



科技检索与利用

第6讲-3

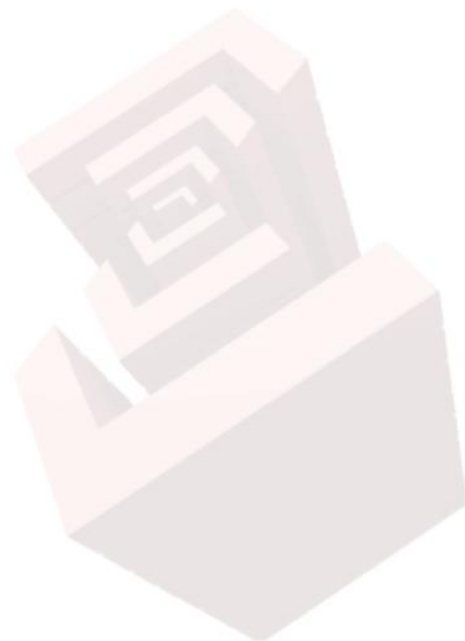
宋秀芳

中国科学院文献情报中心



主要内容

1. 信息筛选
2. VOSviewer





1	基于CiteSpace和VOSviewer可视化分析的饮食养生研究 网络首发	王树东; 段思竹	辽宁中医杂志	2021-04-27 16:31
2	2018—2020年我国安全科学国际论文的文献共被引聚类：知识基础与研究方向 网络首发	钱金鑫; 李生才; 甘强; 李杰	安全与环境学报	2021-04-26 17:20
3	基于VOSviewer的2015—2020年国内职业卫生研究文献分析	袁茂阳	职业卫生与应急救援	2021-04-26
4	基于VOSviewer软件分析临床医学专业学位研究生临床教学现状及问题	王佳; 邢伟; 王芳; 张晓丽; 王伟	卫生职业教育	2021-04-25
5	园林垃圾资源化处理技术研究进展——基于Citespace和VOS Viewer知识图谱分析	陈艳; 王香春; 蔡文婷; 伏凯; 张黎 >	环境卫生工程	2021-04-25
6	患者相似性的研究热点及文献计量可视化分析	许寒冰; 相静; 崔晓婕	中国卫生信息管理杂志	2021-04-20
7	基于文献计量的我国农作物秸秆综合利用研究态势分析	张志娟; 周腰华	辽宁农业科学	2021-04-18
8	基于Citespace与VOSviewer的国内生态网络研究	王贝; 刘纯青	环境科学与管理	2021-04-15
9	基于文献计量分析的投影寻踪法在水问题中应用的研究进展	周戎星; 陈梦璐; 金菊良; 崔松; 周王良 >	灌溉排水学报	2021-04-15



基于CiteSpace和VOSviewer可视化分析的饮食养生研究

网络
首发

王树东¹ 段思竹²

1. 辽宁中医药大学 2. 大连理工大学

摘要：目的：全面了解饮食养生的具体内容、发展现状与研究热点。方法：通过文献总结饮食养生具体内容；利用CiteSpace与Vosviewer对CNKI数据库中1972—2019年饮食养生文献进行可视化分析。中医饮食养生文化源远流长，经过长期反复实践，逐渐形成了一个比较独特的理论体系。本文主要通过对近年来文献阅读整理，对饮食养生具体内容进行概括，从三因制宜，营养均衡，饮食有节，饮食宜忌等进行论述，简述饮食养生的基本方法、原理以及注意事项。然后通过CiteSpace、VOSviewer对知网中有关饮食养生的文献进行分析，从而分析研究演变趋势、近些年的研究热点和研究方向。结果：发文量自2009年以来呈逐渐上升的趋势，2012年后下降；机构以上海中医药大学发文量最高，作者与机构之间合作较薄弱；研究的热点也由从饮食养生基本知识开始，到近些年定量的计量分析。研究是呈现了一个从定性到定量，越来越细化的趋势。结论：需要加强作者、机构之间的合作与交流，借用现代计量方法，丰富研究饮食养生的方法。

关键词：饮食养生；中医养生学；CiteSpace；Vosviewer；可视化分析；

基金资助：国家自然科学基金面上项目（No.81574050）；辽宁省科技厅项目（No.20170520279）；辽宁省教育厅科学技术研究项目（L201611）；辽宁省针灸养生康复重点实验室建设项目（No.201701）；

专辑：医药卫生科技；信息科技

专题：中医学；图书情报与数字图书馆

分类号：R247.1;G353.1





	数量统计	深度挖掘
侧重	客观统计	内在关联
指标	发文数量、被引频次等	研究前沿/热点、合著 等
方法	数量统计	共引，共现(社会网络)
工具	WOS, Excel, Hiscite……	Citespace, Vosviewer, SCI2, ……



一、信息筛选原理

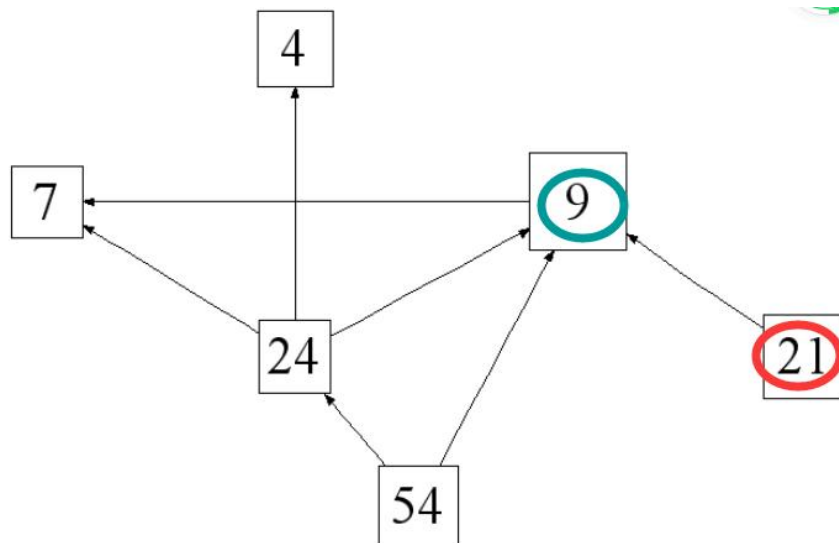
1. 引用

1991

1992

1994

1996



21引用**9**

9被**21**引用

(citation)



2. 共被引

1991

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1992

7

9

1994

24

21

1996

54

4与7 共被引

Co-citation

共被引强度越大，关联性越强



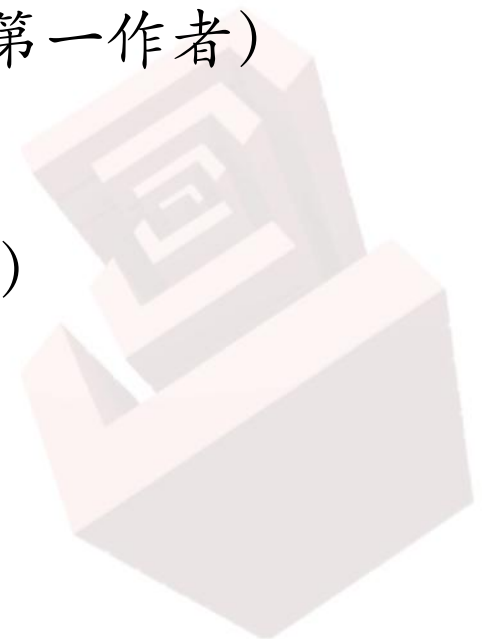


		LCS	GCS
1.	<u>4</u> BEAVIS WD, 1991, THEOR APPL GENET, V83, P141	33	200
2.	<u>7</u> EDWARDS MD, 1992, THEOR APPL GENET, V83, P765	32	145
3.	<u>9</u> STUBER CW, 1992, GENETICS, V132, P823	55	626
4.	<u>21</u> SCHON CC, 1994, CROP SCI, V34, P378	40	130
5.	<u>24</u> BEAVIS WD, 1994, CROP SCI, V34, P882	31	209

作者共被引 (cited author, 红色, 第一作者)

期刊共被引 (cited journal, 紫色)

文献共被引 (cited reference, 蓝色)





2. 耦合

1991

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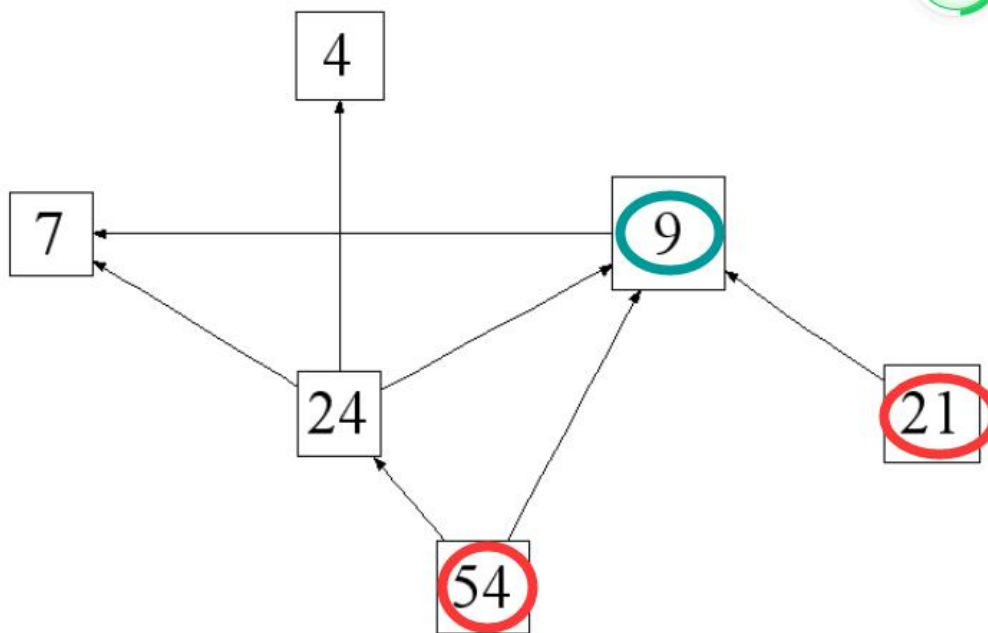
1996

