

Carum carvi

Botanical name: Carum carvi

Common name: Caraway

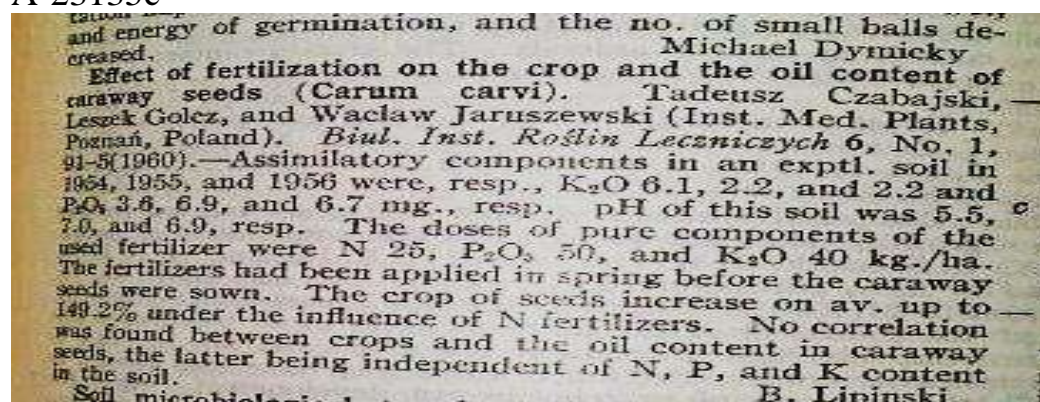
Family name : Umbelifera

Researches in "Chemical Abstract"

1960

One result found

A-23135c



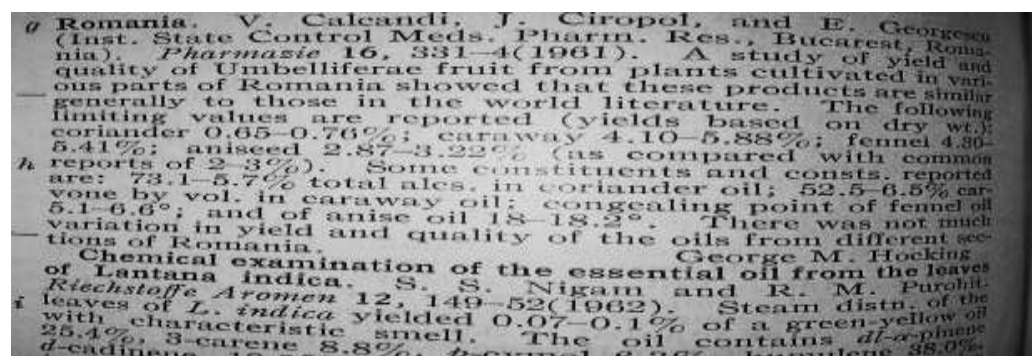
1961

No result was found

1962

Two results were found

A-(57):4776h



B-(57)12922g

J. Stapiński
Accumulation of essential oils in the plant *Carum carvi*.
Miroslav Penka, Blanka Koziskova, Vera Malkova, and
Irena Manakova (Fac. Pharmacy, Bratislava, Czech.).
— *Acta Fac. Pharm. Brun Bratislav* 5, 17–51(1961)(in English
and Czech). The influence of artificial irrigation on the
formation and accumulation of essential oils and the water re-
gime on *C. carvi* were examd. in the course of a 2 year de-
velopment period. The irrigations used for the expts. can
change the metabolism of the plant. Although in the first
year of growth the content of essential oils is higher in herbs
of unwatered plants, the content reaches max. value in the
second year and is higher in the herbs of the watered plants.
S. Simko

1963

One results was found

A- 1301e the image was unavailable

1964

One result only

A-8531d

Silicic acid-silver nitrate chromatography as an enrichment
technique in fatty acid analysis. M. K. Bhatti and B. M.
Craig (Prairie Regional Lab., Saskatoon, Can.). *J. Am. Oil
Chemists' Soc.* 41(7), 508–10(1964). Silicic acid-AgNO₃ chro-
matography as developed by De Vries (*Ibid.* 40(5), 184–6(1963))
is a valuable technique for the quant. detn. of satd. fatty acids
and enrichment of fractions, which permits the analysis of trace
quantities of unusual fatty acids. Odd-numbered fatty acids
were found in both satd. and monoene fractions of vegetable oils,
such as olive, rapeseed, and sunflower seed oils. This tech-
nique coupled to oxidative degradation is useful for establishing
the presence of minor quantities of positional isomers. Samples
of purified polyunsatd. fatty acid esters are readily prepd. by
using the technique as displacement chromatography.

