

Inheritance, Innovation and Development, Intellectual Property Protection of Traditional Chinese Medicine in Hubei Province

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Abstract Chinese medicinal materials are the material basis for the inheritance and development of traditional Chinese medicine. Intellectual property protection for the entire industrial chain of traditional Chinese medicinal materials promotes the inheritance and innovation of traditional Chinese medicine, and contributes to rural revitalization and the building of an agricultural power. This article provides an overview of the traditional Chinese medicinal materials in Hubei Province. It conducts a detailed investigation into the intellectual property resources of the province's traditional Chinese medicinal materials from aspects such as traditional knowledge, genetic resources, new plant varieties, patents, geographical indications, and trademarks. It analyzes the eight main problems in the protection, inheritance, and innovative development of intellectual property rights, and puts forward corresponding suggestions, such as establishing an intellectual property rights rule system for specific fields of traditional Chinese medicinal materials, promoting the "Famous Brand Action in Rural Areas", and building a "Hubei's Sixteen Superior Herbs" cluster of traditional Chinese medicinal materials.

Key words Chinese medicinal materials, Intellectual property, Inheritance and innovation, Traditional Chinese medicine, Agricultural power, Hubei Province

0 Introduction

According to the World Health Organization (WHO), traditional medicine incorporates remedies derived from plants and minerals, psychotherapy, and physical therapies to diagnose, treat, and prevent diseases, as well as to maintain health^[1]. It represents not only a significant cultural heritage of humanity but also an invaluable medical resource worldwide. The World Conference on Traditional Medicine 2024 (Beijing, December 3 – 4), convened under the theme "Diversity, Inheritance, Innovation: Traditional Medicine for All" emphasized that traditional medicine must: (i) transcend time and space by integrating the diverse wisdom and experiences of different regions and ethnic groups; (ii) shoulder the historical mission of preservation and inheritance; and (iii) embark on the essential path of innovative development.

As an outstanding representative of global traditional medicine, Traditional Chinese Medicine (TCM) is a treasure of Chinese civilization and the world's most fully preserved traditional medical system. On March 20, 2025, the General Office of China's State Council issued Document No. 11 (Guo Ban Fa [2025]), titled *Opinions on Enhancing the Quality of Traditional Chinese Medicine and Promoting the High-Quality Development of the TCM Industry*. The document outlines key tasks, including the conservation and utilization of TCM resources, elevating the development standards of the Chinese medicinal materials industry, and accelerating the transformation and upgrading of the TCM sector. Chinese medicinal materials serve as the tangible foundation for

the inheritance and development of TCM^[3-4]. Promoting the high-quality development of this industry is important to enhancing public health, advancing resource conservation and environmental sustainability, increasing farmers' income and alleviating poverty, as well as perpetuating traditional Chinese culture. Intellectual property (IP) protection supports the preservation and innovation of TCM through a holistic approach across the entire industrial chain^[3-4], thereby contributing to rural revitalization^[5] and the building of agricultural power^[6]. The Hubei Provincial Committee's Rural Work Leading Group promulgated the *Three-Year Action Plan for Revitalizing Hubei's Genuine Medicinal Materials (2025 – 2027)*. This plan outlines a strategy to revitalize the entire sector by focusing on key varieties, targeting the creation of a complete industrial chain with an output value of hundreds of billions yuan. It is within this context that the present paper adopts Hubei as a case to examine development strategies that effectively integrate intellectual property protection with the inheritance and innovation of Chinese medicinal materials.

1 Overview of Chinese medicine materials

Hubei Province possesses exceptional resources of Chinese medicinal materials, hosting over 4 000 species, which establishes it as one of the country's primary production bases for genuine medicinal products. The Chinese medicinal materials industry is one of Hubei's ten key agricultural pillar chains, with five major production zones developed across the Dabie Mountains, Wuling Mountains, Qinba Mountains, Mufu Mountains, and the Jiangnan Plain. In 2023, the total cultivation area for these materials reached 354 000 ha, yielding 855 000 t and generating an agricultural output value of 23.8 billion yuan. The overall integrated industry value surpassed 80 billion yuan, positioning Hubei among the national leaders in terms of industrial scale.

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Hubei Province boasts two National – Level Characteristic Agricultural Products Advantageous Zones, which are Qichun Artemisiae Argyi Folium and Macheng Fubaiju Chrysanthemum. According to the *Regional Layout Plan for Characteristic Agricultural Products (2013 – 2020)*, the national advantageous counties for Gastrodiae Rhizoma (Tianma) include Jianshi County, Badong County, Xuan'en County, Xianfeng County, Laifeng County, Hefeng County, Yunyang District of Shiyan City, Yunxi County, Zhushan County, Zhuxi County, Fang County, and Shennongjia Forestry District; the advantageous counties for Eucommiae Cortex (Duzhong) include Lichuan City, Jianshi County, Badong County, Xianfeng County, Hefeng County, Changyang Tujia Autonomous County, Xingshan County, Zhushan County, Zhuxi County, and Shennongjia Forestry District; the advantageous counties for Salviae Miltiorrhizae Radix Et Rhizoma (Danshen) include Xiaonan District of Xiaogan City, Dawu County, Yunmeng County, Anlu City, and Guangshui City; the advantageous counties for Platycodonis Radix (Jiegeng) include Yingshan County and Dawu County; the advantageous counties for Dioscoreae Rhizoma (Shanyao) include Wuxue City and Xiangcheng District of Xiangyang City; the advantageous counties for characteristic bee products (such as honey) include Xiling District, Wujiagang District, Dianjun District, Xiaoting District, and Yiling District of Yichang City, Yuan'an County, Xingshan County, Zigui County, Changyang Autonomous County, Wufeng Autonomous County, Yidu City, Dangyang City, Zhijiang City, Xiangcheng District, Fancheng District, and Xiangzhou District of Xiangyang City, Nanzhang County, Gucheng County, Baokang County, Laohekou City, Zaoyang City, Yicheng City, Liangzihu District, Huarong District, and Echeng District of Ezhou City, Jingshan City, Yunmeng County, Zengdu District of Suizhou City, and Guangshui City; the national advantageous counties for Testudinis Carapax Et Plastrum (Guijia) include Jiangxia District of Wuhan City, Dongbao District of Jingmen City, Jingshan City, Yingcheng City, Hanchuan City, Shashi District of Jingzhou City, Jianli City, Honghu City, Xishui County, Jiayu County, and Tianmen City.

In 2019, the Hubei Provincial Leading Group for Deepening Medical Reform unveiled the *Implementation Plan for the 'One County, One Product' Initiative of Genuine Medicinal Materials in Hubei Province*. The plan designated ten single-product varieties, including Nanzhang's Corni Fructus (Shanzhuyu), Qichun's Artemisiae Argyi Folium, Macheng's Chrysanthemi Flos (Juhua), Yingshan's Atractylodis Rhizoma (Cangzhu), Luotian's Poria (Fuling), Tongcheng's Smilacis Chinae Rhizoma (Jin'gangteng, also Baqia), Badong's Scrophulariae Radix (Xuanshen), Lichuan's Coptidis Rhizoma (Huanglian), Qianjiang's Pinelliae Rhizoma (Banxia), and Jingshan's Turtle, alongside a comprehensive variety from Shennongjia, as the province's premium "One County, One Product" genuine medicinal materials. The Shennongjia comprehensive variety is best represented by the "Four Treasures of Shennongjia": Paridis Rhizoma (the flower with seven leaves and one branch), Sixangular Dysosma (a bowl of water

by the river), Trillium tschonoskii (a pearl on the top of the head), and Balanophora japonica (a writing brush of King Wen).

In 2023, the Hubei Provincial Department of Agriculture and Rural Affairs and the Provincial Health Commission jointly selected "Hubei's Sixteen Superior Herbs" genuine medicinal herbs. "Hubei's Sixteen Superior Herbs" includes "Ten Medicinal Herbs of Hubei" and "Five Characteristic Medicinal Herbs. Among them, "Ten Medicinal Herbs of Hubei" consist of eleven types: Qichuan Artemisiae Argyi Folium, Fubaiju Chrysanthemum, Poria, Atractylodis Rhizoma, Gastrodiae Rhizoma, Ginkgo Folium (Yinxing), Coptidis Rhizoma, Magnoliae Officinalis Cortex (Houpo), Polygonati Rhizoma (Huangjing), Pinelliae Rhizoma, and Testudinis Carapax Et Plastrum (Magnoliae Officinalis Cortex and Polygonati Rhizoma are tied for tenth place). "Five Characteristic Medicinal Herbs" include five types: Smilacis Chinae Rhizoma, Ziqui Chaenomelis Fructus, Rhei Radix Et Rhizoma, Polygoni Cuspidati Rhizoma Et Radix, and Chrysanthemi Indici Flos.

