

CodesForPubAg

author: Rae Zhang

Method: GET

Data Status: Raw

Data Storage: .csv files

Frist off, set up the libraries for future usage. I used `Sys.getenv(KEY=My_API_KEY)` to set up my API key without using the key argument is to use environment variables, which is stores information during your R session.

```
library("httr")  
library("jsonlite")
```

Get content data of “corn” from PubAg at USDA

```
base <- "https://api.nal.usda.gov/pubag/rest/search/?"  
query<-"farm"  
page="20"  
per_page="100"  
API_KEY=Sys.getenv("KEY")  
  
call1 <- paste(base, "query", "=", query, "&",  
              "page", "=", page, "&",  
              "per_page", "=", per_page, "&",  
              "API_KEY", "=", API_KEY, "&",  
              sep="")  
PubAg_API_Call<-httr::GET(call1)  
keyword_raw<-httr::content(PubAg_API_Call, as = 'text')  
json_raw <- jsonlite::fromJSON(keyword_raw)  
keyword_df <- json_raw$resultList  
keyword_df1 <- apply(keyword_df,2,as.character)
```

Show the first 10 rows in the dataframe

```
head(keyword_df, 10)
```

The screenshots below are the dataframe content of the first 10 rows of the content data of “corn”.

Description: df[,31] [10 x 31]

title

<chr>

Irrigation and energy: issues and challenges
The impact of nutrient regulations on dairy farm land values in Southland
Whole Genome Sequence Analysis of Porcine Astroviruses Reveals Novel Genetically Diverse Strains Circulating in East African Smallholder...
Adoption and economic analysis of using biological control in Philippine highland farms: Case of Trichoderma koningii strain KA
Do farmers manage weeds on owned and rented land differently? Evidence from US corn and soybean farms
Farm Safety Practices and Farm Size in New South Wales
Avenues for improving farming sustainability assessment with upgraded tools, sustainability framing and indicators. A review
Day-old chicken quality and performance of broiler chickens from 3 different hatching systems
What to do with the farmland? Coping with ageing in rural Thailand
Integrated farm management for sustainable agriculture: Lessons for knowledge exchange and policy

1-10 of 10 rows | 4-4 of 31 columns

Description: df[,31] [10 x 31]

timestamp

<chr>

author author_primary

<list> <chr>

subject source

<list> <chr>

2021-09-14T05:50:31Z	<chr [11]> Belaud, G.	<chr [4]> 2020 v.69 Suppl S1
2021-09-14T11:46:05Z	<chr [2]> Muller, Carla F.	<chr [10]> 2019 v.62 no.4
2021-09-14T12:56:14Z	<chr [5]> Amimo, Joshua O.	<chr [21]> 2020 v.12 no.11
2021-09-14T05:53:59Z	<chr [4]> Launio, Cheryl C.	<chr [21]> 2020 v.136
2021-09-14T06:53:14Z	<chr [10]> Frisvold, George B	<chr [19]> 2020 v.76 no.6
2021-09-14T03:35:28Z	<chr [5]> Bailey, Jannine	<chr [10]> 2017 v.22 no.3
2021-09-14T09:02:21Z	<chr [5]> Chopin, Pierre	<chr [10]> 2021 v.41 no.2
2021-09-14T13:39:23Z	<chr [10]> Souza da Silva, Carol	<chr [10]> 2021 v.100 no.3
2021-09-14T13:26:31Z	<chr [2]> Jansuwan, Para	<chr [9]> 2021 v.81
2021-09-14T06:12:41Z	<chr [10]> Rose, David C.	<chr [10]> 2019 v.81

1-10 of 10 rows | 5-9 of 31 columns

Description: df[,31] [10 x 31]

journal

<chr>

Irrigation and drainage
New Zealand journal of agricultural research
Viruses
Crop protection
Pest management science
Journal of agromedicine
Agronomy for sustainable development
Poultry science
Journal of rural studies
Land use policy

1-10 of 10 rows | 10-10 of 31 columns

Description: df[,31] [10 x 31]

abstract

<chr>

Water-efficient agriculture has implied a large increase in energy consumption for irrigation in recent decades. In many irrigation systems...
Environment Southland is setting water quality limits in Southland, New Zealand. It has been well-documented that restrictions on nutrien...
Astroviruses (AstVs) are widely distributed and are associated with gastroenteritis in human and animals. The knowledge of the genetic di...
This study summarized evidence of adoption and outcomes of using Trichoderma koningii in highland agriculture in the Philippines, and ...
BACKGROUND: It has been frequently argued that growers have less incentive to manage the evolution and spread of herbicide-resistant ...
Objective: There is some evidence to suggest that safety on small-area farms may not be high priority due to economic constraints and la...
The sustainability of agriculture is questioned due to major negative environmental and socioeconomic impacts. To improve the state of ...
In on-farm hatching systems, eggs are transported at d 18 of incubation to the broiler farm, where chickens have immediate access to fe...
As Thai farmers get older they need to plan what to do with their farm business and land given younger people tend to out-migrate to ur...
As a response to the environmentally and socially destructive practices of post-war mechanization and intensification, the concept of sus...