1965

One result only

A-4884f

The use of 4-chloro-2-methylphenoxyacetic acid and 4-chloro-
methylphenoxybutyric acid for the control of weeds of pasture
— Preliminary report. F. Hinke (Bayerische Landesanstalt Bo-
kultur, Pflanzenbau Pflanzenschutz, Munich, Ger.). *Z. Pfl-
zenkrankh. Pflanzenschutz, Sonderh.* 2, 187–90(1964)(Ger.).
MCPA applied at 3 l./ha. of a proprietary prepn., M52 liquid
spring or late summer gave good control of *Ranunculus* and
dandelion (*Taraxacum officinale*) and meadow caraway (*Carum
carvi*), but caused severe damage to white clover (*Trifolium
repens*). It could only be recommended for application when
Ranunculus is developing its buds. Good control of *Ranunculus*
obtained by applications from April to Sept. of 4-chloro-
methylphenoxybutyric acid at 3 l./ha. of the proprietary prep-
— U46 fluid, without causing injury to white clover or other valuable
pasture plants. Chem. control of weeds should be accom-
panied by adequate fertilization and usual care of the pasture.
R. L. Green

1966

Three result were found
A-2910c

...elements of home-grown vegetables. K. Moezynski
Poznan, Poland). *Przemysł Spożywczy* 20(1), 31-5(1966)(Pol);
cf. CA 58, 1960f. Edible parts of fresh vegetables were analyzed
when ripe, and the results were compared with vegetables from
foreign countries. Onions, peas, turnips, parsley, rhubarb,
celery, and spinach contained 1.8-4.3% less digestible carbo-
hydrates, and red cabbage 3.9% more. Protein was 0.8-2.1%
higher in beans, asparagus, sweet corn, paprika, lettuce, and
celery. More pectic substances were found in beet root 2.7,
pumpkin 6.7, and less in onions 1.4 and beans 5.0%. The most
protein was found in soybeans, sweet corn, peas (15.6-6.4%);
Brussels sprouts, salsify, cabbage (4.8-3.3%); garlic, celery,
parsley, caraway, and mint (6.6-4.1%). The most nourishing
regarding digestible carbohydrates was: garlic, sweet corn,
potatoes, horseradish, salsify, parsley (26.7-10.2%), red cab-
bage, black radish, parsnip, peas, beet root, carrots, and Brus-
sels sprouts (9.9-6.5%). High caloric value was found for soy-
beans, sweet corn, potatoes, salsify, peas (71-179 kcal./100 g.);
and garlic, horseradish, and parsley (137-60 kcal./100 g.).
The most vitamin C was in paprika, tomatoes, Brussels sprouts,
broccoli, parsley (204-126 mg. %); spinach, horseradish, cab-
bage, cauliflower, turnip, and dill (96-67 mg. %). J. Smydzuk

Rapid determination of nitrogenous substances in plant ma-
terial. VII. Systematic analysis of the basic forms of nitro-
gen in plant material by the Conway microdiffusion method.
Vladimir Jiracek, Josef Kostir, Rudolf Kryzanek, and Jaroslav
Prugar (Karlova Univ., Prague). *Rostlinna Vyroba* 11(8),
877-80(1965)(Czech); cf. CA 63, 8709a. Samples of green
pea seeds were prepd. (1) by extg. two 20-g. samples 5 times
with 60 ml. each time of 70% boiling EtOH, evapg. almost to
dryness in vacuo, then dissolving in 25 ml. 50% EtOH, the
ext. being kept in the refrigerator; (2) by heating two 2-g.
samples on a sand bath to clearness then for 6 hrs. with 20 ml.
of a mineralization mixt. (200 g. catalytic powder in 100 ml.
of a mineralization mixt. K₂SO₄ 50, CuSO₄·5H₂O 5, Se metal

B-15990g

first fraction, and maintained its viral activity. γ -Globulin and
albumin obtained by Rivanol fractionation did not contain the
virus. It was shown, however, that the virus was present and
maintained its activity in the Rivanol ppt. 9 references.