2 Intellectual property resources

2.1 Traditional knowledge Traditional knowledge related to Chinese medicinal materials is abundant, including traditional planting and breeding knowledge, traditional harvesting knowledge of medicinal materials, important agricultural heritage systems (traditional land use systems and agricultural landscapes)^[7], the names of genuine medicinal materials, the titles of "Hometown of Genuine Medicinal Materials", traditional processing techniques for prepared slices of Chinese crude drugs, traditional Chinese medicinal formulas, time-honored pharmacies, pharmacological knowledge of Chinese medicinal materials, and traditional medical knowledge.

The relevant Hubei provincial intangible cultural heritage includes: I-9 Yan Emperor Shennong Legend, I-15 Li Shizhen Legend, I-40 Wan Mizhai Legend, IX-1 Wudang Mountain Taoism Medicine; IX-2 Making Skills of Mayinglong Eye Ointment, IX-3 Making Skills of Xia's Pills, IX-4 Zhen's Rheumatism Nux Vomica Therapy, IX-5 Peng Yinting Traditional Chinese Drugs Processing Skills, IX-10 Xianning Hu's Burning Therapy and Ancestral Secret Recipe, IX-12 Qichun Moxibustion Therapy, IX-15 Preparation Methods of Traditional Chinese Medicine (Making Skills of Xiao's Wanling Paste, Making Skills of Jingmen Shangqing Pill, Making Skills of Ge's Pills, Making Skills of Qixing Analgesic Paste, Macheng Qiting Osteomyelitis Ointment Recipe and Making Skills); X-12 Yan Emperor Shennong Sacrifice Ancestor Fiesta.

The national intangible cultural heritage in Hubei Province includes: I-49 Yan Emperor Shennong Legend, I-101 Li Shizhen Legend; IX-2 TCM Diagnosis Therapy (Zhen's Rheumatism Nux Vomica Therapy), IX-3 Chinese Drugs Processing Skills (Peng Yinting Traditional Chinese Drugs Processing Skill), IX-4 Preparation Methods of Traditional Chinese Medicines (Making Skills of Xia's Pills, Making Skills of Mayinglong Eye Ointment, Traditional Chinese Medicine Preparation Methods of Ye Kaitai), IX-5 Acupuncture and Moxibustion (Qichun Moxibustion Therapy); X-33 Yan Emperor Sacrifice Ancestor Fiesta (Suizhou Shennong Sacri-

fice Ancestor Fiesta).

2.2 Genetic resources Hubei Province is rich in genetic resources of Chinese medicinal materials, especially in Dabie Mountain area, Wuling Mountain area, Qinba Mountain area and Mufu Mountain area. The biological genetic resources of the genuine medicinal materials "Hubei's Sixteen Superior Herbs" have obvious local characteristics, involving 13 families, 16 genera and 19 species. Specifically, the medicinal material Poria is the dried sclerotium of *Poria cocos* (Schw.) Wolf from the Polyporaceae family, *Poria* genus. Gastrodiae Rhizoma is the dried tuber of the herb *Gastrodia elata* Bl. from the Orchidaceae family, *Gastrodia* genus. Coptidis Rhizoma is the dried rhizome of the herb *Coptis chinensis* Franch. from the Ranunculaceae family, *Coptis* genus. Polygonati Rhizoma is the dried rhizome of the herb *Polygonatum sibiricum* Delar. ex Redoute from the Liliaceae family, *Polygonatum* genus. Rhei Radix Et Rhizoma is the dried root and rhizome of the herb *Rheum officinale* Baill. from the Rosaceae family, *Rheum* genus. Polygoni Cuspidati Rhizoma Et Radix is the dried rhizome and root of the herb *Reynoutria japonica* Houtt. from the Polygonaceae family, *Reynoutria* genus. Pinelliae Rhizoma is the dried tuber of the herb *Pinellia ternata* (Thunb.) Breit. from the Araceae family, *Pinellia* genus.

The medicinal material Qichun Artemisiae Argyi Folium is the dried whole plant of the herb *Artemisia argyi* H. Lévl. & Vaniot from the Asteraceae family, *Artemisia* genus. Atractylodis Rhizoma is the dried rhizome of the herb *Atractylodes lancea* (Thunb.) DC. or *Atractylodes carlinoides* (Hand.-Mazz.) Kitam. from the Asteraceae family, *Atractylodes* genus. Fubaju (Chrysanthemi Flos) is the dried petal of the herb *Chrysanthemum morifolium* RaTnat. or *Chrysanthemum parthenium* Pers. from the Asteraceae family, *Chrysanthemum* genus. Chrysanthemi Indici Flos is the dried petal of the herb *Chrysanthemum indicum* L. from the Asteraceae family, *Chrysanthemum* genus.

The medicinal material Smilacis Chinae Rhizoma is the dried rhizome of the essence vine climbing plant *Smilax china* L. from the Liliaceae family, *Smilax* genus. Magnoliae Officinalis Cortex is the dried trunk bark, root bark, and branch bark of the woody plant *Magnolia officinalis* Rehd. et Wils. from the Magnoliaceae family, *Magnolia* genus. Ginkgo Folium includes Ginkgo Leaf and Ginkgo Fruit, which are the dried leaf and dried fruit of the woody plant *Ginkgo biloba* L. from the Ginkgoaceae family, *Ginkgo* genus. Ziqiu Chaenomelis Fructusw is the fruit of the woody plant *Chaenomeles speciosa* (Sweet) Nakai from the Rosaceae family, *Chaenomeles* genus.

The traditional Chinese medicinal material Testudinis Carapax Et Plastrum includes both turtle shell and soft-shelled turtle shell. Among them, turtle shell refers to the dorsal and ventral plates of the reptile *Chinemys reevesii* Gray, which belongs to the *Chinemys* genus in the family Emydidae. Soft-shelled turtle shell refers to the carapace of the reptile *Pelodiscus sinensis* Wiegmann, which belongs to the genus *Pelodiscus* in the family Trionychidae.

The Institute of Chinese Herbal Medicines of Hubei Academy

of Agricultural Sciences has established the Central China Medicinal Botanical Garden, which preserves over 1 600 species of plant specimens, including 38 rare and endangered medicinal plants under national key protection. The garden covers an area of 112.5 ha and serves as a core member of the National Medicinal Botanical Garden System. The institute has also established germplasm bases for rare and valuable medicinal materials such as *Magnolia officinalis*, *Trillium tschonoskii*, and *Panax japonicus*, along with 13 germplasm resource gardens for species including *Panax japonicus*, *Paris polyphylla*, *T. tschonoskii*, *Swertia bimaculata*, and *Epimedium*. In addition, it has developed the nation's largest *M. officinalis* germplasm resource nursery, spanning 37 ha.

2.3 New plant varieties In China, the protection of new plant varieties operates under two separate systems; one is administered by the Ministry of Agriculture and Rural Affairs, and the other by the National Forestry and Grassland Administration.

2.3.1 New varieties of agricultural plants. The Ministry of Agriculture and Rural Affairs (formerly the Ministry of Agriculture) has included 61 genera, 2 groups, and 128 species in the *Protection List of Agricultural Plant Varieties of the People's Republic of China* across 11 batches. Among them, the commonly used medicinal plants mainly comprise 10 genera (*Lilium*, *Bupleurum*, *Lycium*, *Astragalus*, *Chrysanthemum*, *Ganoderma*, *Morus*, *Dendrobium*, *Coix*, *Iris*), one group (Peony group), and 18 species (*Andrographis paniculata*, *Salvia miltiorrhiza*, *Erigeron breviscapus*, *Polygonum multiflorum*, *Carthamus tinctorius*, *Artemisia annua*, *Zingiber officinale*, *Lonicera japonica*, *Nelumbo nucifera*, *Callerya speciosa*, *Panax ginseng*, *Panax notoginseng*, *Amomum villosum*, *Dioscorea opposita*, *Isatis indigotica*, *Gastrodia elata*, *Cordyceps militaris*, *Perilla frutescens*). However, Hubei has only obtained 14 new agricultural plant varieties for these commonly used medicinal plants (Table 1), involving only the genera *Chrysanthemum*, *Morus*, *Nelumbo*, and *Dioscorea*.

2.3.2 New varieties of forest and grassland plants. The National Forestry and Grassland Administration (formerly the State Forestry Administration) has included 281 genera and 32 species in the *List of Protected New Plant Varieties of the People's Republic of China (Forestry and Grassland Section)* across nine batches. Among these, the commonly used medicinal plants primarily comprise 30 genera and 9 species: *Bletilla*, *Fritillaria*, *Rehmannia*, *Glycyrrhiza*, *Lycium*, *Polygonatum*, *Scutellaria*, *Platycodon*, *Chrysanthemum*, *Forsythia*, *Ephedra*, *Chaenomeles*, *Cinnamomum*, *Litsea*, *Akebia*, *Cyclocarya*, *Lonicera*, *Morus*, *Crataegus*, *Cornus*, *Paeonia*, *Ampelopsis*, *Mahonia*, *Dendrobium*, *Tetradium*, *Rhus*, *Iris*, *Ziziphus*, *Gardenia*, *Paris*, *Artemisia argyi*, *Atractylodes macrocephala*, *Eucommia ulmoides*, *Phellodendron amurense*, *Xanthoceras sorbifolium*, *Phyllanthus emblica*, *Paeonia suffruticosa*, *Ginkgo biloba*, and *Ziziphus jujuba*.