1-10 of 10 rows | 11-11 of 31 columns

Description: df[,31] [10 x 31]						
date <chr>	publication_year <chr>	publication_year_rev <chr>	issn <chr>	type <chr>	volume <chr>	startpage <chr>
2020-04	2020	7980-2020	1531-0353	article	v. 69 Suppl S1	177
2019-10-02	2019	7981-2019	1175-8775	article	v. 62	457
2020-11-05	2020	7980-2020	1999-4915	article	v. 12	NA
2020-10	2020	7980-2020	0261-2194	article	v. 136	105177
2020-06	2020	7980-2020	1526-498X	article	v. 76	2030
2017-07-03	2017	7983-2017	1545-0813	article	v. 22	229
2021-04	2021	7979-2021	1774-0746	article	v. 41	19
2021-03	2021	7979-2021	0032-5791	article	v. 100	100953
2021-01	2021	7979-2021	0743-0167	article	v. 81	37
2019-02	2019	7981-2019	0264-8377	article	v. 81	834
1-10 of 10 rows 12-18 of 31 columns						

Description: df[,31] [10 x 31]			
endpage <chr>	pageoffset <chr>	page <chr>	doi_url <chr>
185	8	pp. 177-185	http://dx.doi.org/10.1002/ird.2343
475	18	pp. 457-475	http://dx.doi.org/10.1080/00288233.2018.1509876
NA	NA	NA	http://dx.doi.org/10.3390/v12111262
NA	NA	NA	https://dx.doi.org/10.1016/j.cropro.2020.105177
2039	9	pp. 2030-2039	http://dx.doi.org/10.1002/ps.5737
234	5	pp. 229-234	https://dx.doi.org/10.1080/1059924X.2017.1318101
19	1	pp. 19-19	https://dx.doi.org/10.1007/s13593-021-00674-3
NA	NA	NA	https://dx.doi.org/10.1016/j.psj.2020.12.050
46	9	pp. 37-46	https://dx.doi.org/10.1016/j.jrurstud.2020.12.003
842	8	pp. 834-842	https://dx.doi.org/10.1016/j.landusepol.2018.11.001
1-10 of 10 rows 19-22 of 31 columns			

Description: df[,31] [10 x 31]							
doi <chr>	text_availability <list>	language <list>	issue <chr>	chorus <chr>	pmid <chr>	pmid_url <chr>	pmcid <chr>
10.1002/ird.2343	<chr [1]>	<chr [1]>	NA	NA	NA	NA	NA
10.1080/00288233.2018.1509876	<chr [1]>	<chr [1]>	no. 4	NA	NA	NA	NA
10.3390/v12111262	<chr [1]>	<chr [1]>	no. 11	NA	NA	NA	NA
10.1016/j.cropro.2020.105177	<chr [1]>	<chr [1]>	NA	NA	NA	NA	NA
10.1002/ps.5737	<chr [1]>	<chr [1]>	no. 6	NA	NA	NA	NA
10.1080/1059924X.2017.1318101	<chr [1]>	<chr [1]>	no. 3	NA	NA	NA	NA
10.1007/s13593-021-00674-3	<chr [1]>	<chr [1]>	no. 2	NA	NA	NA	NA
10.1016/j.psj.2020.12.050	<chr [1]>	<chr [1]>	no. 3	NA	NA	NA	NA
10.1016/j.jrurstud.2020.12.003	<chr [1]>	<chr [1]>	NA	NA	NA	NA	NA
10.1016/j.landusepol.2018.11.001	<chr [1]>	<chr [1]>	NA	NA	NA	NA	NA
1-10 of 10 rows 23-30 of 31 columns							

Write the dataframe to .csv file

```
write.csv(keyword_df1, "content_corn.csv", row.names = FALSE)
```