54

54与21 耦合

Bibliographic Coupling

耦合强度越大，关联性越强



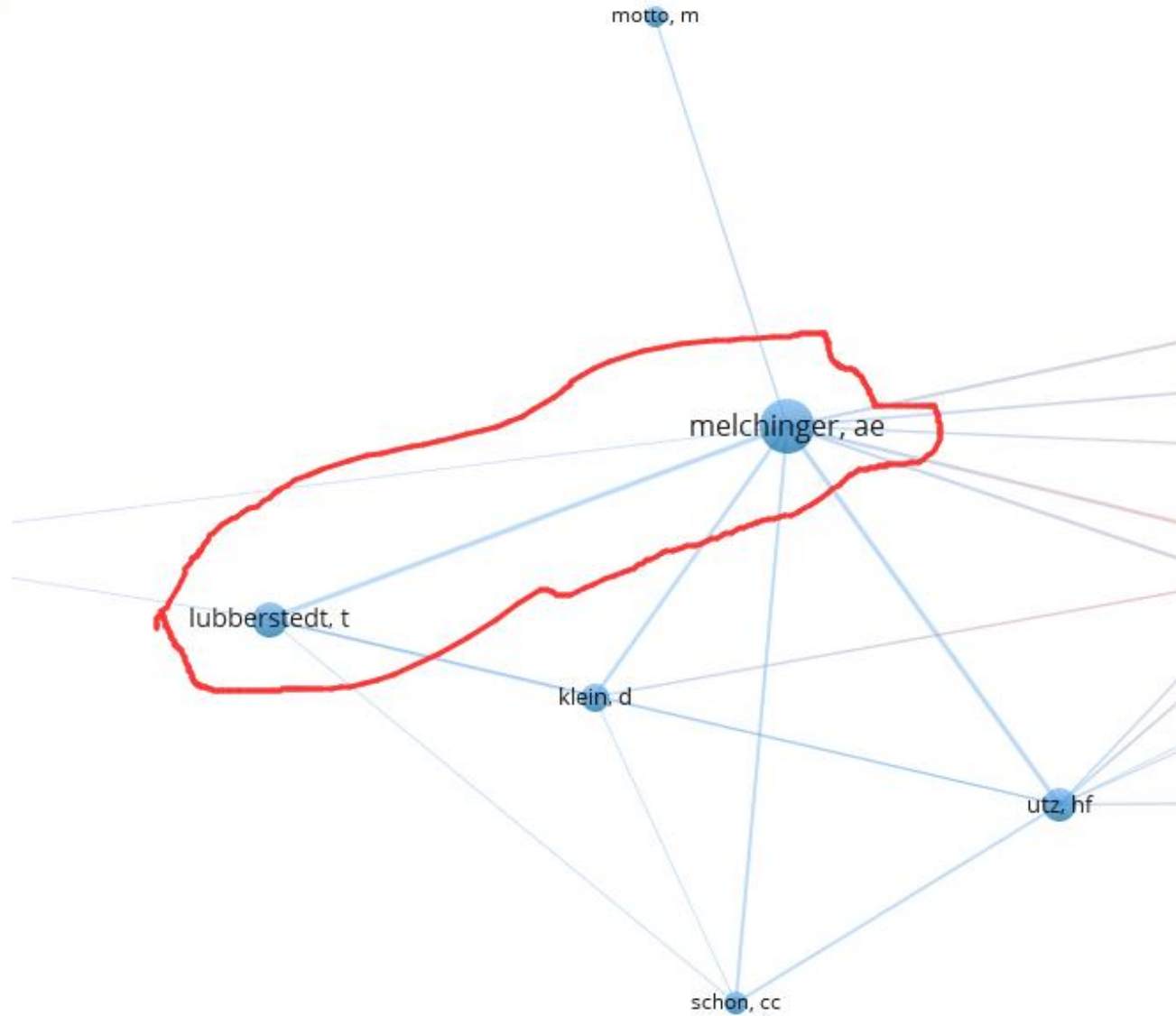


4. 合作

(1) 作者 (author) 合作

1997	
1	60 Lubberstedt T, Melchinger AE, Schon CC, Utz HF, Klein D QTL mapping in testcrosses of European flint lines of maize .1. Comparison of different testers for forage yield traits CROP SCIENCE. 1997 MAY-JUN; 37 (3): 921-931
2	69 Lubberstedt T, Melchinger AE, Klein D, Degenhardt H, Paul C QTL mapping in testcrosses of European flint lines of maize .2. Comparison of different testers for forage quality traits CROP SCIENCE. 1997 NOV-DEC; 37 (6): 1913-1922
1998	
3	79 Lubberstedt T, Melchinger AE, Fahr S, Klein D, Dally A, et al. QTL mapping in testcrosses of flint lines of maize: III. Comparison across populations for forage traits CROP SCIENCE. 1998 SEP-OCT; 38 (5): 1278-1289
4	85 Lubberstedt T, Klein D, Melchinger AE Comparative quantitative trait loci mapping of partial resistance to Puccinia sorghi across four populations of European flint maize PHYTOPATHOLOGY. 1998 DEC; 88 (12): 1324-1329
5	86 Lubberstedt T, Klein D, Melchinger AE Comparative QTL mapping of resistance to Ustilago maydis across four populations of European flint-maize THEORETICAL AND APPLIED GENETICS. 1998 DEC; 97 (8): 1321-1330

Lubberstedt T与 Melchinger AE合作





(2) 机构 (institution) 合作

Record 76 View: Standard [Edit](#)

Author(s): Groh S (Groh, S); Gonzalez-de-Leon D (Gonzalez-de-Leon, D); Khairallah MM (Khairallah, MM); Jiang C (Jiang, C); Bergvinson D (Bergvinson, D); Bohn M (Bohn, M); Hoisington DA (Hoisington, DA); Melchinger AE (Melchinger, AE)

Title: QTL mapping in tropical maize: III. Genomic regions for resistance to *Diatraea* spp and associated traits in two RIL populations

Source: CROP SCIENCE 38 (4): 1062-1072

Date: 1998 JUL-AUG

Document Type: Journal : Article

DOI: 10.2135/cropsci1998.0011183X003800040030x

Language: English

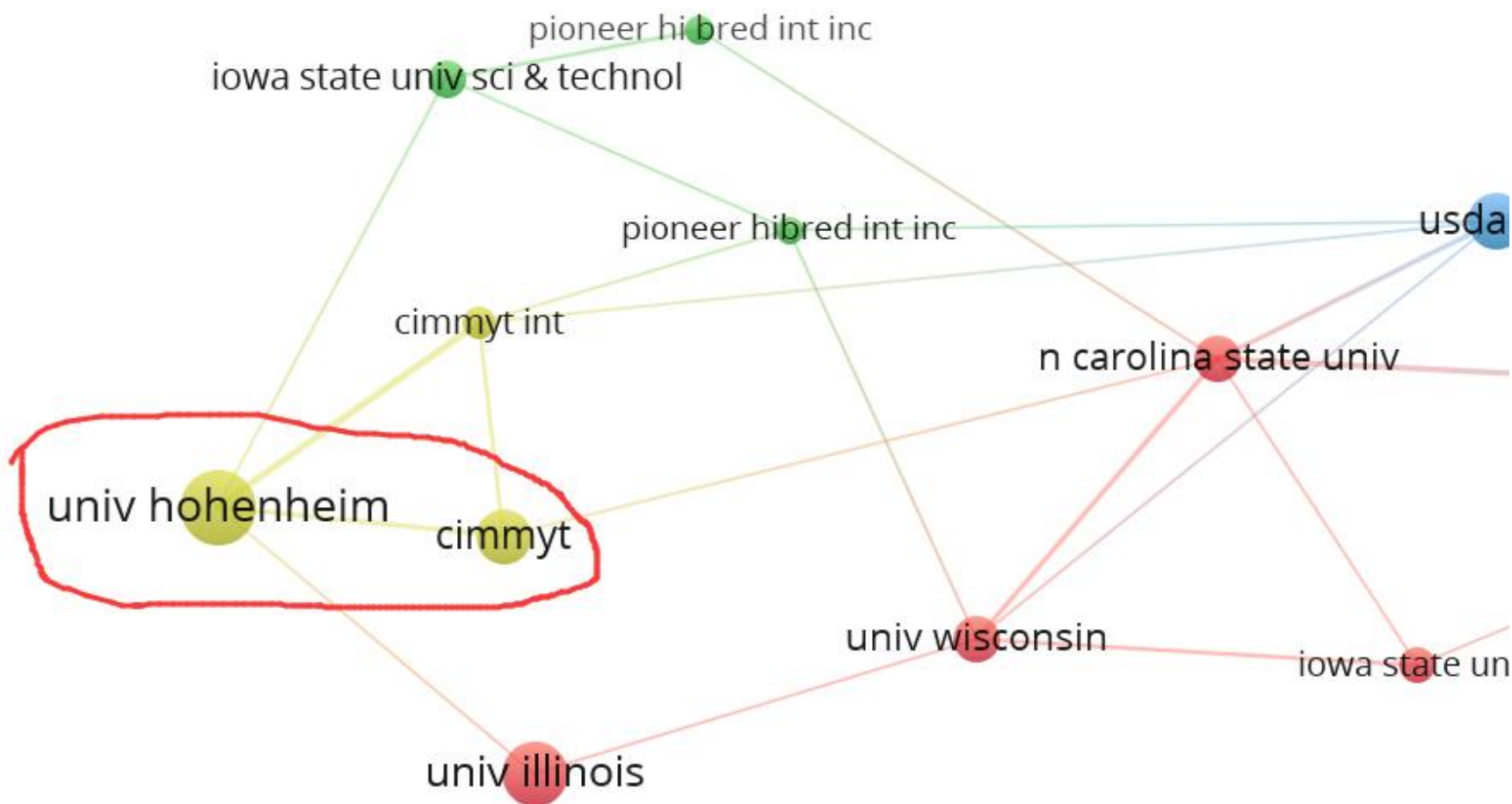
LCR: 4 **CR:** 35 **LCS:** 21 **GCS:** 66 **OCS:**

Comment:

Address: Univ Hohenheim, Inst Plant Breeding Seed Sci & Populat Genet, D-70593 Stuttgart, Germany.
CIMMYT Int, Mexico City 06600, DF, Mexico.