However, Hubei has obtained only one new forestry and grassland plant variety for these commonly used medicinal plants, involving only the genus *Cinnamomum*, with the variety named Flame Cinnamomum. The applicant/rights holder is Dong Yida.

Table 1 New varieties of agricultural plants obtained by Hubei

Plant genus	Variety name	Announcement number	Applicant/variety owner
<i>Chrysanthemum</i> L.	Huwuye 1	CNA031660G	Hubei Engineering University
<i>Morus</i> L.	Esang 1	CNA006985G	Institute of Cash Crops, Hubei Academy of Agricultural Sciences
	Esang 2	CNA006986G	
<i>Nelumbo nucifera</i> Gaertn.	Zhiyan 1	CNA031720G	Wuhan Botanical Garden, Chinese Academy of Sciences
	Guisan	CNA033025G	Wuhan Academy of Agricultural Sciences
	Cuiyu	CNA021895G	Wuhan Institute of Vegetable Science
	Baiyuzan 1	CNA023312G	
	Eliau 9	CNA008536G	
	Eliau 8	CNA008191G	
	Mantianxing	CNA008190G	
	Eliau 7	CNA006217G	
	Eliau 6	CNA006216G	
<i>Dioscorea alata</i> L. ; <i>Dioscorea polystachya</i> Turcz. ;	Eyu 1	CNA032890G	Institute of Cash Crops, Hubei Academy of Agricultural Sciences
<i>Dioscorea japonica</i> Thunb.	Eyu 2	CNA032889G	

2.4 Patents As shown in Table 2, the province holds a total of 1 481 valid national patents related to varieties associated with "Hubei's Sixteen Superior Herbs," with an average of 14.38 patents per county (county-level city or district). For varieties related to Hubei's geographically indicated medicinal materials (which include 63 geographical indication products and 77 geographical indication trademarks, collectively covering 108 varieties), the province possesses 3 409 valid national patents, averaging 33.10

per county (county-level city or district). In addition, there are 3 033 valid national patents in the province related to varieties of the 100 commonly used medicinal herbs nationwide (according to the *List of Common Medicinal Materials* attached to the prescription retrieval in the patent search of the National Intellectual Property Administration), with an average of 29.45 per county (county-level city or district).

Table 2 Distribution of valid national patents of Chinese medicinal materials in Hubei (unit: piece)

City/prefecture (forest area)	Hubei's Sixteen Superior Herbs				Hubei's GI medicinal materials				100 kinds of common medicinal materials			
	Invention	Utility model	Design	Subtotal	Invention	Utility model	Design	Subtotal	Invention	Utility model	Design	Subtotal
Wuhan	334	57	30	421	922	277	51	1 250	1 057	185	49	1 291
Huangshi	23	37	0	60	52	43	1	96	76	27	1	104
Shiyan	29	60	7	96	52	98	8	158	59	69	5	133
Yichang	58	52	2	112	116	110	5	231	114	81	6	201
Xiangyang	15	38	1	54	53	143	14	210	57	134	8	199
Ezhou	7	0	0	7	14	5	0	19	17	3	0	20
Jingmen	17	8	1	26	41	133	8	182	45	104	7	156
Xiaogan	26	42	0	68	49	66	14	129	61	38	4	103
Jingzhou	38	14	4	56	68	70	11	149	71	55	7	133
Huanggang	46	261	34	341	75	371	50	496	75	178	20	273
Xianning	10	39	6	55	21	32	5	58	26	16	5	47
Suizhou City	2	0	1	3	14	10	7	31	18	6	6	30
Enshi Prefecture	50	89	15	154	96	231	9	336	74	195	7	276
Xiantao	5	0	1	6	9	0	3	12	9	0	4	13
Qianjiang	4	15	0	19	4	17	0	21	7	20	0	27
Tianmen	1	1	0	2	2	1	5	8	4	1	0	5
Shennongjia Forest Area	1	0	0	1	4	10	9	23	3	10	9	22
Total of the province	666	713	102	1 481	1 592	1 617	200	3 409	1 773	1 122	138	3 033
County average	6.47	6.92	0.99	14.38	15.46	15.70	1.94	33.10	17.21	10.89	1.34	29.45

2.5 Geographical indications The geographical indication (GI) registration system for agricultural products under the Ministry of Agriculture and Rural Affairs has long been discontinued. At present, China operates two primary GI protection systems: the protection of GI products administered by the National Intellectual Property Administration, and the registration of GI trademarks

handled by the Trademark Office.

2.5.1 GI products. Hubei Province has 63 kinds of GI products, including 21 kinds in Dabie Mountain area (Table 3), 16 kinds in Wuling Mountain area (Table 4), 15 kinds in Qinba Mountain area (Table 5), 2 kinds in Mufu Mountain area (Table 6) and 9 kinds in Jiangnan Plain area (Table 7).

Table 3 GI products of traditional Chinese medicinal materials of Hubei in Dabie Mountain area

GI	Protection scope of GI
Qichun <i>Artemisiae Argyi Folium</i>	The 15 townships (and one subdistrict office) in Qichun County include: Qizhou Town, Balihu Subdistrict Office, Chidong Town, Caohe Town, Hengche Town, Pengsi Town, Guanyao Town, Zhulin Town, Liuhe Town, Shizi Town, Qingshi Town, Xiangqiao Township, Zhangbang Town, Tanlin Town, and Datong Town.
Jiuzihe <i>Poria</i>	The 7 towns (townships) in Luotian County, including Jiuzihe Town, Hepu Town, Shengli Town, Baimiaohe Township, Pinghu Township, Fengshan Town, and Dahe'an Town.
Yingshan <i>Poria</i>	The 11 towns (townships) in Yingshan County, including Wenquan Town, Hongshan Town, Kongfang Township, Jinpu Town, Shitouzui Town, Fangzui Township, Nanhe Town, Yangliu Town, Leidian Town, Caopan Town, and Taohe Township.
Luotian <i>Atractylodis Rhizoma</i>	The 14 townships (towns, and forest farms) in Luotian County, including Shengli Town, Hepu Town, Jiuzihe Town, Baimiaohe Township, Daqi Township, Pinghu Township, Sanlifan Town, Kuanghe Township, Fengshan Town, Dahe'an Town; Tiantangzhai Forest Farm, Bodaofeng Forest Farm, Qingtaiguan Forest Farm, and Huangshizhai Forest Farm.
Yingshan <i>Atractylodis Rhizoma</i>	The 11 towns (townships) in Yingshan County, including Wenquan Town, Hongshan Town, Kongfang Township, Jinpu Town, Shitouzui Town, Fangzui Township, Nanhe Town, Yangliu Town, Leidian Town, Caopan Town, and Taohe Township.
Yingshan <i>Gastrodiae Rhizoma</i>	The 13 towns (townships and forest farms) in Yingshan County, including Wenquan Town, Hongshan Town, Kongfang Township, Jinpu Town, Shitouzui Town, Fangzui Township, Nanhe Town, Yangliu Town, Leidian Town, Caopan Town, and Taohe Township; Wujiashan Forest Farm and Taohuachong Forest Farm.
Luotian <i>Gastrodiae Rhizoma</i>	The 13 towns (townships and forest farms) in Luotian County, including Jiuzihe Town, Baimiaohe Town, Dahe'an Town, Fengshan Town, Shengli Town, Kuanghe Town, Hepu Town, Pinghu Township, Bailianhe Township; Tiantangzhai Forest Farm, Bodaofeng Forest Farm, Qingtaiguan Forest Farm, and Huangshizhai Forest Farm.
Qichun <i>Prunellae Spica</i>	The 15 towns (townships and one subdistrict office) in Qichun County, including Qizhou Town, Balihu Subdistrict Office, Chidong Town, Caohe Town, Hengche Town, Pengsi Town, Guanyao Town, Zhulin Town, Liuhe Town, Shizi Town, Qingshi Town, Xiangqiao Township, Zhangbang Town, Tanlin Town, and Datong Town.
Tuanfeng <i>Belamcandae Rhizoma</i>	The 3 towns (townships) in Tuanfeng County, including Dandian Town, Jiamiao Township, and Dupi Township.
Yingshan <i>Platycodonis Radix</i>	The 6 towns (townships) in Yingshan County, including Wenquan Town, Kongjiafang Township, Shitouzui Town, Taojiahe Township, Caopandi Town, and Yangliuwan Town.
Qichun <i>Dioscoreae Rhizoma</i>	The 6 towns (townships) in Qichun County, including Qingshi Town, Liuhe Town, and Caohe Town
Guangji <i>Foshou Dioscoreae Rhizoma</i>	The 2 towns in Wuxue City, including Meichuan Town and Yuchuan Town
Qichun <i>Coicis Semen</i>	The 9 towns in Qichun County, including Tanlin Town, Datong Town, Zhangbang Town, Qingshi Town, Xiangqiao Town, Liuhe Town, Shizi Town, Zhulin Town, and Hengche Town.
Macheng <i>Fubaiju Chrysanthemum</i>	The 5 towns in Macheng City, including Futianhe Town, Huangtugang Town, Chengmagang Town, Sanhekou Town, and Shunheji Town.
Luotian <i>Lonicerae Japonicae Flos</i>	The 16 towns (townships and forest farms) in Luotian County, including Shengli Town, Hepu Town, Jiuzihe Town, Baimiaohe Township, Daqi Township, Pinghu Township, Sanlifan Town, Kuanghe Township, Fengshan Town, Dahe'an Town, Bailianhe Township, Luotuo'ao Town; Tiantangzhai Forest Farm, Bodaofeng Forest Farm, Qingtaiguan Forest Farm, and Huangshizhai Forest Farm.
Tuanfeng <i>Kujing Tea</i>	The 2 townships in Tuanfeng County, including Jiamiao Township and Dupi Township.
Huangmei <i>Lotus Leaf Tea</i>	The 10 towns (townships) in Huangmei County, including Huangmei Town, Xiaxin Town, Dushan Town, Zhuogang Town, Konglong Town, Fenlu Town, Xiaochi Town, Dahe Town, Wuzu Town, and Liuzuo Township.
Anlu <i>Ginkgo Folium</i>	The 15 towns (townships and subdistricts) in Anlu City, including Fucheng Subdistrict, Nancheng Subdistrict, Wangyizhen Town, Leigong Town, Bofan Town, Yandian Town, Xinzha Township, Xundian Town, Muzi Township, Tangdi Town, Fushui Town, Jieguan Township, Zhaopeng Town, Chendian Township, and Lidian Town.
Suizhou <i>Ginkgo Folium</i>	The 14 towns in Suizhou City, including Luoyang Town and Hedian Town in Zengdu District; Changgang Town, Sanligang Town, Liulin Town, Junchuan Town, Hongshan Town, Huantan Town, Wushan Town, Wanhe Town, Yindian Town, Caodian Town, Xiaolin Town, and Huaihe Town in Suixian County.
Xinzhou <i>Longwang White Lotus</i>	The 5 subdistricts (and one farm) in Xinzhou District, Wuhan City, including Shuangliu Subdistrict, Zhangduhu Subdistrict, Wangji Subdistrict, Yangluo Subdistrict, and Longwangzui Farm.
Huangpi <i>Jing Honey</i>	The Mulan Mountain Scenic Area and 9 subdistricts (and townships) in Huangpi District, Wuhan City, including Mulan Mountain Scenic Area; Caijiazha Subdistrict, Liuzhi Subdistrict, Wangjiahe Subdistrict, Mulan Township, Changxuanling Subdistrict, Caidian Township, Yaojiaji Subdistrict, Luohansi Subdistrict, and Lijiaji Subdistrict.