The screenshots below are the .csv file just have been created

id	apld	title	timestamp	author	author_primary	subject	source	journal	abstr
1	6884860	6884860	2021-09-14T05:50:31Z	c"Belaud, G.", "Mateos, L.", "Allo, R.", "Buisson, M.-C."	Belaud, G.	c"Energy efficiency", "farms", "stakeholders", "France"	2020 v.69 Suppl S1	Irrigation and drainage	V
2	6478374	6478374	2021-09-14T11:46:05Z	c"Muller, Carla F.", "Neal, Mark B."	Muller, Carla F.	c"Daily farming", "farm profitability", "farming system."	2019 v.62 no.4	New Zealand journal of agricultural research	E
3	7190709	7190709	2021-09-14T12:56:14Z	c"Amimo, Joshua O.", "Machuka, Eunice M.", "Abworo"	Amimo, Joshua O.	c"Mamastrovirus", "Rotavirus", "amino acid sequence..."	2020 v.12 no.11	Viruses	A
4	6887828	6887828	2021-09-14T05:53:59Z	c"Launio, Cheryl C.", "Labon, Kacy O.", "Bazley, Alladi"	Launio, Cheryl C.	c"Trichoderma koningi", "biological control", "compo..."	2020 v.136	Crop protection	T
5	6935343	6935343	2021-09-14T06:53:14Z	c"Frivold, George B.", "Albright, Joshua", "Ervin, Davi..."	Frivold, George B.	c"Clycine max", "Zea mays", "agricultural land", "corn..."	2020 v.76 no.6	Pest management science	B
6	5737259	5737259	2021-09-14T09:02:21Z	c"Bailey, Janine", "Dutton, Tegan", "Payne, Kristy", "..."	Bailey, Janine	c"agricultural health and safety", "children", "farm siz..."	2017 v.22 no.3	Journal of agromedicine	C
7	7299279	7299279	2021-09-14T09:02:21Z	c"Chopin, Pierre", "Mubaya, Chipo P.", "Descheemaek..."	Chopin, Pierre	c"agronomy", "biodiversity conservation", "bioccono..."	2021 v.41 no.2	Agonomy for sustainable development	T
8	7218997	7218997	2021-09-14T13:39:23Z	c"Souza da Silva, Carol", "Molemar, Root", "Giersberg..."	Souza da Silva, Carol	c"age at slaughter", "body weight", "breasts", "carcass..."	2021 v.100 no.3	Poultry science	J
9	7209328	7209328	2021-09-14T13:26:31Z	c"Jansuwan, Para", "Zander, Kerstin K."	Jansuwan, Para	c"agricultural land", "agricultural productivity", "elder..."	2021 v.81	Journal of rural studies	A
10	6235830	6235830	2021-09-14T06:12:41Z	c"Rose, David C.", "Sutherland, William J.", "Barnes, A..."	Rose, David C.	c"farm management", "farmers", "farming systems", "..."	2019 v.81	Land use policy	A
11	6255877	6255877	2021-09-14T06:12:41Z	c"De Rosa, Marcello", "McIlwaine, Gerard", "Smith, Rob..."	De Rosa, Marcello	c"case studies", "entrepreneurship", "family farms", "..."	2019 v.81	Land use policy	E
12	6258344	6258344	2021-09-14T06:16:32Z	c"Prisjeper, Miguel A.", "Otero-Casal, Carlos", "Yendin..."	Prisjeper, Miguel A.	c"ecological footprint", "farms", "hydridynamics", "ba..."	2019 v.135	Renewable energy	B
13	7107774	7107774	2021-09-14T10:52:27Z	c"Tarbati, B.", "Jansson, DFF", "Wall, K.", "Tylin, E.", "Hö..."	Tarbati, B.	c"Ascidiella galii", "body weight", "commercial farms", "..."	2020 v.286	Veterinary parasitology	F
14	7358940	7358940	2021-09-14T10:28:39Z	c"Jara, Manuel", "Rasmussen, David A.", "Corzo, Cesa..."	Jara, Manuel	c"farm", "genetic variation", "porcine reproductive a..."	2021 v.68 no.2	Transboundary and emerging diseases	F
15	7106499	7106499	2021-09-14T10:50:49Z	c"Loza, L.", "Cottardo, R.", "Contieri, B.", "Zidi, A.", "L..."	Loza, L.	c"Holstein", "calving interval", "cluster analysis", "dair..."	2020 v.103 no.11	Journal of dairy science	S
16	7406536	7406536	2021-09-14T11:30:19Z	c"Hirvonen, Kalle", "Mintes, Bart", "Mohammed, Belay..."	Hirvonen, Kalle	c"COVID-19 infection", "domestic trade", "farms", "fo..."	2021 v.52 no.3	Agricultural economics	H
17	7409278	7409278	2021-09-14T11:34:11Z	c"Burke, Niamh", "Adley, Catherine C."	Burke, Niamh	c"World Health Organization", "amoxicillin", "clavulan..."	2021 v.88 no.2	The Journal of dairy research	T
18	6484891	6484891	2021-09-14T11:55:42Z	c"Deming, J.", "Konnella, J.", "O'Brien, B.", "Shalloo, L..."	Deming, J.	c"calves", "calving", "contractors", "cows", "dairy farmi..."	2019 v.102 no.9	Journal of dairy science	T
19	6916010	6916010	2021-09-14T06:27:20Z	c"Cuthbertson, Holly", "Tarr, Cath", "Loudon, Kate", "..."	Cuthbertson, Holly	c"animal welfare", "carcass characteristics", "cattle", "..."	2020 v.169	Meat science	T
20	6124741	6124741	2021-09-14T05:13:59Z	c"Wu, Yu-Ting", "Liao, Teh-Lu", "Chen, Chang-Kuo", "..."	Wu, Yu-Ting	c"power generation", "renewable energy sources", "bi..."	2019 v.132	Renewable energy	L