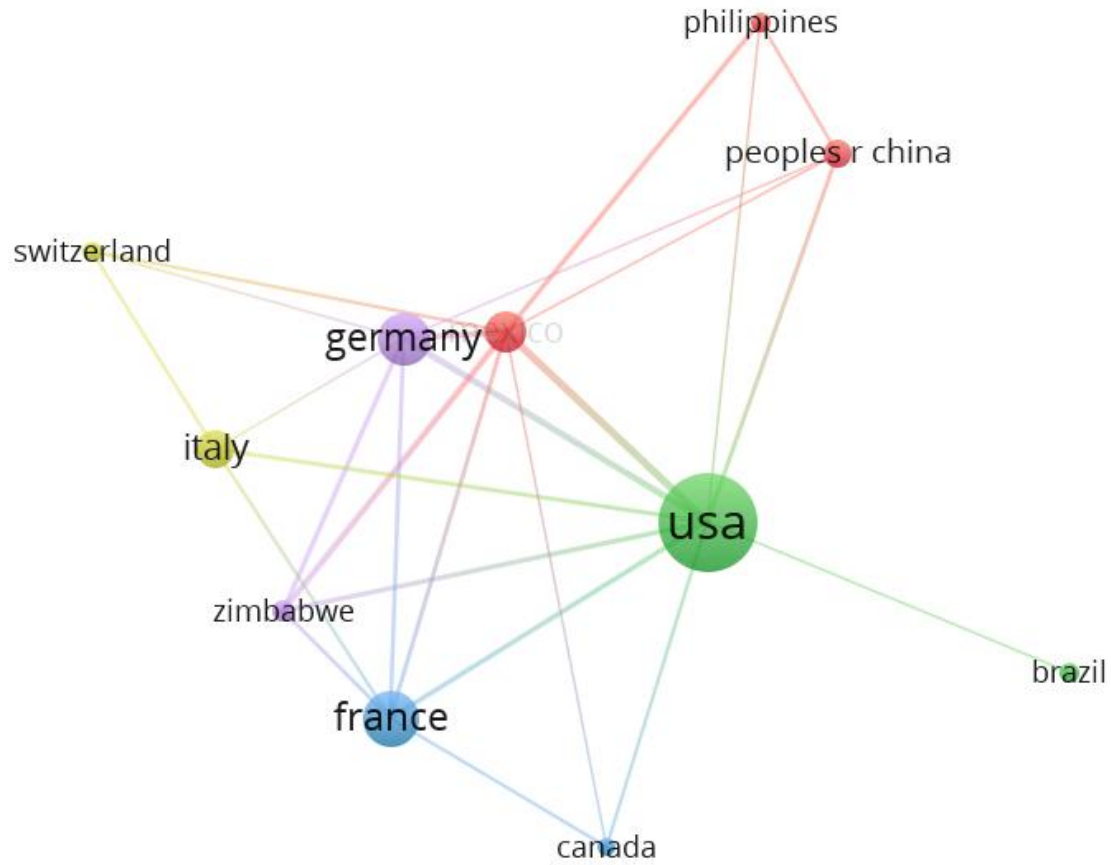
Reprint: Melchinger, AE (corresponding author), Univ Hohenheim, Inst Plant Breeding Seed Sci & Populat Genet, D-70593 Stuttgart, Germany.







(3) 国家 (country) 合作





5. 共词 (co-occurrence)

1994

- 1 26 QUARRIE SA, LEBRETON C, GULLI M, CALESTANI C, MARMIROLI N
QTL ANALYSIS OF ABA PRODUCTION IN WHEAT AND **MAIZE** AND ASSOCIATED PHYSIOLOGICAL TRAITS
RUSSIAN JOURNAL OF PLANT PHYSIOLOGY. 1994 SEP-OCT; 41 (5): 565-571

1995

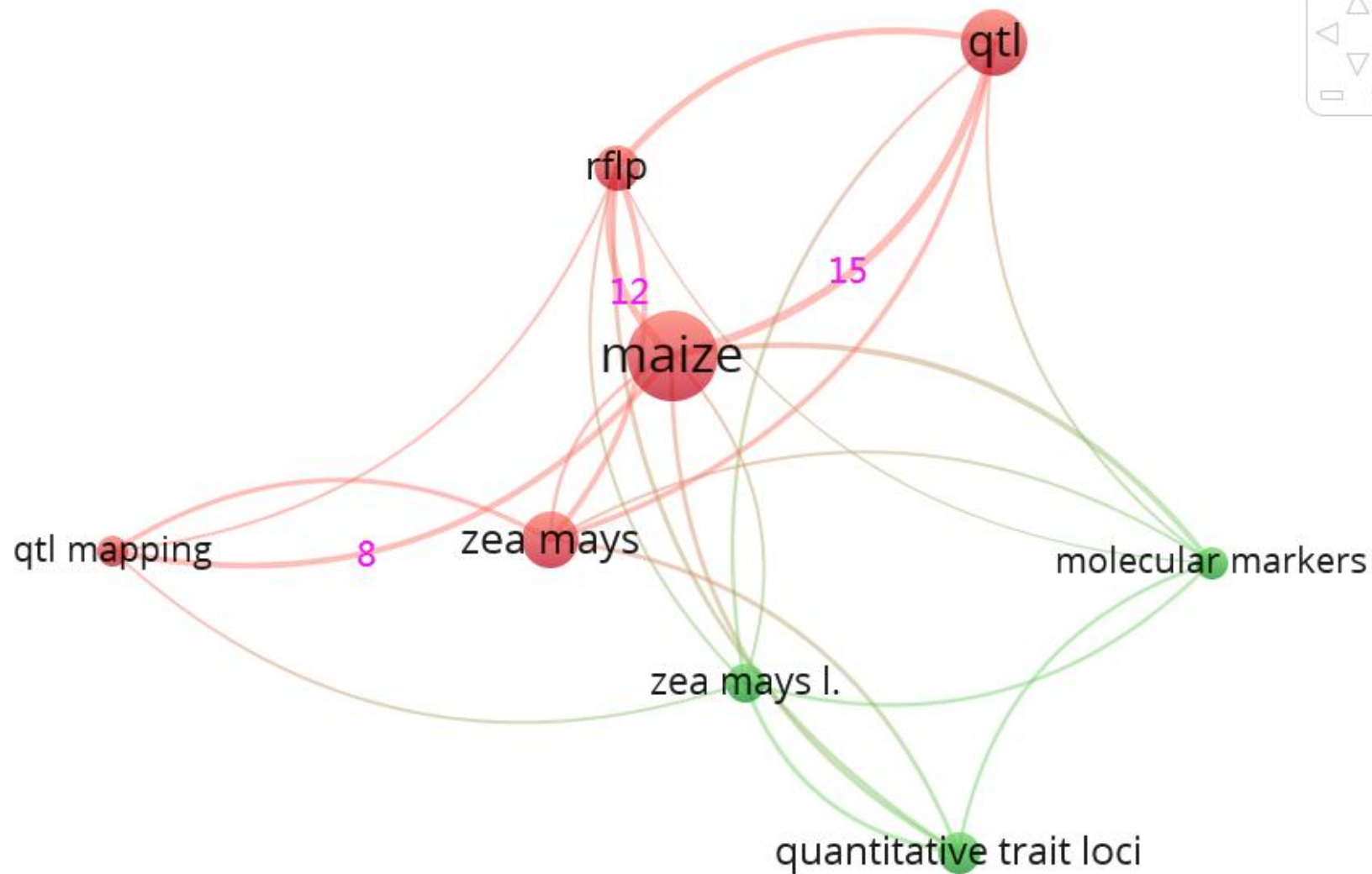
- 2 35 LEBRETON C, LAZICJANCIC V, STEED A, PEKIC S, QUARRIE SA
IDENTIFICATION OF **QTL** FOR DROUGHT RESPONSES IN **MAIZE** AND THEIR USE IN TESTING CAUSAL RELATIONSHIPS BETWEEN TRAITS
JOURNAL OF EXPERIMENTAL BOTANY. 1995 JUL; 46 (288): 853-865

1996

- 3 44 AjmoneMarsan P, Monfredini G, Brandolini A, Melchinger AE, Garay G, et al.
Identification of **QTL** for grain yield in an elite hybrid of **maize** Repeatability of map position and effects in independent samples derived from the same population
MAYDICA. 1996; 41 (1): 49-57
- 4 54 Bohn M, Khairallah MM, GonzalezdeLeon D, Hoisington DA, Utz HF, et al.
QTL mapping in tropical **maize**. 1. Genomic regions affecting leaf feeding resistance to sugarcane borer and other traits
CROP SCIENCE. 1996 SEP-OCT; 36 (5): 1352-1361

1997

- 5 59 SariGorla M, Calinski T, Kaczmarek Z, Krajewski P
Detection of **QTL** x environment interaction in **maize** by a least squares interval mapping method
HEREDITY. 1997 FEB; 78: 146-157
- 6 60 Lubberstedt T, Melchinger AE, Schon CC, Utz HF, Klein D
QTL mapping in testcrosses of European flint lines of **maize** 1. Comparison of different testers for forage yield traits
CROP SCIENCE. 1997 MAY-JUN; 37 (3): 921-931





二、VOSviewer使用

VOSviewer是一个基于网络数据创建图谱的软件，基于引用、耦合、共引或合著关系，构建用于可视化的图谱。

VOSviewer提供了文本挖掘功能，可用于构建和可视化从大量科学文献中提取的重要术语的共现网络。

由荷兰莱顿大学Nees Jan van Eck 和 Ludo Waltman开发。

<https://www.vosviewer.com>



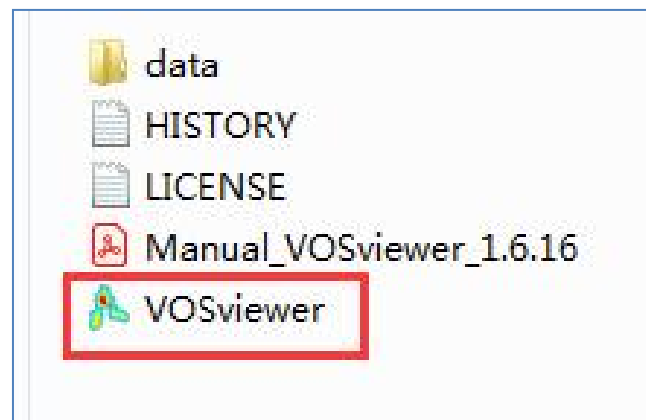


1. 软件下载

www.vosviewer.co

m
预先安装Java

下载后解压缩





2. 数据准备

(1) WOS核心合集

将记录导出至文件

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☒ 记录来源: 至

一次不超过 500 条记录。

记录内容:

全记录与引用的参考文献

文件格式

纯文本

或制表符分隔

取消

导出



(2) Scopus

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| <input checked="" type="checkbox"/> 作者 | <input checked="" type="checkbox"/> 归属机构 | <input checked="" type="checkbox"/> 摘要 | <input type="checkbox"/> 资金注册编号 | <input type="checkbox"/> 商标与制造商 |
| <input type="checkbox"/> 作者 ID | <input type="checkbox"/> 连续出版物识别号 (例如 ISSN) | <input checked="" type="checkbox"/> 作者关键字 | <input type="checkbox"/> 资金提供机构缩写 | <input type="checkbox"/> 入藏号与化学式 |
| <input checked="" type="checkbox"/> 文献标题 | <input type="checkbox"/> PubMed ID | <input type="checkbox"/> 索引关键字 | <input type="checkbox"/> 资金提供机构 | <input type="checkbox"/> 会议信息 |
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1	Authors	Title	Year	Source title	DOI	Link	Affiliation	Authors	Abstract	Author Key	Reference	Correspondence	Address					
2	Liu Z.,	CIntegrate	2018	Field Crc	10.1016/	https://w	State Key	Liu, Z.,	Crop proc	Ag	Ag	Allison,	Zhang, J.;	State Key Laboratory of Crop Biology and College of Ag				
3	Liu Z.,	CPhotosynt	2018	Frontiers	10.3389/	https://w	State Key	Liu, Z.,	Maize (Ze	Chloropla	Anjum, S.	Zhang, J.;	State Key Laboratory of Crop Biology, China; email: jw					
4	Ren B.,	ISoil phys	2018	Crop Jour	10.1016/	https://w	State Key	Ren, B.,	The stand	Root; So	Li, S.K.,	Zhang, J.;	State Key Laboratory of Crop Biology and College of Ag					
5	Yang Q.,	Effects c	2019	Journal c	10.1007/	https://w	State Key	Yang, Q.,	Purpose: Am	monia v	Bruncke,	Liu, P.;	State Key Laboratory of Crop Biology/Agronomy College, C					
6	Ren B.,	2Exogenous	2018	Journal c	10.1111/	https://w	State Key	Ren, B.,	A field e	6-Benzyl	eAraki, H.	Zhang, J.;	State Key Laboratory of Crop Biology and College of Ag					
7	Liu Z.,	CLate harv	2019	Field Crc	10.1016/	https://w	State Key	Liu, Z.,	The farm	Grain yie	Aslam, M.	Zhang, J.;	State Key Laboratory of Crop Biology and College of Ag					
8	Li G.,	ZPControlle	2020	Agricultu	10.1016/	https://w	Jiangsu K	Li, G.,	JEffective	Controlle	Abendroth	Zhao, B.;	State Key Laboratory of Crop Biology and College of Agr					
9	Gao F.,	IEffects c	2019	Science c	10.1016/	https://w	State Key	Gao, F.,	The North	Double cr	Chen, H.,	Zhang, J.;	State Key Laboratory of Crop Biology and College of Ag					
10	Wang H.,	Analysis	2019	Scientia	10.3864/	https://w	College c	Wang, H.,	稻四Object	Gap; Radi	Lobell, I	Liu, P.;	College of Agronomy, China; email: liupengsdau@126.com					
11	Li R.-F.,	Effects c	2018	Acta Agr	10.3724/	https://w	Agronomy	Li, R.-F.	Increase	rCarbon ar	Wang, L.,	Liu, P.;	Agronomy College, China; email: liupengsdau@126.com					