Table 4 GI products of traditional Chinese medicinal materials of Hubei in Wuling Mountain area

GI	Protection scope of GI
Lichuan Coptidis Rhizoma	The 15 townships (subdistricts, towns, and one development zone) in Lichuan City, including Duting Subdistrict, Dongcheng Subdistrict; Moudao Town, Baiyangba Town, Wangying Town, Jiannan Town, Zhonglu Town, Tuanbao Town, Maoba Town, Wendou Town; Liangwu Township, Yuanbao Township, Nanping Township, Shaxi Township; and Fobaoshan Development Zone.
Banqiao Codonopsis Radix	The 5 villages (and one community) in Banqiao Town, Enshi City, including Banqiao Community; Dashanding Village, Chuandong Village, Damu Village, and Xintian Village.
Xianfeng Atractylodis Macrocephalae Rhizoma	The 11 townships (and one subdistrict) in Xianfeng County, including Gaoleshan Town, Zhongbao Town, Qujiang Town, Chaoyangsi Town, Pingbaying Town, Qingping Town, and Tangya Town; Huangjindong Township, Xiaocun Township, and Huolongping Township; and Daluba Subdistrict.
Badong Scrophulariae Radix	The 9 townships in Badong County (at elevations between 500 and 1 700 m), including Xiqiuwan Township; Yanduhe Town, Chadianzi Town, Lvcongpo Town, Dazhiping Town, Yesanguan Town, Qingtaiping Town, Shuibuya Town; and Jinguoping Township.
Badong Angelicae Pubescentis Radix	The 9 townships in Badong County, including Xiqiuwan Township and Jinguoping Township; Yanduhe Town, Chadianzi Town, Lucongpo Town, Dazhiping Town, Yesanguan Town, Qingtaiping Town, and Shuibuya Town.
Ziqiu Angelicae Pubescentis Radix	The 8 villages in Changyang Autonomous County, including Huangbaishan Village, Zhongxi Village, Zhuyuanping Village, and Shuilian Village in Ziqiu Town; Nanbenping Village, Xiangshi Village, Puling Village, and Chengwuhe Village in Douzhenwan Town.
Lichuan Rhei Radix Et Rhizoma	The 13 townships (towns, subdistricts and one development zone) in Lichuan City, including Wangying Town, Liangwu Township, Baiyangba Town, Tuanbao Town, Moudao Town, Yuanbao Township, Wendou Township, Zhonglu Town, Shaxi Township, Nanping Township, Jiannan Town, Maoba Township, and Fobaoshan Development Zone.
Enshi Magnoliae Officinalis Cortex	The 8 townships in Enshi City, including Cuiba Town; Shadi Township, Taiyanghe Township, Hongtu Township, Xintang Township, Baiguo Township, Banqiao Town, and Shengjiaba Township.
Jianshi Magnoliae Officinalis Cortex	The 10 townships in Jianshi County, including Maotian Township and Longping Township; Gaoping Town, Huaping Town, Guandian Town, Yezhou Town, Hongyansi Town, Jingyang Town, and Changliang Town; and Sanli Township.
Yichang Pungent Litse Fruit	The 13 counties (county-level cities and districts) in Yichang City, including Yiling District, Xiling District, Wujiagang District, Dianjun District, and Xiaoting District; Yidu City, Zhijiang City, and Danyang City; Yuan'an County, Xingshan County, and Zigui County; Changyang Autonomous County and Wufeng Autonomous County.
Yichang Lili Bulbus	The counties (county-level cities and districts), including Yiling District, Dianjun District, Xingshan County, Changyang Autonomous County, Wufeng Autonomous County, Yidu City, Zigui County, and Yuan'an County.
Lichuan Dioscoreae Rhizoma	The 14 townships (subdistricts and towns) in Lichuan City, including Tuanbao Town, Baiyangba Town, Jiannan Town, Zhonglu Town, Moudao Town, and Wangying Town; Yuanbao Township, Liangwu Township, Wendou Township, Shaxi Township, Maoba Township, and Nanping Township; Duting Subdistrict and Dongcheng Subdistrict.
Laifeng Fengtuo Ginger	The 8 townships in Laifeng County, including Xiangfeng Town and Lushui Town; Manshui Township, Baifusi Town, Jiusi Town, Dahe Town, Sanhu Township, and Geleche Town.
Enshi Qingqian Willow	The 17 townships (subdistricts, towns, and one administration office) in Enshi City, including Wuyangba Subdistrict, Liujiatong Subdistrict, and Xiaoduchuan Subdistrict; the Grand Canyon Scenic Management Office; Longfeng Town, Banqiao Town, Cuiba Town, Baiyangping Town, Sancha Town, and Shengjiaba Town; Tunbao Township, Bajiao Township, Baiguo Township, Shadi Township, Taiyanghe Township, Xintang Township, and Hongtu Township.
Laifeng Vine Tea	The 7 townships in Laifeng County, including Lushui Town; Manshui Township, Baifusi Town, Dahe Town, Jiusi Township, Geleche Township, and Sanhu Township.
Yinjiaping Honey	The 9 townships in Yiling District, Yichang City, including Zhongcunping Town, Wuduhe Town, Fenxiang Town, Taipingxi Town, Sandouping Town, Letianxi Town, and Huanghua Town; Xiabaoping Township and Dengcun Township.

Table 5 GI products of traditional Chinese medicinal materials of Hubei in Qinba Mountain area

GI	Protection scope of GI
Zhuxi Coptidis Rhizoma	The 7 townships (one farm and one forest farm) in Zhuxi County, including Fengxi Town and Quanxi Town; Tianbao Township, Taoyuan Township, and Xiangba Township; Yangjiapa Farm and Yuanmao Forest Farm.
Fang County Northern Bupleuri Radix	The 19 townships in Fang County, including Chengguan Town, Junjian Town, Hualongyan Town, Tucheng Town, Damuchang Town, Qingfeng Town, Mengusi Town, Baihe Town, Yerengu Town, Hongta Town, Yaohuai Town, Yinjifu Town; Yaoping Township, Shahe Township, Wanyuhe Township, Shangkan Township, Zhongba Township, Jiudao Township, and Wutai Township.