21	6841281	6841281	2021-09-14T05:03:32Z	c"Collineau, Lucie", "Chapman, Brennan", "Bao, Xu", "..."	Collineau, Lucie	c"Codex Alimentarius", "Salmonella Heidelberg", "anti..."	2020 v.330	International journal of food microbiology	S
22	7312535	7312535	2021-09-14T09:25:27Z	c"Ali, Muhammad Fadzli", "Akber, Md. Ali", "Smith, C..."	Ali, Muhammad Fadzli	c"compliance", "crop diversification", "farm income", "..."	2021 v.127	Forest policy and economics	T
23	7130197	7130197	2021-09-14T12:25:9Z	c"Oppenorth, Julie", "Sordillo, Lorraine M.", "Zack, Jesse..."	Oppenorth, Julie	c"alpha-tocopherol", "blood proteins", "calves", "cattl..."	2020 v.103 no.12	Journal of dairy science	C
24	6724855	6724855	2021-09-14T12:46:56Z	c"Smart, Nathan", "Briggeman, Brian C.", "Tack, Jesse..."	Smart, Nathan	c"cooperatives", "data collection", "farms", "profits an..."	2019 v.35 no.4	Agribusiness	A
25	6493916	6493916	2021-09-14T12:09:06Z	c"YOON, Sungsoo", "KIM, Gillian", "CHOI, Ho", "BYU..."	YOON, Sungsoo	c"agricultural land", "biodiversity conservation", "bota..."	2019 v.78 no.1	Journal of limnology	J
26	6853772	6853772	2021-09-14T05:17:04Z	c"Yoboue, Kouamé Parfait", "Ouattara, Nahoua Issa", "..."	Yoboue, Kouamé Parfait	c"anthropogenic activities", "aquatic environment", "b..."	2020 v.192 no.4	Environmental monitoring and assessment	C
27	6171433	6171433	2021-09-14T12:40:38Z	c"Annetti, Luigi", "Neri, Diana", "Santarelli, Gino Ange..."	Iannetti, Luigi	c"Campylobacter coli", "Campylobacter jejuni", "Salm..."	2020 v.109	Food control	S
28	7086947	7086947	2021-09-14T10:26:28Z	c"Taher, Eman M.", "Hennatmadadi, Fahid", "Ali, Sal", "..."	Taher, Eman M.	c"UHT milk", "antibiotic resistance", "antibiotic resista..."	2020 v.103 no.11	Journal of dairy science	C
29	7454888	7454888	2021-09-14T10:10:50Z	c"Botiacini, M.", "Scolio, A.", "Conterio, B.", "Mazzoni, ..."	Botiacini, M.	c"comorbidity", "farms", "liver", "milk", "pathogenesis..."	2021 v.273	The veterinary journal	T
30	7371108	7371108	2021-09-14T12:24:07Z	c"Delannoy, Sabine", "Schouler, Catherine", "Souillard..."	Delannoy, Sabine	c"Escherichia coli", "air", "farms", "flocks", "genetic pr..."	2019 v.252	Veterinary microbiology	A
31	6258832	6258832	2021-09-14T06:37:02Z	c"Lehmann, Jesper Overgård", "Mogensen, Lisbeth", "..."	Lehmann, Jesper Overgård	c"Beef", "cash crops", "dairy cows", "economic impac..."	2019 v.220	Livestock science	T
32	7340911	7340911	2021-09-14T10:03:01Z	c"Calvares, Victor E.", "Yadav, Prashant, Likit", "Dai..."	Calvares, Victor E.	c"animal welfare", "artificial intelligence", "beats", "da..."	2021 v.121	International dairy journal	A
33	7331858	7331858	2021-09-14T09:52:11Z	c"Moretti, Michele", "Nipchoememakal, Janka", "Van P..."	Moretti, Michele	c"agricultural productivity", "climate", "climate chang..."	2021 v.185	Ecological economics	E
34	7406287	7406287	2021-09-14T11:29:43Z	c"Pathak, Santosh", "Tasuli, Krishna P.", "Adusumilli, ..."	Pathak, Santosh	c"conservation practices", "conservation programs", "..."	2021 v.68 no.1	Environmental management	E
35	7106039	7106039	2021-09-14T10:54:27Z	c"Viscardi, Sharon", "Marino, Luis", "Barra, Patricia Ja..."	Viscardi, Sharon	c"biofortification", "economic sustainability", "farm to..."	2020 v.34	Current opinion in food science	B
36	7393446	7393446	2021-09-14T11:18:14Z	c"López-Lorenzo, Gonzalo", "López-Navas, Cynthia", "..."	López-Lorenzo, Gonzalo	c"DNA", "Myxoma virus", "airborne transmission", "bi..."	2021 v.68 no.3	Transboundary and emerging diseases	N
37	5811349	5811349	2018-09-27T03:07:54Z	c"Yuan, Renny", "Li, Wenji", "Luo, Kun", "Zhang, Jianwe..."	Yuan, Renny	c"models", "wind farms", "wind speed"	2017 v.206	Applied energy	F
38	6796486	6796486	2021-09-14T15:45:07Z	c"Tomasselli, Giovanna", "Basso, Pierantonio", "Riguccio, L..."	Tomasselli, Giovanna	c"biodiversity", "coasts", "ecosystem services", "farmi..."	2020 v.92	Land use policy	T
39	7330339	7330339	2021-09-14T09:47:43Z	c"Mundtjager, Karin", "Pedersen, Peter Elbek", "Hamm..."	Mundtjager, Karin	c"Neovision vision", "amoxicillin", "cystitis", "farms", "fl..."	2021 v.63 no.1	Acta veterinaria Scandinavica	N
40	6795758	6795758	2021-09-14T09:23:8Z	c>Gualtieri, Giovanni	Gualtieri, Giovanni	c"energy costs", "models", "wind farms", "wind power..."	2019 v.193	Energy conversion and management	A
41	6195567	6195567	2021-09-14T05:11:13Z	c>Riggio, Gina M.	Riggio, Gina M.	c"farm to fork", "food safety", "good agricultural prac..."	2019 v.290	International journal of food microbiology	T