R. J. Allgeier

β -Radioactivity of the mineral constituents of medicinal herbs.
Tadeusz Pelczar (Akad. Med., Cracow). *Acta Polon. Pharm.* 23(2), 129-33(1966)(Pol). β -Radioactivity was measured with
a Geiger-Muller counter in ashes obtained from com. samples of
over 75 medicinal plants. The main radioactive constituent was
⁴⁰K. Detailed results were tabulated for 48 species.

Jerzy Lange

C-13453g

The image is not available

1967

No result were found

1968

No result was found

1969

Three result were found

A-95015r

95015r Phytohemagglutinins in legal-medical practice. Mackerle, S. (Univ. Palackeho, Olomouc, Czech.). *Acta Univ. Palacki. Olomuc., Fac. Med.* 1965, 38, 199-228 (Czech). From CZ 1967, (30), Abstr. No. 1487. Phytohemagglutinins are isolated from fresh seeds of various plants by extn. with physiol. NaCl for 16-24 hrs. Numerous amino acids were found in the ext. by chromatog. The phytohemagglutinins have globulin characteristics. Human blood cells can be differentiated from ram and bovine cells with ext. from the seeds of *Dolichos lablab* and *Carum carvi*, since these phytohemagglutinins only agglutinate human blood cells. The method can be applied in legal-medical practice for detection of human blood. MZCR

B-95560q

95560q Suppressant effect of spices on fish odor. Experiment with a mixture of trimethylamine and spices. Kikuchi, Takeaki; Hirai, Koichi; Sudarso, Agus S. (Tokyo Fish. Coll., Tokyo, Japan). *Eiyo To Shokuryo* 1968, 21(4), 253-6 (Japan). Eleven spices and cade oil were incubated with 20 ml. of 0.001M Me₃N for 20 min. After that, the decrease of Me₃N odor was examd. by taste test. The suppressing effect of spices for Me₃N was grouped as follows: most effective onion, laurel, and sage; effective caraway, cassia, clove, ginger, thyme, and cade oil; less effective mace, nutmeg, and pepper. The recovery of Me₃N by gas chromatog. decreased after standing with the spices, and the decrease increased with time. This suggests a chem. reaction. Katuhiko Noda

C-110358a

110358a Correlation of nuclear magnetic resonance chemical shifts in pyramidal boron compounds using a conical ring current model. Marynick, Dennis; Onak, Thomas (California State Coll., Los Angeles, Calif.). *U.S. Clearinghouse Fed. Sci. Tech. Inform., AD* 1968, AD-680621, 22 pp. (Eng). Avail. CFSTI. From *U.S. Govt. Res. Develop. Rep.* 1969, 69(5), 52. By adopting a classical free electron model for the pentagonal pyramidal systems C_nB_{n-1}H_{n-1} (n = 0, 1, 2, 3, 4) and for the tetragonal pyramidal pentaborane and pentagonal bipyramidal 2,4-C₂B₅H₇, it is possible to account for the relative chem. shifts of B and terminal H atoms. Also a good correlation is obtained for alkyl protons in those methyl and ethyl derivs. for which spectra are available. In this approach the pyramidal framework is treated as a cone and one or more ring current loops are placed about the conical curved surface parallel to the base. The 6 delocalized electrons bonding the apex to the base are treated in a manner similar to the ring current approach used for benzene. From the obtained correlations it is clear that this approach has considerable predictive value. TCVL

1970

One result was found

A-97321c

The image is not available

1971

One result was found

A-11g

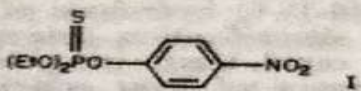
The image is not available

1972

One result was found

A-152260s

15226s Placental transfer of [¹⁴C]-parathion administered intravenously to sheep. Villeneuve, D. C., Willes, R. F., Lacroix, J. B., Phillips, W. E. J. (Food Drug Dir., Dep. Natl. Health Welfare, Ottawa, Ont.). *Toxicol. Appl. Pharmacol.* 1972, 21(4), 542-8 (Eng). ¹⁴C-labeled parathion (I) [56-38-2]



(0.1 mg/kg, i.v.) administration to PREGNANT SHEEP at 90-110 days of gestation decreased plasma *cholinesterase* [9001-08-5] ~50% in the mother and 25% in the fetus. Total radioactivity in the blood and amniotic fluid were monitored over a 48 hr period and decay profiles established. Placental transfer of I was confirmed by thin layer chromatog.