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GI	Protection scope of GI
Fang County Polygoni Cuspidati Rhizoma Et Radix Yunyang Gastrodiae Rhizoma Shennongjia Gastrodiae Rhizoma	The 7 townships (and one forest farm) in Yunyang District, Shiyan City, including Baoxia Town; Wufeng Township, Yeda Township, and Daliu Township; Hongyanbei Forest Farm; and Baisanggang Town and Nanhuatang Town.
Fulongshan Paridis Rhizoma	The 16 villages in 8 townships of Shennongjia Forestry District, including Honghuaduo Village and Maowan Village in Songbai Town; Wushan Village and Daping Village in Yangri Town; Laojunshan Village in Muyu Town; Honghua Village, Hongju Village, and Bancang Village in Hongping Town; Bao'erdong Village and Gaobaiyan Village in Xinhua Town; Luoyanghe Village and Huangbaiqian Village in Dajiuhe Town; Changfang Village and Xipo Village in Songluo Township; Banqiaohe Village and Taiheshan Village in Xiagu Township.
Yunxi Eucommiae Cortex	The 7 villages in Maojian District, Shiyan City, including Yingzi Village, Xiaochuan Village, and Guochang Village in Saiwudang Administrative Bureau; Majiahe Village in Wudang Subdistrict Office; Yanwu Village and Dagou Village in Maota Township; Tangjia Village in Dachuan Town.
Xiangyang Eucommiae Cortex Xiang Ophiopogonis Radix Yunyang Chaenomelis Fructus	The 18 townships (towns, and one forest farm) in Yunxi County, including Chengguan Town, Tumen Town, Xiangkou Township, Shangjin Town, Dianzi Town, Guanfang Township, Hubeikou Hui Autonomous Township, Jingyang Township, Jiahe Town, Yangwei Town, Jianchi Township, Guanyin Town, Ma'an Town, Liulang Township, Hejia Town, Anjia Township, Sanguandong Forestry District, and Huaihuailin Management Area (Forest Farm).
Yunxi Curcuma Longae Rhizoma	The 3 counties in Xiangyang City, including Baokang County, Nanzhang County, and Gucheng County Oumiao Town in Xiangcheng District of Xiangyang City
Zhushan Honey	The 20 townships (and one forest farm) in Yunyang District, Shiyan City, including Anyang Town, Yangxipu Town, Qingqu Town, Baisanguan Town, Nanhuatang Town, Bailang Town, Liudong Town, Tanshan Town, Meipu Town, Qingshan Town, Chadian Town, Liupi Town, Baoxia Town, Huajiyang Town, Tanjiawan Town, Chengguan Town, Daliu Township, Wufeng Township, Yeda Township, and Canglang Mountain Forest Farm.
Zhuxi Honey	The 18 townships (and one forest farms) in Yunxi County, including Chengguan Town, Tumen Town, Xiangkou Township, Shangjin Town, Dianzi Town, Guanfang Township, Hubeikou Hui Autonomous Township, Jingyang Township, Jiahe Town, Yangwei Town, Jianchi Township, Guanyin Town, Ma'an Town, Liulang Township, Hejia Town, Anjia Township, Sanguandong Forestry District, and Huaihuailin Special Area (Forest Farm).
Zhushan Galla Chinensis	The 17 townships in Zhushan County, including Chengguan Town, Pankou Township, Yishui Town, Majiadu Town, Baofeng Town, Leigu Town, Qinggu Town, Zhuping Township, Desheng Town, Damiao Township, Wenfeng Township, Shuangtai Township, Loutai Township, Shenhe Township, Shangyong Town, Guandu Town, and Liulin Township.
Shennong Honey	The 12 townships and the Shibali Changxia National Nature Reserve in Zhuxi County, including Fengxi Town, Quanxi Town, Jiangjiayan Town, Zhongfeng Town, Longba Town, Shuiping Town, Huiwan Town, Bingying Town, Tianbao Township, Taoyuan Township, Xiangba Township, and Epping Township.
Chongyang Wild Osmanthus Honey	Areas below 800 m above sea level in the 17 townships of Zhushan County, including Chengguan Town, Pankou Township, Yishui Town, Majiadu Town, Baofeng Town, Leigu Town, Qinggu Town, Zhuping Township, Desheng Town, Damiao Township, Wenfeng Township, Shuangtai Township, Loutai Township, Shenhe Township, Shangyong Town, Guandu Town, and Liulin Township.
	The 8 townships in Shennongjia Forestry District, including Songbai Town, Yangri Town, Muyu Town, Hongping Town, Xinhua Town, Songluo Township, Jiuhu Township, and Xiagu Township.

Table 6 GI products of traditional Chinese medicinal materials of Hubei in Mufu Mountain area

GI	Protection scope of GI
Xiangyang Lake Lotus Seed	The 5 villages in Xiangyanghu Town, Xian'an District, Xianning City, including Baota Village, Zhunao Village, Lüshan Village, Zhanguan Village, and Beiling Village.
Chongyang Wild Osmanthus Honey	The 6 townships in Chongyang County, including Gaojian Township, Jintang Town, Qingshan Town, Gangkou Township, Tongzhong Township, and Lukou Town.

Table 7 GI products of traditional Chinese medicinal materials of Hubei in Jiangnan Plain area

GI	Protection scope of GI
Qianjiang Pinelliae Rhizoma	The 16 towns (subdistricts, and management areas) of Qianjiang City, including Gaoshibe Town, Wangchang Town, Jiyukou Town, Guanghuasi Subdistrict, Zhouji Subdistrict, Zhouji Management Area, Zhugentan Town, Yuanlin Subdistrict, Yangshi Subdistrict, Haokou Town, Houhu Management Area, Xiongkou Town, Zongkou Management Area, Longwan Town, Yuyang Town, and Laoxin Town.

(To be continued)

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GI	Protection scope of GI
Tianmen Pinelliae Rhizoma	The 17 towns (farms, subdistricts, and parks) of Tianmen City, including Wangchang Town, Jiangchang Town, Yuxin Town, Zhanggang Town, Tuoshi Town, Huangtan Town, Yuekou Town, Henglin Town, Lushi Town, Xiaoban Town, Duobao Town, Pengshi Town, Mayang Town, Jianghu Farm, Yanglin Subdistrict, Tianmen Industrial Park, and High-tech Park.
Zhongxiang Kudzu Powder	The 8 towns (reservoirs, and forest farms) of Zhongxiang City, including Keding Town, Zhangji Town, Dongqiao Town, Yangzi Town, Changtan Town, Wenxia Reservoir, Dakou Forest farm, and Panshiling Forest farm.
Xiejiaping Kudzu Root	The 9 villages (communities) of Xiejiaping Tujia Ethnic Township in Songzi City, including Xiejiaping Village, Tianxingyan Village, Quchihe Village, Yangshuping Village, Huanglinqiao Village, Pengjiagou Village, Hengguoshan Village, Wuxigou Village, and Qinmuzhuang Community.
Honghu Lake Lotus Leaf Tea	The 21 townships (management areas, development zones, and subdistricts) of Honghu City, including Xindi Subdistrict, Honghu Economic Development Zone, Binhu Subdistrict, Luoshan Town, Wulin Town, Longkou Town, Yanwo Town, Xintan Town, Fengkou Town, Caoshi Town, Fuchang Town, Daijiachang Town, Qujiawan Town, Shakou Town, Wanquan Town, Chahe Town, Huangjiakou Town, Laowan Hui Ethnic Township, Datonghu Management Area, Dashahu Management Area, and Xiaogang Management Area.
Honghu Lake Lotus Seeds	The 12 towns (subdistricts, and management areas) of Honghu City, including Qujiawan Town, Shakou Town, Daijiachang Town, Wanquan Town, Fengkou Town, Chahe Town, Huangjiakou Town, Xiaogang Management Area, Datonghu Management Area, Binhu Subdistrict, Xindi Subdistrict, and Luoshan Town.
Jiangxia Lotus	The 6 subdistricts of Jiangxia District, Wuhan City, including Fasi Street, Wulongquan Street, Anshan Street, Jinkou Street, Zhengdian Street, and Husi Street.
Zhijiang Honey	The 9 towns (subdistricts) of Zhijiang City, including Anfusi Town, Dongshi Town, Gujiadian Town, Xiannu Town, Qixingtai Town, Majiadian Subdistrict, Baiyang Town, Wen'an Town, and Bailizhou Town.
Jingshan Turtle	The 6 towns of Jingshan County, including Qianchang Town, Yanmenkou Town, Shilong Town, Xinshi Town, Yongxing Town, and Caowu Town.

2.5.2 GI trademark. A GI trademark is either a GI collective trademark or a GI certification trademark. Hubei Province has 77 GI trademarks for Chinese medicinal materials, distributed as follows; 14 in the Dabie Mountain Area (Table 8), 19 in the Wuling

Mountain Area (Table 9), 24 in the Qinba Mountain Area (Table 10), 3 in the Mufu Mountain Area (Table 11), and 17 in the Jiangnan Plain Area (Table 12), respectively.