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PMID- 24786071
OWN - NLM
STAT- MEDLINE
DCOM- 20140623
LR - 20181202
IS - 1095-9203 (Electronic)
IS - 0036-8075 (Linking)
VI - 344
IP - 6183
DP - 2014 May 2
TI - Botany. Limits on yields in the Corn Belt.
PG - 484-5
LID - 10.1126/science.1253884 [doi]
FAU - Ort, Donald R
AU - Ort DR
AD - Global Change and Photosynthesis Research Unit, USDA/ARS, University of Illinois,
Urbana, IL 61801, USA.
FAU - Long, Stephen P
AU - Long SP
LA - eng
PT - Comment
PT - Journal Article
PL - United States
TA - Science
JT - Science (New York, N.Y.)
JID - 0404511
SB - IM
CON - Science. 2014 May 2;344(6183):516-9. PMID: 24786079
MH - *Acclimatization
MH - *Adaptation, Physiological
MH - Crops, Agricultural/*growth & development
MH - *Droughts
MH - *Stress, Physiological
MH - Zea mays/*growth & development
EDAT- 2014/05/03 08:00
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CRDT- 2014/05/03 08:00
PHST- 2014/05/03 08:00 [entrez]
PHST- 2014/05/03 08:00 [pubmed]
PHST- 2014/06/24 08:00 [medline]
AID - 344/6183/484 [pii]
AID - 10.1126/science.1253884 [doi]
FST - ppublish
SO - Science. 2014 May 2;344(6183):484-5. doi: 10.1126/science.1253884.

