major watermelon fields in Xinjiang, contributing to social and economic

benefits as high as billions.

Team

A team is a base unit for agricultural academicians and it is an important environmental factors, concerning member's knowledge structure, capacity, the way of thinking, research experience, age, and disposition. For instance, academician Chen Jianping upholds the changes from "I" to "T", of which the former means self pursuit and the latter means teamwork. Therefore, it indicates the importance to cultivate excellent young science and technology talent [8]. As for the research winning state science and technology awards, they are all accomplished by a tea. For example, the project of Exploring, Innovation of High-quality Citrus Germplasm and Breeding and Promotion of New Varieties was awarded by the 2nd Prize of the National Sci-Tech Advance Award. The participated members include Yin Hualin, Guo Wenwu, Xia Renxue, Sun Zhonghai, Liu Jihong, Peng Shu'ang *et al*., and the concerning Work units include Huazhong Agricultural University, Ganzhou Fruit Department, Zigui County Bureau of Agriculture, Xingshan County Bureau of Specialty, *et al*.

Extensive communications

The extensive communications concern material, method, technology and experience, which is quite effective for agricultural academician to grow. Yuan Longping always gives highlights to academic communication and has sent over 20 technical talents to foreign countries for cooperative study or further study. For example, based on cooperation with Cornell University, two quantitative trait loci were discovered in wild rice and every gene takes advantages in increasing yield compared with Weiyou No. 64 by molecular marker technology and field test, which was issued in Nature. What's more, Yuan attended international rice seminars on foreign trip for more than 50 times and introduced many rice germplasm resources as hybrid rice materials. Specifically, male parents of Weiyou No. 64, Weiyou No. 46, and Weiyou No. 49 is just introduced by Yuan.

Policy support

Policy supports refers to supports from politics, moral principle, institutions, membership, expenditure, equipments, sites and stimulation. In the Cultural Revolution, for example, Yuan was fortunately to be rescued by National Science Committee. In 1970, the leader Hua Guofeng in Hunan gave supports for hybrid rice research. In 1972, national hybrid rice cooperation team was established. In 1975, Hunan organized 8000 staff in hybrid rice testing and breeding, and Hunan hybrid rice research center was established in 1984. In 1987, bilinear hybrid rice and utilization of heterosis between subspecies were incorporated into National High-tech Research and Development Program (863?Program). Three presidents in 1994, 1998 and 2003 approved 10 million yuan to support construction of China National Hybrid Rice R&D Center/Hunan Hybrid Rice Research Center, respectively. Recently, National Key Laboratory of Hybrid Rice and National Engineering Laboratory of Rice are established. The leaders of the Party and government and provincial leaders frequently take a tour of inspection in Hunan Academy of Agricultural Sciences and academician Yuan Longping.

Conclusion

It is necessary to reinforce establishment high-level agricultural S&T talents for transformation of agricultural development mode, accelerating agricultural modernization, as well as improving agricultural S&T independent innovation capacity and implementation of innovation driven development strategy. What's more, it is intrinsic requirement of participating global S&T competition, enhancing market competitiveness of agricultural products and improving talent team. It can be concluded from the research that the Matthew Effect is obvious in high-level agricultural S&T talents in terms of geographical distribution, Work unit, discipline, and agricultural products, and there are problems of gender and age structure of agricultural academicians. Besides, ideal, knowledge, capacity, experience, cooperation and health are key for talent growth, supplemented by education, demand, resource, communication and policy. It is recommended that governments should give highlights to construction of high-level agricultural S&T talents and introduce specific policies with references of the 13th Five-year Plan.

References

[1] ZHOU YN (周羽娜). Problems and strategies of Chinese academician system (中国院士制度的问题与对策研究) [D]. Chongqing: Southwest University (重庆:西南大学),2012.

[2] TAO AM (陶爱民). Group status of the academicians of Chinese Academy of Engineering (中国工程院院士群体状况研究)[D]. Beijing: University of Science And Technology Of China (北京:中国科学技术大学),2009.

[3] YUAN LP (袁隆平). The secret of my success (我成功的"秘诀")[N]. Guangming Daily (光明日报),2011–10–31.

[4] FENG YP (冯颖平). The Silhouette Life of Chen Jianping, an academician of Chinese Academy of Engineering (科技在右, 文化在左—中国工程院院士陈剑平人生剪影)[J]. Cultural Dialogue (文化交流),2012,(5): 17–23.

[5] LU S(卢松),PENG Y (彭永),FENG WJ (冯文娟). YU SX (喻树迅). The master of short-season cotton in China (中国短季棉育种大师)[J]. Agriculture,Rural Areas and Farmers in China (农村农业农民(下半月)),2012,(3):12–15.

[6] LIU F (刘芳). Research on the factors of success of leading scientists-take the state science and technology top awards laureates for example (科技领军人才成长因素研究—以国家最高科学技术奖获得者为例)[D]. Wuhan: Wuhan University of Science and Technology (武汉:武汉科技大学),2011.

[7] LI ZY (李忠云),FAN P (樊鹏),CHEN XZ (陈新忠). The characteristics and implication of top innovative talents in agriculture (农业领域拔尖创新人才的特点及启示—以中国工程院农业学部 71 位院士为例)[J]. Research in Higher Education of Engineering (高等工程教育研究),2013,(5):31–35.

[8] PIN X (品熙). The change of Chen Jianping from "I" to "T" (陈剑平:科学人生从"I"到"T")[J]. Chinese Talents (中国人才),2007,(19):54–54.

Responsible editor: Xiaoxue WANG **Responsible proofreader: Xiaoyan WU**