Table 8 GI trademarks of traditional Chinese medicinal materials of Hubei in Dabie Mountain area

Trademark type	Registration No.	GI trademark	Registration entity
Collective trademark	11631145	Baishuwan Honeysuckle	Sui County Honeysuckle Association
	13317079	Sui County Kudzu Powder	Suixian Kudzu Product Technology Research Center
	7782625	Suizhou Ancient Ginkgo	Suizhou Ancient Ginkgo New Technology Research Center
	19742039	Suizhou Golden-headed Centipede	Suizhou Golden-headed Centipede Technology Research Center
Certification trademark	72973044	Qichun Artemisiae Argyi Folium	Qichun County TCM Industry Development Center
	31792339	Qichun Dioscoreae Rhizoma	Qichun County Agricultural Technology Extension Center
	13704164	Tuanfeng Blackberrylily Rhizome	Hubei Huanggang Weierkang Medical Research Institute
	6256443	Macheng Fubaiju Chrysanthemum	Fubaiju Industry Association of Macheng City
	16038839	Zhangguanghe Gastrodiae Rhizoma	Zhangguanghe Gastrodiae Rhizoma Industry Association, Sanhekou Town, Macheng City
	27934042	Yingshan Poria	Yingshan County Medicinal Materials Chamber of Commerce
	13704163	Yingshan Platycodonis Radix	Yingshan County Traditional Chinese Medicine Industry Development Association
	25565519	Wuxue Dioscoreae Rhizoma	Wuxue Agricultural Technology Extension Center
	10297666	Huangpi Jing Honey	Apiculture Association of Huangpi District, Wuhan
15261397	Yingcheng Tangchi Turtle	Turtle Breeding Association of Tangchi Town, Yingcheng City	

2.5.3 China GI products with mutual recognition and mutual protection between China and EU. According to the *China – EU GI Agreement*, a total of 275 GI products from China have been in-

cluded in the China – EU mutual recognition system. Among them, two are medicinal herbs from Hubei: Macheng Fubaiju Chrysanthemum and Wufeng Galla Chinensis.

Table 9 GI trademarks of traditional Chinese medicinal materials of Hubei in Wuling Mountain area

Trademark type	Registration No.	GI trademark	Registration entity
Collective trademark	7729215	Lichuan Coptidis Rhizoma	Huanglian Association of Lichuan City, Hubei Province
	6868017	Lichuan Dioscoreae Rhizoma	Lichuan Tuanbao Town Vegetable Association
	58332281	Jinfu Red Gardenia	Changyang Jinfu Gardenia Association
	7554638	Yichang Gastrodiae Rhizoma	Yichang City Gastrodia Association
Certification trademark	11265128	Badong Angelicae Pubescentis Radix	Badong County Traditional Chinese Medicine Industry Association
	60984508	Chunmuying Rhizoma Panacis Japonici	Xuanen County Traditional Chinese Medicine Industry Association
	14416300	Laifeng Ginger	Laifeng Ginger Industry Development Management Association
	14419988		
	25031830	Laifeng Vine Tea	Laifeng County High-quality Agricultural Products Production and Marketing Association
	14603285	Changyang Golden Gardenia	Changyang Jinfu Red Gardenia Association
	33515123	Jinfu Red Gardenia	
	8489491	Ziqiu Chaenomeles Fructus	Changyang Autonomous County Ziqiu Papaya Association
	19026755	Wufeng Tartary Buckwheat	Wufeng Special Edible Crops Industry Association
	66795024	Wufeng Gastrodiae Rhizoma	Wufeng County Traditional Chinese Medicine Industry Association
	59747866	Wufeng Honeysuckle	
	14543413	Wufeng Galla Chinensis	Wufeng Gallnut Industry Association
	19026753	Wantan Taibai Fritillariae Hupehensis Bulbus	Wufeng Chinese Medicinal Materials Production and Service Center
	15367998	Yichang Lili Bulbus	Yichang Lily Industry Association
	28932535	Yichang Pungent Litse Fruit	Yichang Forest Products Professional Technology Association

Table 10 GI trademarks of traditional Chinese medicinal materials of Hubei in Qinba Mountain area

Trademark type	Registration No.	GI trademark	Registration entity
Collective trademark	40105391	Zhushandu Heyuan Aconiti Radix	Zhushan County Shenkang Chewan Traditional Chinese Medicine Planting Specialized Cooperative
	40102323	Zhushandu Heyuan Codonopsis Radix	
Certification trademark	13244883	Fang County Bletillae Rhizoma	Fang County Chinese Medicinal Materials Association
	13244884	Fang County Northern Bupleuri Radix	
	13244882	Fang County Herba Gynostemmatis Pentaphylli	
	39892788	Nanzhang Gastrodiae Rhizoma	Nanzhang County Agricultural Products Association
	15180575	Nanzhang Ginkgo Folium	Nanzhang County Institute of Agricultural Sciences
	38542763	Baokang Gastrodiae Rhizoma	Baokang Gastrodia elata Planting Association
	38542764	Baokang Stem of Moniliform Dendrobium	Baokang County Chinese Medicinal Materials Association
	39604185	Xiangyang Farfarae Flos	Xiangyang Special Agricultural Products Production and Marketing Association
	36492890	Xiangyang Ganoderma	
	39384210	Xiangyang Corni Fructus	
	36468936	Xiangyang Eucommiae Cortex	
	11436966	Xiangyang Ophiopogonis Radix	Xiangyang City Xiangcheng District Oumiao Town Xiangyang Ophiopogon Professional Economic Association
	10969171	Xiangyang Dioscoreae Rhizoma	Xiangyang Xiangcheng Wolong Yam Professional Technical Association
	12600676	Xiangyang Pinelliae Rhizoma	Xiangzhou District Chinese Medicinal Material Planting Association
	16922402	Zaoyang Barbed Skullcap Herb	Zaoyang City Chinese Medicinal Material Planting Association
	24617836	Zaoyang Jujube	Zaoyang City Agricultural Products Association
	15112391	Jingshan Jujube	Xiangyang Fruit and Vegetable Industry Development Association
	18213498	Shennongjia Hundred Flowers Honey	Shennongjia Forest Area Baihua Beekeeping Association
	14765428	Baokang Folk Honey	Baokang County Wild Flower Valley Bee Breeding Professional Technical Association
62084995	Nanzhang Folk Honey	Nanzhang County Apiculture Association	
13384290	Zhushan Galla Chinensis	Zhushan County Gallnut Science Research Institute	
16922403	Xiangyang Turtle	Xiangyang Xiangzhou Aquaculture Association	

Table 11 GI trademarks of traditional Chinese medicinal materials of Hubei in Mufu Mountain area

Trademark type	Registration No.	GI trademark	Registration entity
Certification trademark	29345555	Tongcheng Perillae Fructus	Tongcheng County Tongcheng Perilla Research Institute
	50572383	Baoan Lotus Seed	Daye City Baoan Town Agricultural Technology Service Center
	14557689	Chongyang Wild Osmanthus Honey	Chongyang County Beekeeping Association

Table 12 GI trademarks of traditional Chinese medicinal materials of Hubei in Jiangnan Plain area

Trademark type	Registration No.	GI trademark	Registration entity
Collective trademark	9855613	Qianjiang Pinelliae Rhizoma	Qianjiang City Pinellia Association
	17569302	Qingcao Lake Turtle	Qingcao Lake Turtle Breeding Association, Huangjiadun, Dongjing Street, Hannan District, Wuhan
Certification trademark	14568830	Jiangling Golden Chrysanthemums	Jiangling County Chrysanthemum Association
	24420806	Gongan Lotus Seed	Gongan County Agricultural Special Industry Service Center
	24420807		
	51600492	Honghu Lotus Leaf Tea	Honghu City Lotus Industry Association
	9991917	Honghu Lotus Seed	Honghu City Lotus Root Association
	10048747		
	15534547	Yanglin Lake White Lotus	Ezhou City Urban and Rural Famous and Special Agricultural Products Association
	15534546		
	23575573	Jingshan Kudzu Powder	Jingshan County Kudzu Products Industry Association
	14228830	Jingzhou Fruit of Fewflower Wildrice	Jingzhou District Native Products Production and Marketing Association of Jingzhou City
	28022387	Songzi Ginger	Songzi Ginger Production and Marketing Association
	13988404	Zhongxiang Kudzu Powder	Zhongxiang Kudzu Industry Association
	23473776	Zhijiang Honey	Zhijiang Federation of Farmers' Professional Cooperatives
	12356022	Donggou Pearl	Ezhou City Liangzihu Donggou Pearl Association
12356023			

2.6 Trademarks Chinese trademarks fall into four categories: general trademarks, special signs, collective trademarks, and certification trademarks.