PMID- 19240209
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IS - 1091-8490 (Electronic)
IS - 0027-8424 (Print)
IS - 0027-8424 (Linking)
VI - 106
IP - 9
DP - 2009 Mar 3
```



(4) CNKI

文献导出格式

- GB/T 7714-2015 格式引文
- 知网研学 (原E-Study)
- CAJ-CD 格式引文
- MLA 格式引文
- APA 格式引文
- 查新 (引文格式)
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SR 1

A1 王保平;周静;史向远;李欣欣;王秀红;杜慧平;

AD 山西农业大学山西有机旱作农业研究院;山西省农业科学院现代农业研究中心;

T1 不同农业废弃物复合基质对西瓜光合特性、产量和品质的影响

JF 河南农业科学

OP 1-14

K1 农业废弃物;复合基质;利用次数;西瓜;光合特性;品质 Agricultural waste;Compound substrate;Utilization times;Watermelon;Photosynthetic characteristics;Quality

AB 为探讨不同农业废弃物复合基质及其利用次数对西瓜光合特性、产量和品质的影响,将玉米秸秆堆肥、杏鲍菇渣堆肥、草炭、珍珠岩和蛭石按不同体积比配制2种配方基质:T1处理(3:1:2:3:1)和T2处理(3:0:3:3:1),以V_(草炭):V_(珍珠岩):V_(蛭石)=6:3:1为对照(CK),连续2 a测定并分析西瓜植株的光合特性、产量和品质,筛选适合西瓜生长的基质配方及其最佳利用次数。结果表明,农业废弃物替代部分草炭可以提高复合基质的容重、pH值和EC值,降低其总孔隙度和持水孔隙度;T1和T2处理的pH值和EC值极显著高于CK,T1处理的总孔隙度和持水孔隙度极显著低于T2处理和CK($P<0.01$)。T2处理的净光合速率(P_n)极显著高于T1处理($P<0.01$),而显著高于CK($P<0.05$)。基质利用1次时,T1和T2处理西瓜的蒸腾速率(T_r)显著低于CK($P<0.05$);基质利用2次时,T1和T2处理的 T_r 变化趋势不一致,但与CK间无显著差异;同时T1和T2处理的气孔导度(G_s)低于CK。基质利用次数对西瓜植株的 T_r 和 G_s 有极显著的影响($P<0.01$)。不同农业废弃物复合基质提高了西瓜的单瓜质

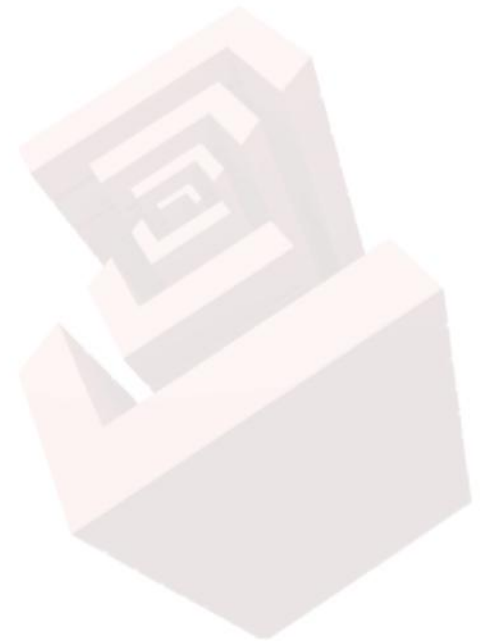


(5) 其他来源数据

RIS

Endnote

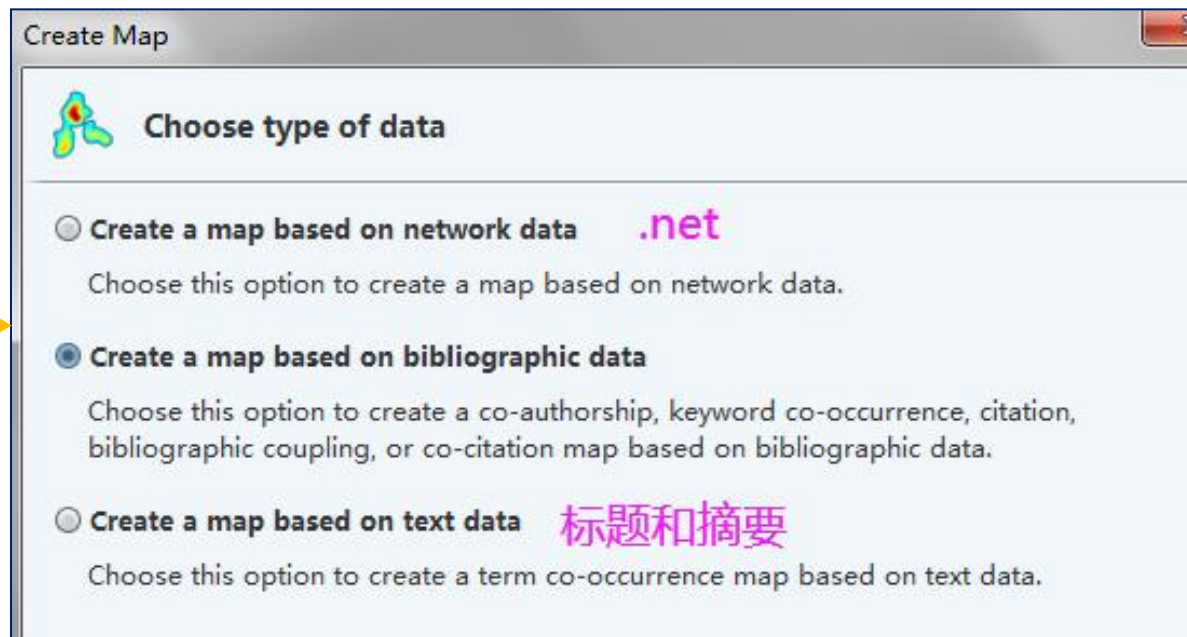
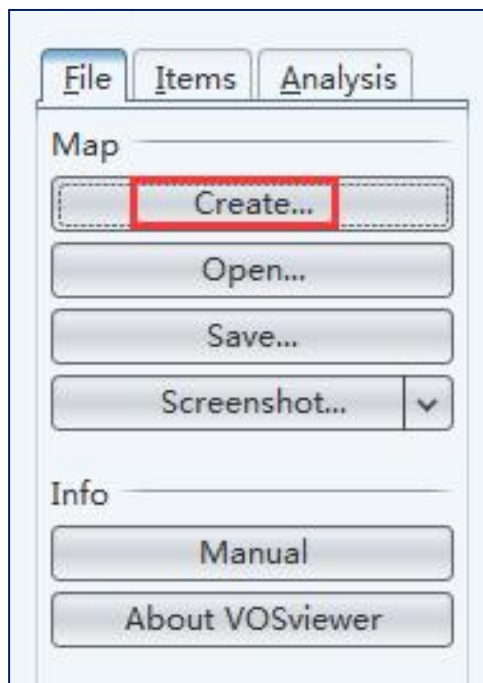
APIs






3. 数据加载

选择数据类型





选择数据类型


 **Choose type of data**

☐ **Create a map based on network data**
Choose this option to create a map based on network data.

☒ **Create a map based on bibliographic data**
Choose this option to create a co-authorship, keyword co-occurrence, citation, bibliographic coupling, or co-citation map based on bibliographic data.

☐ **Create a map based on text data**
Choose this option to create a term co-occurrence map based on text data.

选择数据来源


 **Choose data source**

☒ **Read data from bibliographic database files**
Supported file types: Web of Science, Scopus, Dimensions, and PubMed.

☐ **Read data from reference manager files**
Supported file types: RIS, EndNote, and RefWorks.

☐ **Download data through API**
Supported APIs: Microsoft Academic, Crossref, Europe PMC, Semantic Scholar, OCC, and others.

选择文献所在数据库

 **Select files**

☒ **Web of Science** ☐ Scopus ☐ Dimensions ☐ PubMed

Web of Science files: ?

The use of Web of Science data requires a subscription to Web of Science and compliance with the Web of Science terms of use.



4. 数据分析

(1) 分析的网络节点

scientific publications

scientific journals

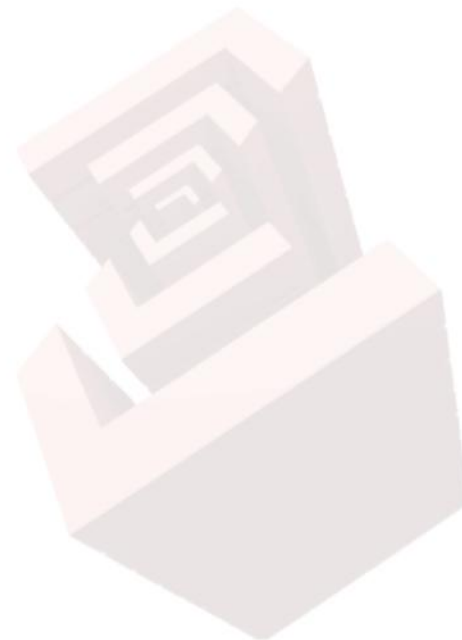
Researchers

research organizations

countries

keywords

terms





(2) 分析的网络关系

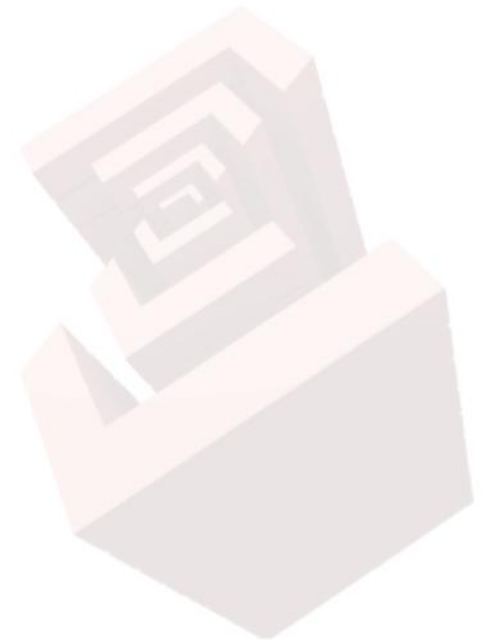
co-authorship

co-occurrence

citation

bibliographic coupling

co-citation links





分析类型

分析节点 (字段)

Type of analysis: ②	Unit of analysis:
<input checked="" type="radio"/> Co-authorship	<input checked="" type="radio"/> Authors
<input type="radio"/> Co-occurrence	<input type="radio"/> Organizations
<input type="radio"/> Citation	<input type="radio"/> Countries
<input type="radio"/> Bibliographic coupling	

合作

Type of analysis: ②	Unit of analysis:
<input type="radio"/> Co-authorship	<input type="radio"/> All keywords
<input checked="" type="radio"/> Co-occurrence	<input checked="" type="radio"/> Author keywords
<input type="radio"/> Citation	<input type="radio"/> KeyWords Plus
<input type="radio"/> Bibliographic coupling	
<input type="radio"/> Co-citation	

共现

Type of analysis: ②	Unit of analysis:
<input type="radio"/> Co-authorship	<input checked="" type="radio"/> Documents
<input type="radio"/> Co-occurrence	<input type="radio"/> Sources
<input checked="" type="radio"/> Citation	<input type="radio"/> Authors
<input type="radio"/> Bibliographic coupling	<input type="radio"/> Organizations
<input type="radio"/> Co-citation	<input type="radio"/> Countries

引用

分析类型

分析节点 (字段)

Type of analysis: ②	Unit of analysis:
<input type="radio"/> Co-authorship	<input checked="" type="radio"/> Documents
<input type="radio"/> Co-occurrence	<input type="radio"/> Sources
<input type="radio"/> Citation	<input type="radio"/> Authors
<input checked="" type="radio"/> Bibliographic coupling	<input type="radio"/> Organizations
<input type="radio"/> Co-citation	<input type="radio"/> Countries


耦合

Type of analysis: ②	Unit of analysis:
<input type="radio"/> Co-authorship	<input checked="" type="radio"/> Cited references
<input type="radio"/> Co-occurrence	<input type="radio"/> Cited sources
<input type="radio"/> Citation	<input type="radio"/> Cited authors
<input type="radio"/> Bibliographic coupling	
<input checked="" type="radio"/> Co-citation	

共被引



(3) 初步分析

**Verify selected cited references**
确认选择的内容（图谱中显示的节点）

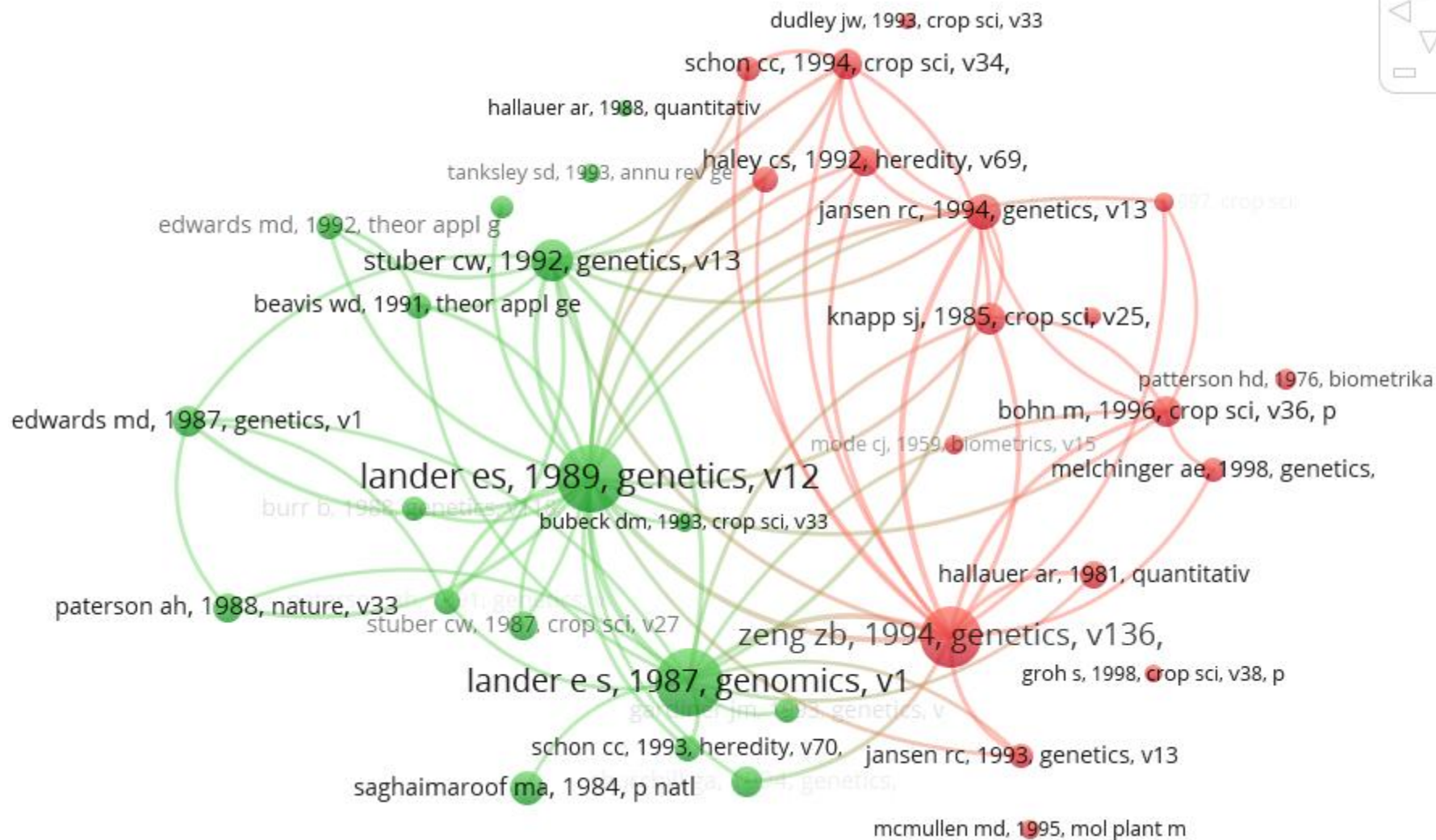
Selected	Cited reference	Citations	Total link strength ▼
<input checked="" type="checkbox"/>	lander es, 1989, genetics, v121, p185	95	654
<input checked="" type="checkbox"/>	zeng zb, 1994, genetics, v136, p1457	83	608
<input checked="" type="checkbox"/>	lander e s, 1987, genomics, v1, p174, doi 10....	93	575
<input checked="" type="checkbox"/>	stuber cw, 1992, genetics, v132, p823	55	474
<input checked="" type="checkbox"/>	jansen rc, 1994, genetics, v136, p1447	45	419
<input checked="" type="checkbox"/>	knapp sj, 1985, crop sci, v25, p192, doi 10.21...	41	415
<input checked="" type="checkbox"/>	schon cc, 1994, crop sci, v34, p378, doi 10.21...	40	405
<input checked="" type="checkbox"/>	bohn m, 1996, crop sci, v36, p1352, doi 10.2...	38	383
