

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization

International Bureau

(43) International Publication Date
21 January 2021 (21.01.2021)



(10) International Publication Number
WO 2021/009334 A3

(51) International Patent Classification:

C07D 237/16 (2006.01) C07D 409/10 (2006.01)

A01N 43/58 (2006.01) C07D 413/10 (2006.01)

C07D 401/10 (2006.01) C07D 417/10 (2006.01)

C07D 403/10 (2006.01)

(21) International Application Number:

PCT/EP2020/070242

(22) International Filing Date:

17 July 2020 (17.07.2020)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

1910290.4 18 July 2019 (18.07.2019) GB

(71) Applicant: SYNGENTA CROP PROTECTION AG
[CH/CH]; Rosentalstrasse 67, 4058 Basel (CH).

(72) Inventors: LING, Kenneth; Syngenta Limited Syngenta, Jealott's Hill International Research Centre, Bracknell, Berkshire RG42 6EY (GB). SEDEN, Peter, Timothy; Syngenta Limited Syngenta, Jealott's Hill International Research Centre, Bracknell, Berkshire RG42 6EY (GB). MATHEWS, Christopher, John; Syngenta Limited Syngenta, Jealott's Hill International Research Centre, Bracknell, Berkshire RG42 6EY (GB). SHANAHAN, Stephen, Edward; Syngenta Limited Syngenta, Jealott's Hill International Research Centre, Bracknell, Berkshire RG42 6EY (GB). KITSIOU, Christiana; Syngenta Limited Syngenta, Jealott's Hill International Research Centre, Bracknell, Berkshire RG42 6EY (GB). FINNEY, John; Syngenta Limited Syngenta, Jealott's Hill International Research Centre, Bracknell, Berkshire RG42 6EY (GB).

(74) Agent: SYNGENTA IP; Rosentalstrasse 67, 4058 Basel (CH).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available):

ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- of inventorship (Rule 4.17(iv))

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(88) Date of publication of the international search report:

04 March 2021 (04.03.2021)

(54) Title: SUBSTITUTED PYRIDAZINONES AS HERBICIDES

(57) Abstract: The present invention relates to herbicidal substituted phenyl-pyridazine-diones and substituted phenyl-pyridazinone derivatives of formula (I), as well as to processes and intermediates used for the preparation of such derivatives. The invention further extends to herbicidal compositions comprising such derivatives, as well as to the use of such compounds and compositions in controlling undesirable plant growth: in particular the use in controlling weeds, such as broad-leaved dicotyledonous weeds, in crops of useful plants.



WO 2021/009334 A3

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2020/070242

A. CLASSIFICATION OF SUBJECT MATTER
 INV. C07D237/16 A01N43/58 C07D401/10 C07D403/10 C07D409/10
 C07D413/10 C07D417/10
 ADD.
 According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
 Minimum documentation searched (classification system followed by classification symbols)
 C07D A01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 EPO-Internal, WPI Data, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2011/045271 A1 (BAYER CROPSCIENCE AG [DE]; BOJACK GUIDO [DE] ET AL.) 21 April 2011 (2011-04-21) examples claims -----	1-21
A	WO 2016/008816 A1 (SYNGENTA PARTICIPATIONS AG [CH]) 21 January 2016 (2016-01-21) examples claims -----	1-21
A	WO 2011/035878 A1 (BAYER CROPSCIENCE AG [DE]; LEHR STEFAN [DE] ET AL.) 31 March 2011 (2011-03-31) examples claims -----	1-21
	-/--	

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search 13 January 2021	Date of mailing of the international search report 20/01/2021
--	--

Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Stix-Malaun, Elke
--	---

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2020/070242

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P	WO 2019/137851 A1 (SYNGENTA PARTICIPATIONS AG [CH]) 18 July 2019 (2019-07-18) examples claims page 60 - page 100	1-21
X,P	----- WO 2020/114869 A1 (SYNGENTA PARTICIPATIONS AG [CH]) 11 June 2020 (2020-06-11) examples page 44 - page 63 claims -----	1-21

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/EP2020/070242

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2011045271	A1	21-04-2011	NONE

WO 2016008816	A1	21-01-2016	AR 101201 A1 30-11-2016
		BR 112017000541	A2 26-06-2018
		CN 106536486	A 22-03-2017
		EP 3169668	A1 24-05-2017
		ES 2760264	T3 13-05-2020
		JP 6524207	B2 05-06-2019
		JP 2017522318	A 10-08-2017
		KR 20170029528	A 15-03-2017
		US 2017166535	A1 15-06-2017
		WO 2016008816	A1 21-01-2016

WO 2011035878	A1	31-03-2011	US 2011118118 A1 19-05-2011
		WO 2011035878	A1 31-03-2011

WO 2019137851	A1	18-07-2019	AR 114175 A1 29-07-2020
		AU 2019207340	A1 09-07-2020
		BR 112020013958	A2 01-12-2020
		CA 3087639	A1 18-07-2019
		CN 111566094	A 21-08-2020
		EA 202091638	A1 17-11-2020
		EP 3737667	A1 18-11-2020
		KR 20200108010	A 16-09-2020
		TW 201930271	A 01-08-2019
		UY 38047	A 30-08-2019
		WO 2019137851	A1 18-07-2019

WO 2020114869	A1	11-06-2020	NONE