2.6.1 General trademarks. Hubei Province has a large number of general trademarks for Chinese medicinal herbs, and it is common for a single business entity to register several general trademarks.

2.6.2 Special signs. Special signs are mainly aimed at the Games and their mascots, important organizations at home and abroad, and generally do not involve Chinese medicinal materials.

2.6.3 Collective trademarks. In addition to the aforementioned 12 GI collective trademarks (Tables 9, 10, 11, and 13), Hubei's Chinese medicinal material sector also has 23 related collective trademarks (Table 14). Qichun Moxibustion (Registration No. 67732689) is a service collective trademark, while all the others are product collective trademarks.

2.6.4 Certification trademarks. As shown in Tables 8 – 12, there are 65 certification marks for Chinese medicinal materials in Hubei Province. All of these are product certification marks, which also function as GI trademarks.

3 Main problems in the protection and inheritance of intellectual property rights and the development of innovation

3.1 Serious loss of traditional knowledge With acceleration

of globalization, urbanization, and population aging, traditional knowledge related to Chinese medicinal materials is being eroded. Expertise in traditional cultivation and farming practices is gradually being lost, while scant attention has been paid to the preservation of traditional land-use systems and agricultural landscapes. Consequently, none have been designated as National or Globally Important Agricultural Heritage Systems in China. Furthermore, the designation of "Genuine Medicinal Materials" has only been partially inherited through the GI system. Regarding production oversight, the Hubei Provincial Medical Products Administration has licensed 83 Chinese herbal decoction piece manufacturers and has released, in three batches, the *Hubei Provincial Official Catalog of Medicinal Materials for Local Processing (Fresh – Slicing)*, covering 51 varieties of medicinal materials for local fresh-processing. However, there are relatively few provincial or national-level intangible cultural heritage items specifically related to traditional Chinese medicine in Hubei.

3.2 Weak awareness of protection of genetic resources of medicinal animals and plants The Institute of Chinese Herbal Medicines of Hubei Academy of Agricultural Sciences has established Central China Medicinal Botanical Garden in Enshi City, rare and precious medicinal materials provenance base, germplasm resources nursery, the largest *Magnolia officinalis* germplasm resource bank in China, etc. In addition, the protection of medicinal animal and plant genetic resources is rare.

Table 13 Collective trademarks of Chinese medicinal materials in Hubei

Registration No.	Collective trademarks	Registration entity
67732689	Qichun Moxibustion	Qichun Traditional Chinese Medicine Industry Association
68620768	E'ai (Hubei Artemisiae Argyi Folium)	<i>Artemisia argyi</i> Breeding Specialized Cooperative, Jinniu Town, Daye City
71089621	Pingduhe	Fangxian Balipo Village Authentic Chinese Medicinal Herbs Planting Specialized Cooperative
47802319	Jundafu	Wufeng Jinxiu Medicinal Materials Specialized Cooperative
58314296	Beizu Yijia	Wufeng Tangchao Fengbo Gallnut Planting Specialized Cooperative
44336455A	Xiangdangping	Chinese Medicinal Material Industry Association of Wufeng Autonomous County
46708604	Sanpi Yihua	
59229524	Wufeng Wuwei	
59211902		
59225459	Niuzhuang Village	
34924280	Mayandun	Wufeng Changle Chinese Medicinal Material Research Institute
34924282		
34924283		
34924284		
34924281A		
39741951	Yuguan	Wufeng Chinese Bee Industry Association
39756003	Beiyuan	
39759438	Renheping	
39739110	Shanzhongbao	
39759438	Renheping	
36281039	Wantan	Wufeng Chinese Medicinal Materials Production and Service Center
36281041		
36281040A		

3.3 Weak ability of cultivating new varieties of medicinal animals and plants

The capacity for breeding new varieties of medicinal plants remains limited. In recent years, only 14 new agricultural plant variety rights and one new forestry and grassland plant variety right have been granted for commonly used medicinal plants. Furthermore, even less attention has been paid to the breeding of medicinal animals such as tortoises, soft-shelled turtles, pearl oysters, honeybees, centipedes, and earthworms, with little progress made in these areas.

3.4 Weak creation of patents There are relatively few valid national patents related to the varieties associated with "Hubei's Sixteen Superior Herbs." Hubei Province has 666 national invention patents, 713 national utility model patents, 102 national design patents, and a total of 1 481 patents, averaging 6.47, 6.92, 0.99, and 14.38 per county (county-level city or district), respectively. Among these, national design patents specifically targeting the packaging of Chinese medicinal herbs are particularly scarce. In addition, genuine medicinal materials from the province have obtained even fewer overseas patents.

3.5 Inadequate GI protection In the whole of Hubei Province, there are 63 types of GI products and 77 GI trademarks for Chinese medicinal materials, collectively involving 107 types of GI genuine medicinal materials (without duplication). However, many of these GIs are not targeted at medicinal value characteristics, especially for dual-use food and medicine. Moreover, many important Genuine medicinal materials such as *Tongcheng Smilacis Chinae Rhizoma*, *Nanzhang Corni Fructus*, "Shennong Four Treasures" (*Paris polyphylla*, *Balanophora japonica*, *Dysosma*

versipellis, *Trillium tschonoskii*), have neither implemented GI products protection from the National Intellectual Property Office nor registered GI trademarks with the National Trademark Office.

Among these 107 GI genuine medicinal materials, only 10 (9.35%) have provincial local standards for GI products: DB42/T 2365-2025 *GI Products Yingshan Jiegeng*, DB42/T 2059-2023 *GI products Honghu Lotus Seed*, DB42/T 1973-2023 *GI Products Huangmai Lotus Leaf Tea*, DB42/T 1309-2017 *GI Products Fang County Northern Bupleuri Radix*, DB42/T 1264-2017 *GI Products Anlu Ginkgo Folium*, DB42/T 1095-2015 *GI Products Zhongxiang Kudzu Powder*, DB42/T 1073-2015 *GI Products Shennong Hundred Flower Honey*, DB42/T 1041-2015 *GI Products Zhuxi Coptidis Rhizoma*, DB42/T 289-2014 *GI Products Laifeng Vine Tea*, DB42/T 1019-2014 *GI Products Qichun Prunella vulgaris*. Up to 97 (90.65%) have no national or local standards for GI products.

Among these GI genuine medicinal materials, 40 types (accounting for 37.38% of the total) have no market entities using the GI special marks, while 67 types (accounting for 62.62% of the total) have a total of 404 market entities using the GI special marks. Specifically, those with better use of the special marks include Jinfu Red Gardenia, Qianjiang Pinelliae Rhizoma, Yingshan Gastrodiae Rhizoma, Yinjiaping Honey, Yingshan Poria, Lichuan Rhei Radix Et Rhizoma, Macheng Fubaiju Chrysanthemum, Lianfeng Vine Tea, Qichun Artemisiae Argyi Folium, with the number of market entities being 10, 11, 12, 15, 17, 22, 28, 53, and 95, respectively.

3.6 Lack of the view of the whole industry chain of Chinese medicinal materials in the protection of intellectual property

While the modern IP system focuses on safeguarding technological

innovation, the framework of IP rules for traditional medicine must orchestrate both heritage and innovation. The system must therefore cover the entire industrial chain of Chinese medicinal materials. It encompasses everything from cultivation and manufacturing (including prepared slices, formula granules, extracts, and proprietary medicines) to market distribution (via wholesale markets, retailers, and online platforms), and extends to hospital-prepared formulations, clinical services, and the development of healthcare products. However, in Hubei Province, several critical areas have not received due attention. These include the regulatory processes for TCM prepared slices and formula granules (including new and refined slices), the protection of TCM variety rights (encompassing protected TCM varieties, proprietary TCM products with "National Medicine Approval Number Z" marketing approval, and those with "National Medicine Approval Number B"), the inheritance of traditional knowledge related to hospital-prepared drugs, and the registration and filing of TCM health products. These reflect a lack of a holistic, IP-centric approach to the entire Chinese medicinal materials industrial chain.

3.7 Insufficient cultural publicity of place names in the hometown of genuine medicinal materials The research on natural and human factors of GI is not deep enough, the publicity of genuine medicinal materials and its culture and place name culture is insufficient, and the "Famous Brand Action in Rural Areas" launched by the Ministry of Civil Affairs in 2023 needs to be promoted, especially under the GI protection of genuine medicinal materials.