<input checked="" type="checkbox"/>	haley cs, 1992, heredity, v69, p315, doi 10.10...	39	349
<input checked="" type="checkbox"/>	beavis wd, 1994, crop sci, v34, p882, doi 10....	31	317
<input checked="" type="checkbox"/>	paterson ah, 1991, genetics, v127, p181	33	312
<input checked="" type="checkbox"/>	schon cc, 1993, heredity, v70, p648, doi 10.1...	32	310
<input checked="" type="checkbox"/>	lande r, 1990, genetics, v124, p743	33	309
<input checked="" type="checkbox"/>	beavis wd, 1991, theor appl genet, v83, p141...	33	306
<input checked="" type="checkbox"/>	hallauer ar, 1981, quantitative genetic	34	292
<input checked="" type="checkbox"/>	veldboom lr, 1994, theor appl genet, v88, p7...	28	279
<input checked="" type="checkbox"/>	stuber cw, 1987, crop sci, v27, p639, doi 10.2...	36	275
<input checked="" type="checkbox"/>	edwards md, 1992, theor appl genet, v83, p7...	32	262
<input checked="" type="checkbox"/>	jansen rc, 1993, genetics, v135, p205	30	262

< Back

Next >


Finish

Cancel





(4) 数据清洗

 **Verify selected authors**

Selected	Author ^	Documents	Citations	Total link strength
<input checked="" type="checkbox"/>	darrah, ll	5	209	10
<input checked="" type="checkbox"/>	deutsch, ja	5	415	23
<input checked="" type="checkbox"/>	doebly, j	9	1676	0
<input checked="" type="checkbox"/>	dudley, jw	12	585	9
<input checked="" type="checkbox"/>	edmeades, go	5	696	11
<input checked="" type="checkbox"/>	fracheboud, y	5	347	8
<input checked="" type="checkbox"/>	frova, c	8	294	6
<input checked="" type="checkbox"/>	gallais, a	7	819	7
<input checked="" type="checkbox"/>	hoisington, d	7	274	10
<input checked="" type="checkbox"/>	hoisington, da	9	765	34
<input checked="" type="checkbox"/>	jiang, c	11	815	34
<input checked="" type="checkbox"/>	juvik, ja	6	153	3
<input checked="" type="checkbox"/>	kaeppler, sm	6	541	0
<input checked="" type="checkbox"/>	khairallah, mm	7	363	31
<input checked="" type="checkbox"/>	klein, d	9	369	19
<input checked="" type="checkbox"/>	landi, p	6	535	24
<input checked="" type="checkbox"/>	lee, m	17	1160	11
<input checked="" type="checkbox"/>	leonardi, a	5	485	8

合并?

拆分?

作者

< Back Next > Finish Cancel

确认选择的内容（图谱中显示的节点），是否有需要删除、合并或拆分？



Verify selected organizations

Selected	Organization	Documents ▼	Citations	Total link strength
<input checked="" type="checkbox"/>	usda ars	22	1459	26
<input checked="" type="checkbox"/>	cimmyt	20	1283	21
<input checked="" type="checkbox"/>	inra	18	1314	4
<input checked="" type="checkbox"/>	univ missouri	17	1102	28
<input checked="" type="checkbox"/>	n carolina state univ	14	2062	15
<input checked="" type="checkbox"/>	univ wisconsin	14	1039	10
<input checked="" type="checkbox"/>	univ georgia	11	456	18
<input checked="" type="checkbox"/>	iowa state univ sci & technol	10	782	5
<input checked="" type="checkbox"/>	iowa state univ	9	450	4
<input checked="" type="checkbox"/>	univ bologna	9	716	3
<input checked="" type="checkbox"/>	cimmyt int	7	363	14
<input checked="" type="checkbox"/>	pioneer hi bred int inc	6	674	3
<input checked="" type="checkbox"/>	univ minnesota	6	419	2
<input checked="" type="checkbox"/>	univ paris 11	6	328	3
<input checked="" type="checkbox"/>	pioneer hibred int inc	5	577	6
<input checked="" type="checkbox"/>	univ milan	5	167	3
<input checked="" type="checkbox"/>	ups	5	220	3
<input checked="" type="checkbox"/>	ars	4	115	10
<input checked="" type="checkbox"/>	chinese acad agr sci	4	76	4

< Back

Next >

Finish

Cancel

机构



Verify selected keywords

Selected	Keyword	Occurrenc... ▼	Total link strength
<input checked="" type="checkbox"/>	maize	55	104
<input checked="" type="checkbox"/>	qtl	38	82
<input checked="" type="checkbox"/>	zea mays	32	90
<input checked="" type="checkbox"/>	rflp	25	62
<input checked="" type="checkbox"/>	quantitative trait loci	23	45
<input checked="" type="checkbox"/>	zea mays l.	21	41
<input checked="" type="checkbox"/>	molecular markers	17	34
<input checked="" type="checkbox"/>	qtl mapping	16	39
<input checked="" type="checkbox"/>	quantitative trait loci (qtls)	10	21
<input checked="" type="checkbox"/>	composite interval mapping	8	23
<input checked="" type="checkbox"/>	drought tolerance	8	25
<input checked="" type="checkbox"/>	insect resistance	7	17
<input checked="" type="checkbox"/>	quantitative trait locus (qtl)	7	20
<input checked="" type="checkbox"/>	corn	6	12
<input checked="" type="checkbox"/>	marker-assisted selection	6	14
<input checked="" type="checkbox"/>	tropical maize	6	15
<input checked="" type="checkbox"/>	zea mays l	6	12
<input checked="" type="checkbox"/>	chlorophyll fluorescence	5	12
<input checked="" type="checkbox"/>	drought stress	5	15

< Back

Next >

Finish

Cancel

主题词

关键词



(5) 分析参数调整

Type of analysis: ?
☒ Co-authorship
☐ Co-occurrence
☐ Citation
☐ Bibliographic coupling
☐ Co-citation

Unit of analysis:
☒ Authors
☐ Organizations
☐ Countries

Counting method: ?
☒ Full counting
☐ Fractional counting

VOSviewer thesaurus file (optional): ?

☒ Ignore documents with a large number of authors
Maximum number of authors per document:

☐ Reduce first names of authors to initials

每篇文章最多不超过25个作者

Type of analysis: ?
☒ Co-authorship
☐ Co-occurrence
☐ Citation
☐ Bibliographic coupling
☐ Co-citation

Unit of analysis:
☐ Authors
☒ Organizations
☐ Countries

Counting method: ?
☒ Full counting
☐ Fractional counting

VOSviewer thesaurus file (optional): ?

☒ Ignore documents co-authored by a large number of organizations