Showing 1 to 41 of 100 entries, 31 total columns

source	journal	abstract	date	publication_year	publication_year_rev	issn	type	volume	startpage	endpage	pageoffset	page	doi.url	
eholders", "France"	2020 v.69 Suppl S1	Irrigation and drainage	Water-efficient agriculture has implied a large increase in	2020-04	2020	7980-2020	1531-0353	article	v. 69 Suppl S1	177	185	8	pp. 177-185	htt
y", "farming system."	2019 v.62 no.4	New Zealand journal of agricultural research	Environment Southland is setting water quality limits L	2019-10-02	2019	7981-2019	1175-8775	article	v. 62	457	475	18	pp. 457-475	htt
nino acid sequence..."	2020 v.12 no.11	Viruses	Atroviruses (AsTVs) are widely distributed and are as	2020-11-05	2020	7980-2020	1999-4915	article	v. 12	N/A	N/A	N/A	N/A	htt
al control", "compo..."	2020 v.136	Crop protection	This study summarized evidence of adoption and out	2020-10-10	2020	7980-2020	0261-2194	article	v. 136	105177	N/A	N/A	N/A	htt
ultural land", "corn..."	2020 v.76 no.6	Pest management science	BACKGROUND: It has been frequently argued that gra-	2020-06-06	2020	7980-2020	1526-498X	article	v. 76	2030	2039	9	pp. 2030-2039	htt
children", "farm siz..."	2017 v.22 no.3	Journal of agromedicine	Objective: There is some evidence to suggest that sof-	2017-07-03	2017	7983-2017	1545-0813	article	v. 22	229	234	5	pp. 229-234	htt
vation", "bioccono..."	2021 v.41 no.2	Agonomy for sustainable development	The sustainability of agriculture is questioned due to	2021-04-01	2021	7979-2021	1774-0746	article	v. 41	19	1	1	pp. 19-19	htt
., "breasts", "carcass..."	2021 v.100 no.3	Poultry science	In on-farm hatching systems, eggs are transported at	2021-03-01	2021	7979-2021	0032-5791	article	v. 100	100953	N/A	N/A	N/A	htt
productivity", "elder..."	2021 v.81	Journal of rural studies	As Thai farmers get older they need to plan what to d.	2021-01-01	2021	7979-2021	0743-0167	article	v. 81	37	46	9	pp. 37-46	htt
farming systems", "..."	2019 v.81	Land use policy	As a response to the environmentally and socially des	2019-02-01	2019	7981-2019	0264-8377	article	v. 81	834	842	8	pp. 834-842	htt
y", "family farms", "..."	2019 v.81	Land use policy	Entrepreneurial turns, serendipitous events, entrepre-	2019-02-01	2019	7981-2019	0264-8377	article	v. 81	291	301	10	pp. 291-301	htt
hydridynamics", "ba..."	2019 v.135	Renewable energy	Regional meteorological models are becoming a gne-	2019-05-05	2019	7981-2019	0960-1481	article	v. 135	674	686	12	pp. 674-686	htt
commercial farms", "..."	2020 v.286	Veterinary parasitology	Worm control is an important aspect of the successful	2020-10-10	2020	7980-2020	0304-4017	article	v. 186	109238	N/A	N/A	N/A	htt
ine reproductive a..."	2021 v.68 no.2	Transboundary and emerging diseases	Porcine reproductive and respiratory syndrome virus	2021-03-01	2021	7979-2021	1865-1674	article	v. 68	667	683	16	pp. 667-683	htt
ster analysis", "dair..."	2020 v.103 no.11	Journal of dairy science	Sensor systems (SS) were developed over the last few	2020-11-20	2020	7980-2020	0022-0302	article	v. 103	10264	10272	8	pp. 10264-10272	htt
trade", "farms", "fo..."	2021 v.52 no.3	Agricultural economics	It is widely feared that the shock of the COVID-19 pa-	2021-05-01	2021	7979-2021	0169-5150	article	v. 52	407	421	14	pp. 407-421	htt
oxicillin", "clavulan..."	2021 v.88 no.2	The Journal of dairy research	This research communication describes the lactating L	2021-05-01	2021	7979-2021	1469-7629	article	v. 88	176	178	2	pp. 176-178	htt
"cows", "dairy farmi..."	2019 v.102 no.9	Journal of dairy science	The seasonality of grass-based, seasonal-calving dair	2019-09-01	2019	7981-2019	0022-0302	article	v. 102	8431	8440	9	pp. 8431-8440	htt