3.8 Falling behind in the construction of advantageous and characteristic industrial clusters Since 2020, the General Office of the Ministry of Agriculture and Rural Affairs and the General Office of the Ministry of Finance have jointly evaluated and selected a list of 260 national advantageous and characteristic industrial clusters. Among them, there are 17 clusters related to genuine medicinal materials; the Hebei Yanshan Taihang Mountain Genuine Chinese Medicinal Materials Industrial Cluster, the Hunan Xiangjiuwei Chinese Medicinal Materials Industrial Cluster, the Zhejiang Zhebawei Genuine Medicinal Materials Industrial Cluster, the Anhui Bozhou Medicinal Materials Industrial Cluster, the Gansu Genuine Chinese Medicinal Materials Industrial Cluster, the Shanxi Genuine Chinese Medicinal Materials Industrial Cluster, the Fujian "Fujiuwei" Chinese Medicinal Materials Industrial Cluster, the Guizhou Chinese Medicinal Materials Industrial Cluster, the Henan Chinese Medicinal Materials Industrial Cluster, the Chongqing Yushiwei Chinese Medicinal Materials Industrial Cluster, the Ningxia Hui Autonomous Region Wolfberry Industrial Cluster, the Shaanxi Hanzhong Chinese Medicinal Materials Industrial Cluster, the Tibet Autonomous Region Nyingchi Tibetan Medicinal Materials Industrial Cluster, the Jilin Changbai Mountain Ginseng Industrial Cluster, the Jilin Sika Deer Industrial Cluster, the Qinghai Wolfberry Industrial Cluster, and the Yunnan Panax Notoginseng Industrial Cluster. However, the genuine medicinal materials industrial cluster of Hubei Province has not yet

been included in the list of national advantageous and characteristic industrial clusters.

4 Strategies for protection and inheritance, innovation and development of intellectual property

4.1 Collecting and sorting out traditional knowledge, promoting and inheriting the TCM culture It is necessary to collect and sort out traditional knowledge related to Chinese medicinal materials, prepared slices of Chinese crude drugs, and proprietary Chinese medicines. Efforts should be made to strengthen the inheritance of traditional knowledge among medicinal material growers, producers of prepared slices, and proprietary medicine manufacturers, and to strive for more provincial and national intangible cultural heritage projects. Traditional land use systems and agricultural landscapes for the cultivation of Chinese medicinal materials should be collected and organized. Systems such as the Suizhou Ancient Ginkgo Tree Groups, the Qichun *Artemisia argyi* Cultural System, the Macheng Fubaiju Chrysanthemum Cultural System, the Badong *Scrophularia ningpoensis* Cultivation Cultural System, and the Enshi *Magnolia officinalis* Cultivation System should be nominated for recognition as China – Nationally Important Agricultural Heritage Systems (China – NIAHS), with the goal of ultimately achieving designation as Globally Important Agricultural Heritage Systems (GIAHS).

4.2 Protecting the genetic resources of medicinal animals and plants and maintaining the medicinal biodiversity It is necessary to establish GI Chinese medicinal material botanical gardens, rare and valuable medicinal material source bases, germplasm resources nurseries, and germplasm resource banks, especially in key counties of the genuine medicinal materials "Hubei's Sixteen Superior Herbs." It is essential to fully utilize national nature reserves, national scenic spots, national and global geoparks, national forest parks, national wetland parks, and biodiversity observation stations to protect the genetic resources of medicinal plants and animals and maintain medicinal biodiversity.

4.3 Strengthening the seed industry of medicinal animals and plants and polishing the "agricultural chips" of genuine medicinal materials We should fully use local resource advantages in medicinal plants and animals to strengthen the medicinal breeding industry. By categorizing specific varieties and regions, we need to develop integrated technical standards for seed and seedling propagation of genuine medicinal materials. We will carry out purification, rejuvenation, expansion, and demonstration of genuine medicinal materials to enhance the supply capacity of high-quality seeds and seedlings. Through intensified collaborative research efforts, we should accelerate the application of modern biotechnology in the breeding of Chinese medicinal materials, selecting and cultivating new varieties with strong regional authenticity, significant medicinal efficacy, and stable quality. We will actively apply for new plant varieties in agriculture, forestry, and grassland, as well as new varieties of medicinal animals, thereby enhancing the reputation of genuine medicinal materials as the

"agricultural chip" in this field.

4.4 Strengthening the creation, transformation and application of patents, and promoting the innovation of Chinese medicinal material industry

We should establish a science and technology innovation-driven mindset, strengthen the creation, utilization, protection, management, and servicing of national patents, actively apply for overseas patents, promote the creation, transformation, and application of patents for Chinese medicinal materials, prepared slices of Chinese crude drugs, and proprietary Chinese medicines, and foster innovation in the Chinese medicinal materials industry.

4.5 Improving protection of GI intellectual property and building regional public brands of genuine medicinal materials

It is necessary to collect and sort out Chinese medicinal material resources, and study the natural and human factors of genuine medicinal materials. For high-quality genuine medicinal materials such as Tongcheng *Smilacis Chinae Rhizoma*, Nanzhang *Corni Fructus*, and the "Shennong Four Treasures", we should implement GI product protection or register GI collective trademarks or GI certification trademarks. We need to complete the formulation of national or provincial local standards for GI products and promote the standardized development of Chinese medicinal materials. We should vigorously encourage market entities within the GI scope to use the GI special marks. With GI as the main theme, and in combination with collective trademarks, certification trademarks, China Well-known Trademarks, Madrid trademarks, and National Famous, Special, Excellent, and New Agricultural Products, we will build regional public brands and leverage the brand economic benefits of GI.

4.6 Establishing the concept of the whole industry chain and building a system of intellectual property rules in specific areas of Chinese medicinal materials

It is recommended to establish a holistic view of the entire Chinese medicinal materials industrial chain. Covering all aspects from raw medicinal materials, prepared slices, and proprietary Chinese medicines to the herbal market, medical institutions, formula granules, extracts, health products, and hospital-prepared formulations, we will promote the creation, utilization, protection, management, and servicing of intellectual property rights throughout the entire chain. We will strengthen the transmission of related traditional knowledge and enhance the information filing for prepared slices of Chinese crude drugs and formula granules (including new and refined slices). Furthermore, we will reinforce the protection of TCM variety rights (covering protected TCM varieties, proprietary Chinese medicines with "National Medicine Approval Number Z", and those with "National Medicine Approval Number B"), thereby constructing a specific IPR rule system for the field of Chinese medicinal materials.

4.7 Lighting up the place name culture of the hometown of genuine medicinal materials and promoting the Famous Brand Action in Rural Areas

We should collect and sort out the natural and human factors of genuine medicinal materials (particularly GIs), and vigorously promote the culture surround-

ing them. With GI medicinal materials as the central theme, we will, within their protected geographical scope, densify the rural geographical name network, improve the geographical name signage system, promote the integration of geographical name culture into villages, deepen geographical name information services, and facilitate geographical name culture to serve genuine medicinal materials. Furthermore, by integrating with designations such as Chinese Traditional Villages, Chinese Ethnic Minority Villages, Chinese Historical and Cultural Towns/Villages, China – Nationally Important Agricultural Heritage Systems (China – NIAHS), and National Cultural Heritage Protection Units, we will advance the "Famous Brand Action in Rural Areas" for towns/villages renowned for genuine medicinal materials.

4.8 Promoting the development of industrial chain clusters and building genuine medicinal materials industrial cluster of "Hubei's Sixteen Superior Herbs"

Guided by the framework of "Hubei's Sixteen Superior Herbs," it is necessary to enhance spatial agglomeration, industrial correlation, social networking, localized collaboration, and innovation-driven development. Efforts will be made to deepen the processing level of medicinal materials, extend the industrial chain, and construct a symbiotic system integrating production, research and development, and sales. This will promote cluster development through industrial chain integration, support the growth of specialized and distinctive clusters of small and medium-sized enterprises in the health sector, and ultimately build a national characteristic and competitive industrial cluster, the "Hubei's Sixteen Superior Herbs" Genuine Medicinal Materials Industrial Cluster in Hubei Province.

References

- [1] FANG TY, XIE Q, LIU JH (Trans.) WHO Global Report on Traditional and Complementary Medicine 2019[M]. Beijing: People's Medical Publishing House, 2021. (in Chinese).
- [2] SHEN YD. History, Present and Prospect of World Traditional Medicine [M]. Shanghai: Shanghai Science and Technology Press, 2022. (in Chinese).
- [3] SUN YP, WU Z, SIMA XQ, *et al.* Study on agricultural intellectual property protection and high-quality development of traditional Chinese medicine of ginseng[J]. *Asian Agricultural Research*, 2019, 11(6): 5–11.
- [4] SUN YP, SUN YL, CHENG Z, *et al.* Intellectual property protection and high quality development of *Radix Glycyrrhizae* for treatment of COVID-19 [J]. *Asian Agricultural Research*, 2020, 12(5): 1–6.
- [5] SUN ZG, GAO L, CAO GC, *et al.* Improving the quality and effectiveness of counterpart support to southern Xizang in the new era[J]. *Journal of Hubei University of Science and Technology*, 2024, 44(3): 135–143. (in Chinese).
- [6] SUN ZG, GAO L, SUN YP, *et al.* Thoughts on pairing assistance to Tibet for promoting agricultural high-quality development in southern Tibet from the perspective of agricultural power[J]. *Asian Agricultural Research*, 2024, 16(3): 18–24.
- [7] International Exchange Service Center of the Ministry of Agriculture. Practice and Innovation of GIAHS [M]. Beijing: China Agriculture Press, 2019. (in Chinese).