Maximum number of organizations per document:

每篇文章最多不超过25个机构

Type of analysis: ?
☒ Co-authorship
☐ Co-occurrence
☐ Citation
☐ Bibliographic coupling
☐ Co-citation

Unit of analysis:
☐ Authors
☐ Organizations
☒ Countries


Counting method: ?
☒ Full counting
☐ Fractional counting

VOSviewer thesaurus file (optional): ?

☒ Ignore documents co-authored by a large number of countries
Maximum number of countries per document:




分析阈值

 **Choose thresholds**

Minimum number of documents of an author:

Minimum number of citations of an author: ?

Of the 655 authors, 49 meet the thresholds.

 **Choose thresholds**

Minimum number of documents of an organization:

Minimum number of citations of an organization: ?

Of the 198 organizations, 19 meet the thresholds.


 **Choose threshold**

Minimum number of occurrences of a keyword:

Of the 421 keywords, 24 meet the threshold.


每个机构发文数量不小于5篇，被引用次数不小于0

一共有198个机构（原始数据统计），19个机构发文超过5篇

 **Choose threshold**

Minimum number of citations of a document: ?

Of the 260 documents, 241 meet the threshold.

 **Choose threshold**

Minimum number of citations of a cited reference:

Of the 4969 cited references, 36 meet the threshold.



节点数量



Choose number of authors

For each of the 49 authors, the total strength of the co-authorship links with other authors will be calculated. The authors with the greatest total link strength will be selected.

Number of authors to be selected:

计算49个作者之间的合作关系



Choose number of organizations

For each of the 19 organizations, the total strength of the co-authorship links with other organizations will be calculated. The organizations with the greatest total link strength will be selected.

Number of organizations to be selected:



Choose number of keywords

For each of the 24 keywords, the total strength of the co-occurrence links with other keywords will be calculated. The keywords with the greatest total link strength will be selected.

Number of keywords to be selected:



Choose number of documents

For each of the 259 documents, the total strength of the bibliographic coupling links with other documents will be calculated. The documents with the greatest total link strength will be selected.

Number of documents to be selected:



确认选择的内容（图谱中的节点）



Verify selected authors

Selected	Author	Documents	Citations	Total link strength
<input checked="" type="checkbox"/>	melchinger, ae	32	2089	69
<input checked="" type="checkbox"/>	hoisington, da	9	765	34
<input checked="" type="checkbox"/>	jiang, c	11	815	34
<input checked="" type="checkbox"/>	utz, hf	12	1309	34
<input checked="" type="checkbox"/>	khairallah, mm	7	363	31
<input checked="" type="checkbox"/>	bohn, m	8	396	30
<input checked="" type="checkbox"/>	salvi, s	9	737	28
<input checked="" type="checkbox"/>	tuberosa, r	8	634	26
<input checked="" type="checkbox"/>	landi, p	6	535	24
<input checked="" type="checkbox"/>	sanguineti, mc	6	535	24
<input checked="" type="checkbox"/>	deutsch, ja	5	415	23
<input checked="" type="checkbox"/>	lubberstedt, t	13	469	22
<input checked="" type="checkbox"/>	mcmullen, md	12	594	22
<input checked="" type="checkbox"/>	conti, s	5	435	21
<input checked="" type="checkbox"/>	snook, me	11	450	20
<input checked="" type="checkbox"/>	klein, d	9	369	19
<input checked="" type="checkbox"/>	widstrom, nw	8	324	17
<input checked="" type="checkbox"/>	byrne, pf	5	316	16
<input checked="" type="checkbox"/>	causse, m	6	311	14

[< Back](#)[Next >](#)[Finish](#)[Cancel](#)

Verify selected organizations

Selected	Organization	Documents	Citations	Total link strength
<input checked="" type="checkbox"/>	usda ars	22	1459	22
<input checked="" type="checkbox"/>	univ missouri	17	1102	20
<input checked="" type="checkbox"/>	n carolina state univ	14	2062	13
<input checked="" type="checkbox"/>	univ georgia	11	456	12
<input checked="" type="checkbox"/>	univ hohenheim	38	2300	11
<input checked="" type="checkbox"/>	cimmyt int	7	363	10
<input checked="" type="checkbox"/>	univ wisconsin	14	1039	8
<input checked="" type="checkbox"/>	cimmyt	20	1283	6
<input checked="" type="checkbox"/>	iowa state univ	9	450	4
<input checked="" type="checkbox"/>	iowa state univ sci & technol	10	782	4
<input checked="" type="checkbox"/>	pioneer hibred int inc	5	577	4
<input checked="" type="checkbox"/>	pioneer hi bred int inc	6	674	3
<input checked="" type="checkbox"/>	univ bologna	9	716	3
<input checked="" type="checkbox"/>	univ paris 11	6	328	3
<input checked="" type="checkbox"/>	ups	5	220	3
<input checked="" type="checkbox"/>	univ illinois	28	1263	2
<input checked="" type="checkbox"/>	univ minnesota	6	419	2
<input checked="" type="checkbox"/>	inra	18	1314	0
<input checked="" type="checkbox"/>	univ milan	5	167	0



Verify selected countries

Selected	Country	Documents	Citations	Total link strength
<input checked="" type="checkbox"/>	usa	131	8904	35
<input checked="" type="checkbox"/>	mexico	23	1428	33
<input checked="" type="checkbox"/>	germany	39	2320	23
<input checked="" type="checkbox"/>	france	43	3053	17
<input checked="" type="checkbox"/>	zimbabwe	7	349	17
<input checked="" type="checkbox"/>	italy	20	1035	8
<input checked="" type="checkbox"/>	peoples r china	11	234	7
<input checked="" type="checkbox"/>	philippines	6	308	7
<input checked="" type="checkbox"/>	canada	5	164	5
<input checked="" type="checkbox"/>	switzerland	6	377	5
<input checked="" type="checkbox"/>	brazil	6	178	1



Verify selected keywords