teristics", "cattle", "..."	2020 v.169	Meat science	Temperature is used as an indicator of animals' respo	2020-11-01	2020	7980-2020	0309-1740	article	v. 169	108173	N/A	N/A	N/A	htt
energy sources", "bi..."	2019 v.132	Renewable energy	Large-eddy simulation (LES) is used to investigate the	2019-03-01	2019	7981-2019	0960-1481	article	v. 132	941	949	8	pp. 941-949	htt
a Heidelberg", "anti..."	2020 v.330	International journal of food microbiology	Salmonella Heidelberg resistant to ceftriaxone is th	2020-10-02	2020	7980-2020	0168-1605	article	v. 330	108559	N/A	N/A	N/A	htt
n", "farm income", "..."	2021 v.127	Forest policy and economics	The rubber industry is one of the largest contributors.	2021-06-01	2021	7979-2021	1389-9341	article	v. 127	102449	N/A	N/A	N/A	htt
ins", "calves", "cattl..."	2020 v.103 no.12	Journal of dairy science	Our objective was to supplement colostrum with n-3	2020-12-10	2020	7980-2020	0022-0302	article	v. 103	11689	11696	7	pp. 11689-11696	htt
"farms", "profits an..."	2019 v.35 no.4	Agribusiness	A challenge for many U.S. grain marketing and farm s.	2019-10-10	2019	7981-2019	0742-4477	article	v. 35	625	638	13	pp. 625-638	htt
conservation", "bota..."	2019 v.78 no.1	Journal of limnology	The Korean traditional farm pond called dumbeung is	2019-01-03	2019	7981-2019	1129-5767	article	v. 78	N/A	N/A	N/A	N/A	htt
ic environment", "b..."	2020 v.192 no.4	Environmental monitoring and assessment	Discharges of untreated effluent from fish farming in	2020-04-01	2020	7980-2020	0167-6369	article	v. 192	203	203	1	pp. 203-203	htt
acter jingii", "Salm..."	2020 v.109	Food control	Stress factors and poor animal welfare can increase th	2020-03-01	2020	7980-2020	0956-7135	article	v. 109	106921	N/A	N/A	N/A	htt
"", "antibiotic resista..."	2020 v.103 no.11	Journal of dairy science	Despite the considerable advances that have been ma	2020-11-20	2020	7980-2020	0022-0302	article	v. 103	9936	9945	9	pp. 9936-9945	htt
ilk", "pathogenesis..."	2021 v.273	The veterinary journal	This study determined the prevalence of <i>Rhinospir</i> pr	2021-07-01	2021	7979-2021	1090-0233	article	v. 273	105680	N/A	N/A	N/A	htt
"flocks", "genetic pr..."	2019 v.252	Veterinary microbiology	Avian colibacillosis is the most common bacterial dis	2021-01-01	2021	7979-2021	0378-1135	article	v. 252	108923	N/A	N/A	N/A	htt
y", "economic impac..."	2019 v.220	Livestock science	The management concept "extended lactation" where-	2019-02-01	2019	7981-2019	1871-1413	article	v. 220	100	100	10	pp. 100-110	htt
genes", "bruin", "dal..."	2021 v.121	International dairy journal	Data integration is one of the biggest challenges the	2021-10-01	2021	7979-2021	0958-6946	article	v. 121	105069	N/A	N/A	N/A	htt
te", "climate chang..."	2021 v.185	Ecological economics	Environmental effects and natural resources depletion	2021-07-01	2021	7979-2021	0921-8009	article	v. 185	107058	N/A	N/A	N/A	htt
vation programs", "..."	2021 v.68 no.1	Environmental management	Conservation practices focusing on improving the soil	2021-07-01	2021	7979-2021	0364-152X	article	v. 68	1	16	15	pp. 1-16	htt
ainability", "farm to..."	2020 v.34	Current opinion in food science	8-group vitamins are essential nutrients for being org	2020-08-20	2020	7980-2020	2214-7993	article	v. 34	1	8	7	pp. 1-8	htt
y transmission", "bi..."	2021 v.68 no.3	Transboundary and emerging diseases	Myxoma virus (MYXV) is the aetiological agent of myx-	2021-05-01	2021	7979-2021	1865-1674	article	v. 68	1424	1431	7	pp. 1424-1431	htt
ent"	2017 v.206	Applied energy	The mesoscale Weather Research and Forecasting (WR	2017-11-15	2017	7983-2017	0306-2619	article	v. 206	113	125	12	pp. 113-125	htt
m services", "farmi..."	2020 v.92	Land use policy	Rural landscapes within Natura 2000 network are pa	2020-03-01	2020	7980-2020	0264-8377	article	v. 92	10				