Selected	Keyword	Occurrences	Total link strength
<input checked="" type="checkbox"/>	maize	55	72
<input checked="" type="checkbox"/>	qtl	38	59
<input checked="" type="checkbox"/>	zea mays	32	54
<input checked="" type="checkbox"/>	rflp	25	48
<input checked="" type="checkbox"/>	quantitative trait loci	23	34
<input checked="" type="checkbox"/>	molecular markers	17	28
<input checked="" type="checkbox"/>	zea mays l	21	27
<input checked="" type="checkbox"/>	qtl mapping	16	21
<input checked="" type="checkbox"/>	composite interval mapping	8	19
<input checked="" type="checkbox"/>	drought tolerance	8	19
<input checked="" type="checkbox"/>	quantitative trait locus (qtl)	7	17
<input checked="" type="checkbox"/>	insect resistance	7	14
<input checked="" type="checkbox"/>	quantitative trait loci (qtls)	10	13
<input checked="" type="checkbox"/>	ssr	5	11
<input checked="" type="checkbox"/>	marker-assisted selection	6	10
<input checked="" type="checkbox"/>	tropical maize	6	10
<input checked="" type="checkbox"/>	chlorophyll fluorescence	5	9
<input checked="" type="checkbox"/>	drought stress	5	8
<input checked="" type="checkbox"/>	zea mays l	6	7



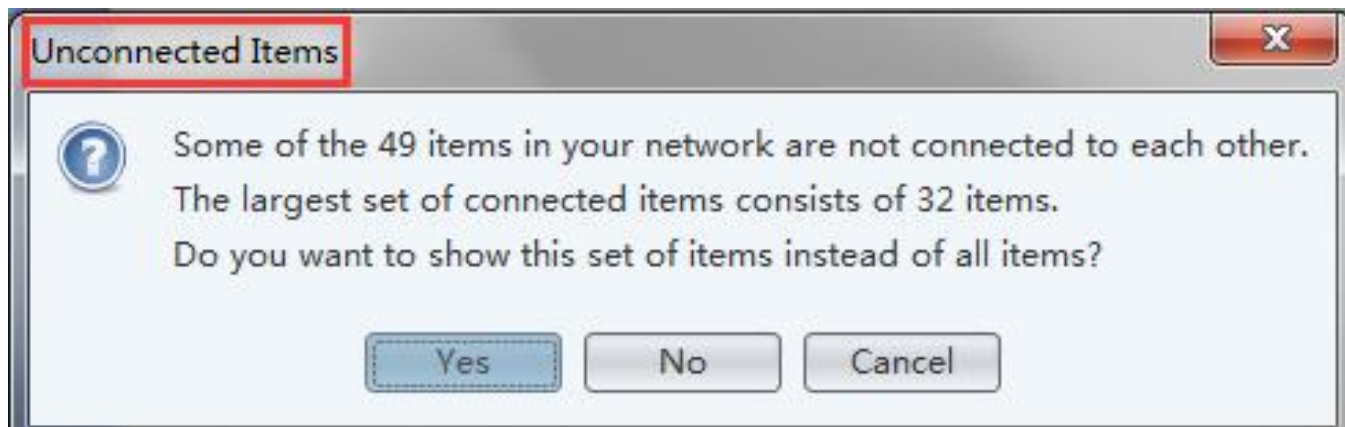
Verify selected documents

Selected	Document	Citations	Total link strength
<input checked="" type="checkbox"/>	melchinger (1998)	405	944
<input checked="" type="checkbox"/>	austin (1998)	103	935
<input checked="" type="checkbox"/>	sibov (2003)	47	932
<input checked="" type="checkbox"/>	khairallah (1998)	56	862
<input checked="" type="checkbox"/>	cardinal (2001)	49	843
<input checked="" type="checkbox"/>	marsan (2001)	22	841
<input checked="" type="checkbox"/>	bohn (1996)	94	840
<input checked="" type="checkbox"/>	tuberosa (1998)	82	824
<input checked="" type="checkbox"/>	lubberstedt (1997b)	90	811
<input checked="" type="checkbox"/>	veldboom (1996a)	129	804
<input checked="" type="checkbox"/>	jumpatong (2002)	38	804
<input checked="" type="checkbox"/>	austin (1996b)	52	765
<input checked="" type="checkbox"/>	utz (2000)	271	754
<input checked="" type="checkbox"/>	austin (2001)	33	749
<input checked="" type="checkbox"/>	mihaljevic (2004)	40	748
<input checked="" type="checkbox"/>	krakowsky (2004)	31	742
<input checked="" type="checkbox"/>	ajmonemarsan (1994)	16	742
<input checked="" type="checkbox"/>	lubberstedt (1998a)	59	735
<input checked="" type="checkbox"/>	ajmonemarsan (1995)	56	731



Verify selected cited references

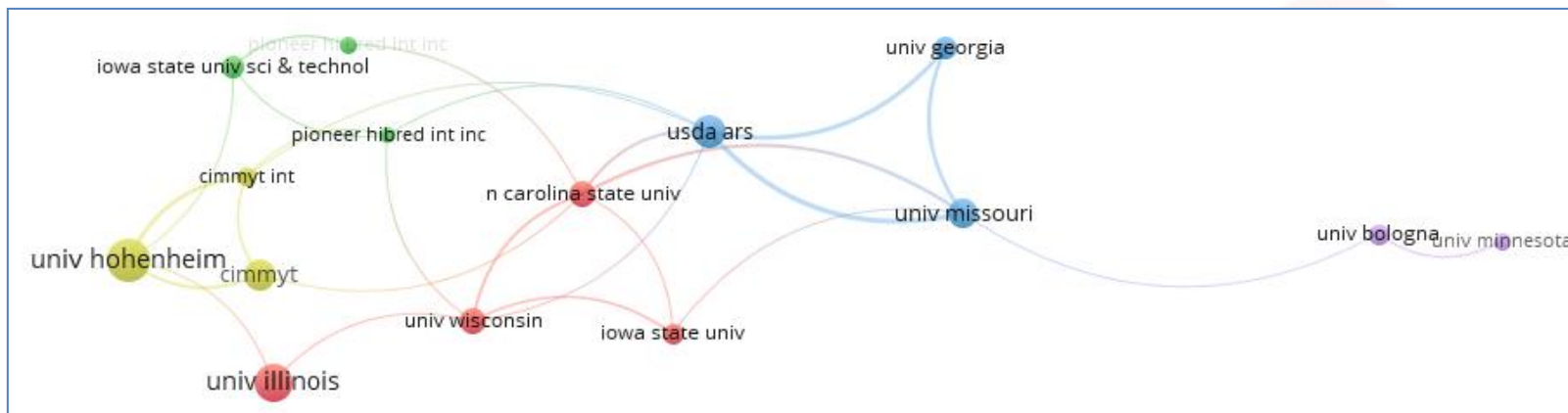
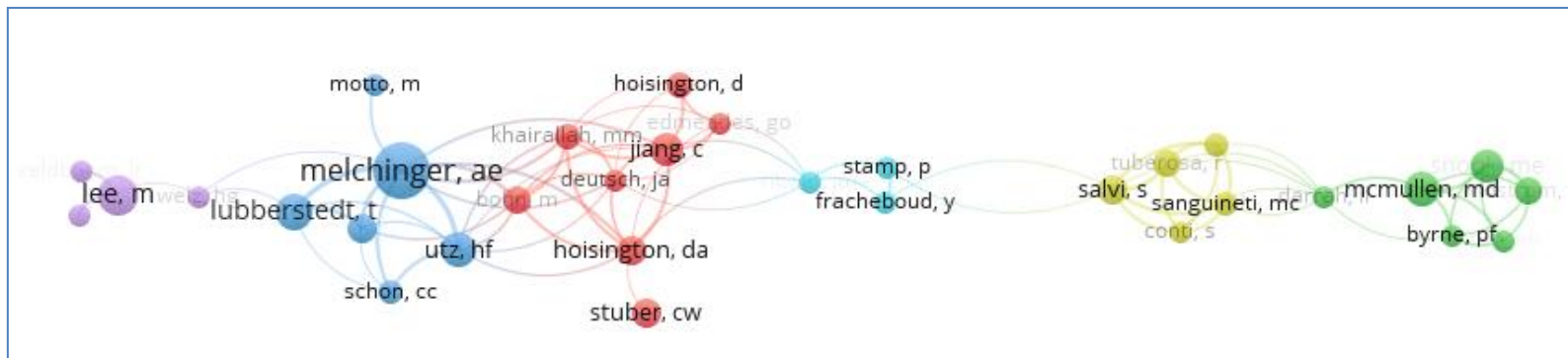
Selected	Cited reference	Citations	Total link strength
<input checked="" type="checkbox"/>	lander es, 1989, genetics, v121, p185	95	654
<input checked="" type="checkbox"/>	zeng zb, 1994, genetics, v136, p1457	83	608
<input checked="" type="checkbox"/>	lander e s, 1987, genomics, v1, p174, doi 10....	93	575
<input checked="" type="checkbox"/>	stuber cw, 1992, genetics, v132, p823	55	474
<input checked="" type="checkbox"/>	jansen rc, 1994, genetics, v136, p1447	45	419
<input checked="" type="checkbox"/>	knapp sj, 1985, crop sci, v25, p192, doi 10.21...	41	415
<input checked="" type="checkbox"/>	schon cc, 1994, crop sci, v34, p378, doi 10.21...	40	405
<input checked="" type="checkbox"/>	bohn m, 1996, crop sci, v36, p1352, doi 10.21...	38	383
<input checked="" type="checkbox"/>	haley cs, 1992, heredity, v69, p315, doi 10.10...	39	349
<input checked="" type="checkbox"/>	beavis wd, 1994, crop sci, v34, p882, doi 10....	31	317
<input checked="" type="checkbox"/>	paterson ah, 1991, genetics, v127, p181	33	312
<input checked="" type="checkbox"/>	schon cc, 1993, heredity, v70, p648, doi 10.1...	32	310
<input checked="" type="checkbox"/>	lande r, 1990, genetics, v124, p743	33	309
<input checked="" type="checkbox"/>	beavis wd, 1991, theor appl genet, v83, p141...	33	306
<input checked="" type="checkbox"/>	hallauer ar, 1981, quantitative genetic	34	292
<input checked="" type="checkbox"/>	veldboom lr, 1994, theor appl genet, v88, p7...	28	279
<input checked="" type="checkbox"/>	stuber cw, 1987, crop sci, v27, p639, doi 10.2...	36	275
<input checked="" type="checkbox"/>	edwards md, 1992, theor appl genet, v83, p7...	32	262
<input checked="" type="checkbox"/>	jansen rc, 1993, genetics, v135, p205	30	262



49个节点，32个节点之间有联系，是显示
32个（常用）还是选择49个进行显示



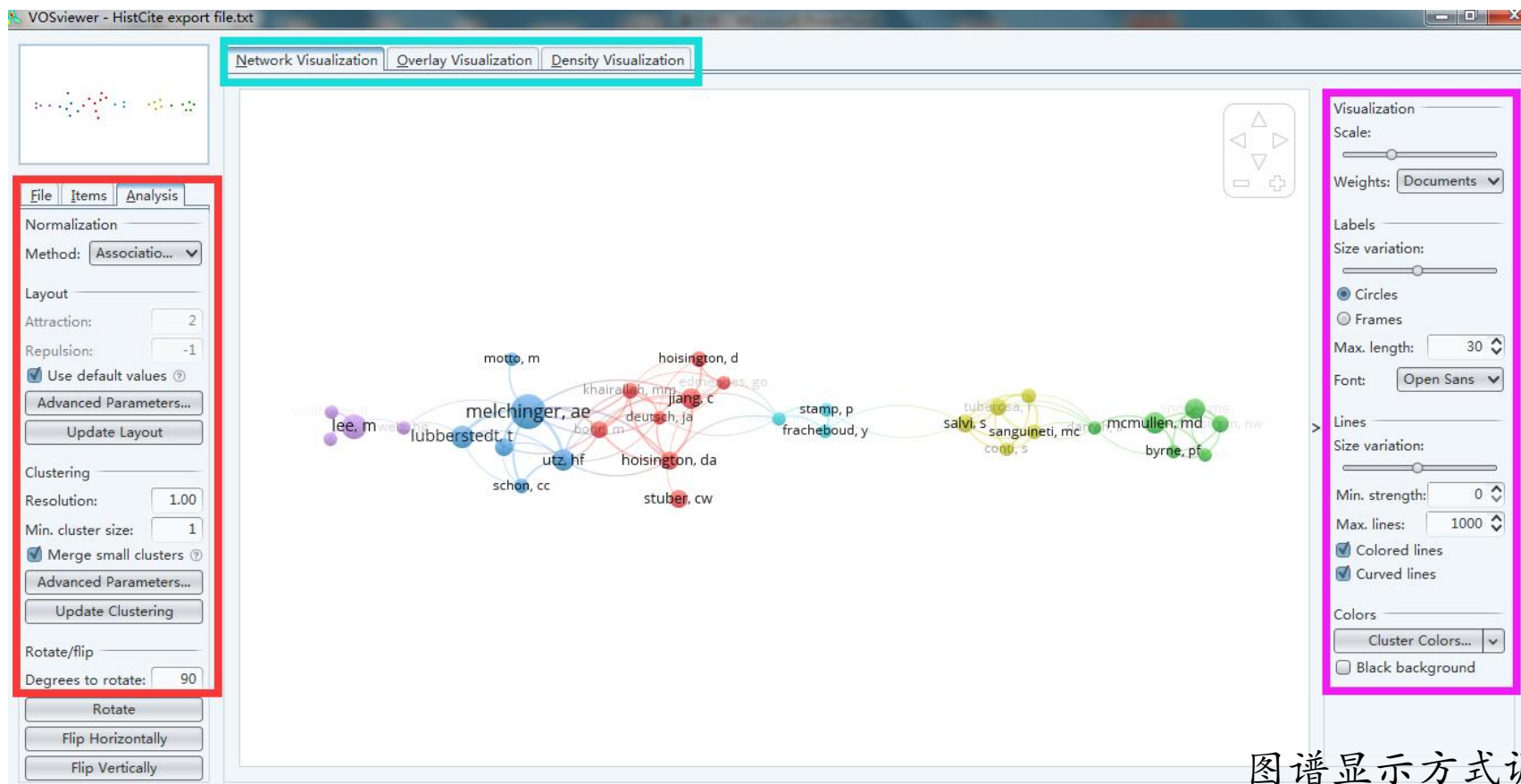
(6) 作图



Cluster View , 同一颜色表示一个聚类组 (合作团队)



(7) 图谱调整



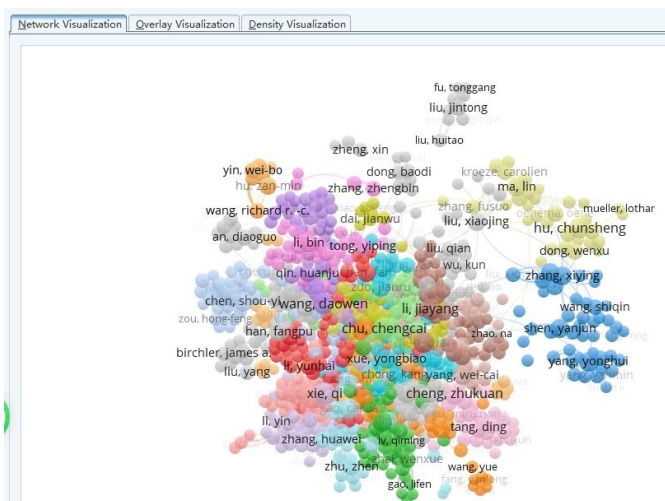
图谱显示方式调整

图谱调整，重

新计算聚类

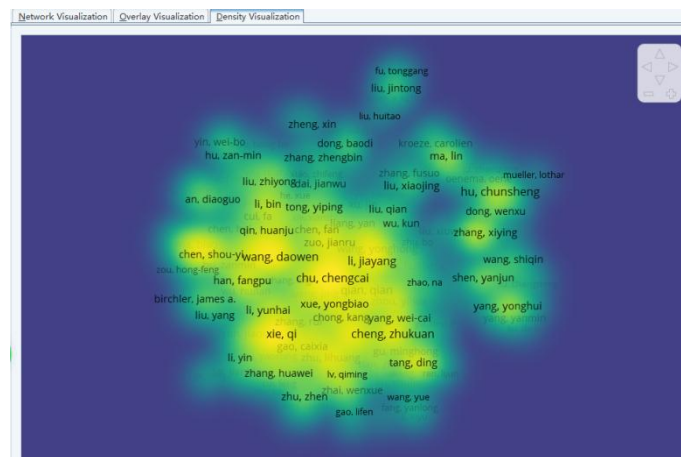


Network



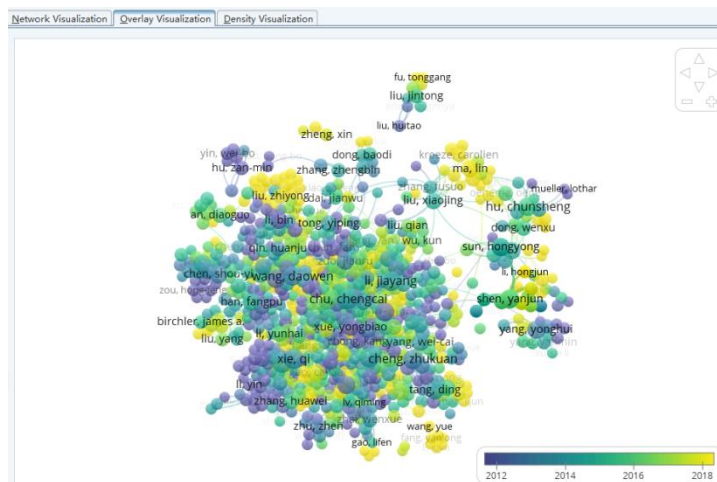
节点与weight成正比

Density



节点和聚类的密度

Overlay



节点颜色对应
年份

节点Score高低分配颜色



File **Items** **Analysis**

Normalization

Method: **Associatio...** ▼

Layout

Attraction:

Repulsion:

☐ Use default values ?

Advanced Parameters...

Update Layout

Clustering

Resolution:

Min. cluster size:

☒ Merge small clusters ?

Advanced Parameters...

Update Clustering

Rotate/flip

Degrees to rotate:

Rotate

Flip Horizontally

Flip Vertically

Visualization

Scale:

Weights: **Occurren...** ▼

Labels

Size variation:

☒ Circles

☐ Frames

Max. length: ▼

Font: **Open Sans** ▼

Lines

Size variation:

Min. strength: ▼

Max. lines: ▼

☒ Colored lines

☒ Curved lines

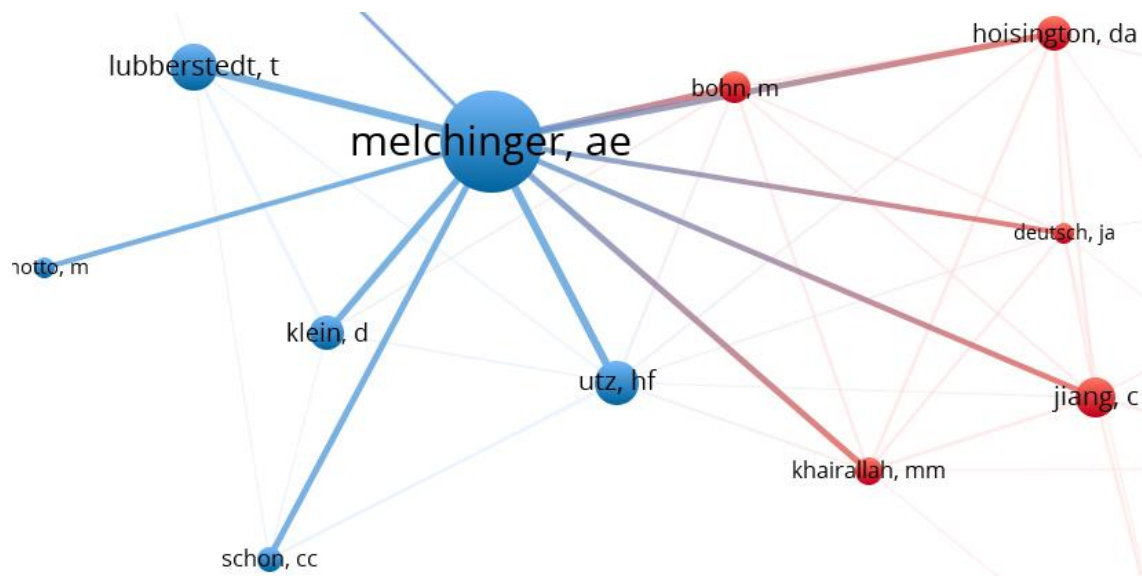
Colors

Cluster Colors... ▼

☐ Black background



(8) 图谱解读



节点大小--频次

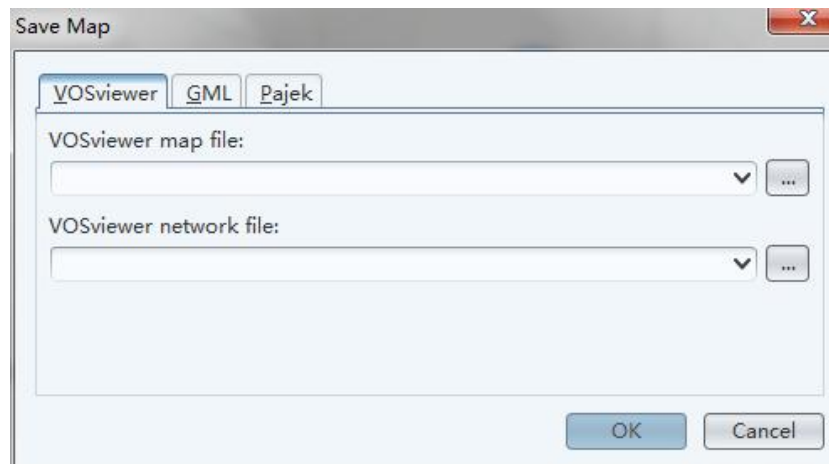
连线—共被引、共现

连线粗细--强度高低



(9) 分析结果导出

File- Save



File- ScreenShot