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article	v. 12	N/A	N/A	N/A	N/A	http://dx.doi.org/10.3390/v12111262	10.3390/v12111262	Citation in PubAg	N/A	no. 11	N/A	N/A	N/A
v. 136	105177	N/A	N/A	N/A	N/A	https://doi.org/10.1016/j.cropro.2020.105177	10.1016/j.cropro.2020.105177	Citation in PubAg	N/A	N/A	N/A	N/A	N/A
article	v. 76	2030	2039	9	pp. 2030-2039	https://doi.org/10.1002/ps.5737	10.1002/ps.5737	Citation in PubAg	N/A	no. 6	N/A	N/A	N/A
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article	v. 81	37	46	9	pp. 37-46	https://doi.org/10.1016/j.journal.2020.12.003	10.1016/j.journal.2020.12.003	Citation in PubAg	N/A	N/A	N/A	N/A	N/A
article	v. 81	834	842	8	pp. 834-842	https://doi.org/10.1016/j.landusepol.2018.11.001	10.1016/j.landusepol.2018.11.001	Citation in PubAg	N/A	N/A	N/A	N/A	N/A
article	v. 81	291	301	10	pp. 291-301	https://doi.org/10.1016/j.landusepol.2018.11.006	10.1016/j.landusepol.2018.11.006	Citation in PubAg	N/A	N/A	N/A	N/A	N/A
article	v. 135	674	686	12	pp. 674-686	https://doi.org/10.1016/j.renene.2018.12.047	10.1016/j.renene.2018.12.047	Citation in PubAg	N/A	N/A	N/A	N/A	N/A
v. 286	109238	N/A	N/A	N/A	N/A	https://doi.org/10.1016/j.vetpar.2020.109238	10.1016/j.vetpar.2020.109238	Citation in PubAg	N/A	N/A	N/A	N/A	N/A
article	v. 68	667	683	16	pp. 667-683	https://doi.org/10.1111/rbed.13728	10.1111/rbed.13728	Citation in PubAg	N/A	no. 2	N/A	N/A	N/A
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v. 330	108559	N/A	N/A	N/A	N/A	https://doi.org/10.1016/j.ijfoodmicro.2020.108559	10.1016/j.ijfoodmicro.2020.108559	Citation in PubAg	N/A	N/A	N/A	N/A	N/A
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v. 103	11689	11696	7	pp. 11689-11696	https://doi.org/10.3168/jds.2019-18046	10.3168/jds.2019-18046	Citation in PubAg	N/A	no. 12	N/A	N/A	N/A	N/A
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v. 109	106921	N/A	N/A	N/A	N/A	https://doi.org/10.1016/j.foodcont.2019.106921	10.1016/j.foodcont.2019.106921	Citation in PubAg	N/A	N/A	N/A	N/A	N/A
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article	v. 273	105680	N/A	N/A	N/A	https://doi.org/10.1016/j.tj.2021.105680	10.1016/j.tj.2021.105680	Citation in PubAg	N/A	N/A	N/A	N/A	N/A
article	v. 252	108923	N/A	N/A	N/A	https://doi.org/10.1016/j.veteric.2020.108923	10.1016/j.veteric.2020.108923	Citation in PubAg	N/A	N/A	N/A	N/A	N/A
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article	v. 121	105069	N/A	N/A	N/A	https://doi.org/10.1016/j.dairy.2021.105069	10.1016/j.dairy.2021.105069	Citation in PubAg	N/A	N/A	N/A	N/A	N/A
article	v. 185	107058	N/A	N/A	N/A	https://doi.org/10.1016/j.ecolecon.2021.107058	10.1016/j.ecolecon.2021.107058	Citation in PubAg	N/A	N/A	N/A	N/A	N/A
article	v. 68	1	16	15	pp. 1-16	https://doi.org/10.1007/s00267-021-01477-8	10.1007/s00267-021-01477-8	Citation in PubAg	N/A	no. 1	N/A	N/A	N/A
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article	v. 68	1424	1431	7	pp. 1424-1431	http://dx.doi.org/10.1111/rbed.13809	10.1111/rbed.13809	Citation in PubAg	N/A	no. 3	N/A	N/A	N/A
article	v. 206	113	125	12	pp. 113-125	https://doi.org/10.1016/j.apenergy.2017.08.018	10.1016/j.apenergy.2017.08.018	Citation in PubAg	N/A	N/A	N/A	N/A	N/A
article	v. 92	104444	N/A	N/A	N/A	https://doi.org/10.1016/j.landusepol.2019.104444	10.1016/j.landusepol.2019.104444	Citation in PubAg	N/A	N/A	N/A	N/A	N/A
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article	v. 290	76	85	9	pp. 76-85	https://doi.org/10.1016/j.ijfoodmicro.2018.09.027	10.1016/j.ijfoodmicro.2018.09.027	Citation in PubAg	N/A	10.1016/j.ijfoodmicro.2018.09.027	N/A	N/A	N/A

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84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84
85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85
86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86
87	87	87	87	87	87	87	87	87	87	87	87</								

```
keyword_raw<-httr::content(PubAg_API_Call, as = 'text')
json_raw <- jsonlite::fromJSON(keyword_raw)
keyword_df <- json_raw$resultList
keyword_df1 <- apply(keyword_df,2,as.character)
```

Show the first 10 rows in the dataframe

```
head(keyword_df, 10)
```

Write the dataframe to .csv file

```
write.csv(keyword_df1, "content_organic_farm.csv", row.names = FALSE)
```

Get content data of “dairy” from PubAg at USDA

```
base <- "https://api.nal.usda.gov/pubag/rest/search/?"
query<-"dairy"
page="20"
per_page="100"
API_KEY=Sys.getenv("KEY")
```

```
call1 <- paste(base, "dairy", "=", query, "&",
               "page", "=", page, "&",
               "per_page", "=", per_page, "&",
               "API_KEY", "=", API_KEY, "&",
               sep="")
```

```
PubAg_API_Call<-httr::GET(call1)
keyword_raw<-httr::content(PubAg_API_Call, as = 'text')
json_raw <- jsonlite::fromJSON(keyword_raw)
keyword_df <- json_raw$resultList
keyword_df1 <- apply(keyword_df,2,as.character)
```

Show the first 10 rows in the dataframe

```
head(keyword_df, 10)
```

Write the dataframe to .csv file

```
write.csv(keyword_df1, "content_dairy.csv", row.names = FALSE)
```

Get content data of “farms” from PubAg at USDA

```
base <- "https://api.nal.usda.gov/pubag/rest/search/?"
query<-"farms"
page="20"
per_page="100"
API_KEY=Sys.getenv("KEY")
```

```
call1 <- paste(base, "farms", "=", query, "&",
               "page", "=", page, "&",
               "per_page", "=", per_page, "&",
               "API_KEY", "=", API_KEY, "&",
```

```
      sep="")
PubAg_API_Call<-httr::GET(call1)
keyword_raw<-httr::content(PubAg_API_Call, as = 'text')
json_raw <- jsonlite::fromJSON(keyword_raw)
keyword_df <- json_raw$resultList
keyword_df1 <- apply(keyword_df,2,as.character)
```

Show the first 10 rows in the dataframe

```
head(keyword_df, 10)
```

Write the dataframe to a .csv file

```
write.csv(keyword_df1, "content_farms.csv", row.names = FALSE)
```