1973

One result was found

A-144974

144974z Sanitary-hygienic properties of compositions made of poly(vinyl chloride). Stulova, L. I.; Shargorodskii, A. M. (USSR). *Tr. Khim. Khim. Tekhnol.* 1972, (3), 139-42 (Russ). Poly(vinyl chloride) films manufd. with various amts. of dioctyl phthalate as the plasticizer, with various stabilizers (Ca stearate, Zn stearate, epoxidized soybean oil) and antioxidants were studied with respect to their usefulness as food packaging materials. The amt. of oxidizable substances in aq. exts. prepd. from the film depended chiefly on the amt. and type of stabilizers, whereas the amt. in the ext. prepd. with substances reacting with Br was dependent on both the amt. of stabilizers and of antioxidants.

Witold Wieniawski

1974

One result was found

A-81411m

81411m Effect of plant-stand composition on mineral content of dry matter. Rieder, J. B. (Bayer Landesanst. Bodenkult. Pflanzenbau Freising, Freising, Ger.). *Landwirt. Forsch., Sonderh.* 1973, 28(2), 207-14 (Ger). A multiple regression equation was utilized to correlate the botanical compn. of a pasture stand (21 plant species) and the mineral (P, Ca, Mg, K, Na, Cu, Mn, and Zn) contents of dry matter. Fescue and *Poa* grasses affected the P content; the Ca content was affected by *Rumex obtusifolius*, and that of Mg by *Heracleum sphondylium*. *Anthriscus sylvestris* and *Poa trivialis* presence explained ~40% of the stand K content, and the presence of *Heracleum sphondylium* and *Festuca rubra* explained 50% of the stand Na content. The plant Zn content was affected by *Anthriscus sylvestris*, clover (*Trifolium repens*), *Carum carvi*, and *Agropyron repens*. The Cu content of the plant assocn. depended on the presence of *Ranunculus acer*. R. R. Cruse

1975

One result was found

95346x Estimaton of the total free amino acids, protein, and nitrogenous compounds of caraway seed (*Carum carvi*) of Iran. Toghrul, F.; Daneshpejough, H. (Fac. Sci., Univ. Teheran, Teheran, Iran). *Q. Bull. Fac. Sci., Tehran Univ.* 1974, 6(1), 40-2 (Eng). The content of free amino acids of the caraway seed was not high, but the protein content was as high as that of meat products.

1976

Four results were found

A-149405c

84: 149405c Caraway extract. Its flavoring value. Charazka, Zofia; Karwowska, Krystyna; Tokarska, Barbara (Zakl. Technol. Przetworow Owocowych Warzywnych, Inst. Przem. Ferment., Warsaw, Pol.). *Pr. Inst. Lab. Badaw. Przem. Spozyw.* 1975, 25(2), 235-40 (Pol). The caraway flavoring prepn., manufd. at the institute of Fermn. Industry, contained 42% essential oils and 71.15% *carvone* [99-49-0] and 27.20% *limonene* [5989-27-5] in the ext. oil. The prepn. had a very high organoleptic value and its flavor and taste were similar to that of the raw material.

B-149393x

84: 149393x Effects of spice extracts on hydrolases. No. 1. On trypsin. Kato, Yasumasa (Ogawa and Co., Ltd., Osaka, Japan). *Koryo* 1975, 113, 17-23 (Japan). Aq. exts. of clove, thyme, and allspice markedly increased, and cardamom, white pepper, and nutmeg moderately increased trypsin [9002-07-7] activity in buffer soln. Of 34 spices tested, none inhibited the enzyme.

C-118600h

84: 118600h Physiology of umbelliferose. Hopf, Werner; Kandler, Otto (Bot. Inst., Univ. Muenchen, Munich, Ger.). *Biochem. Physiol. Pflanz.* 1976, 169(1-2), 5-36 (Ger). Umbelliferose (I), an isoraffinose found only in the umbellifers (Apiaceae), was found in all parts of the plant species examd. and apparently serves as a temporary reserve material similar to sucrose. It was present in greater amts. than sucrose only in the ripe fruits of some plants and was not preferentially accumulated in any particular vegetative organ. Unlike the raffinose sugars in other plants, I was much less effectively translocated than sucrose. The turnover of I was also much slower than that of sucrose, as shown by isotope expts. The distribution of ^{14}C in the I mol. after photosynthesis in the presence of $^{14}\text{CO}_2$ or after assimilation of labeled monosaccharides indicated that the biosynthesis of I in vivo proceeds by the transfer of a galactosyl residue from an activated precursor to sucrose. Unlike the biosynthesis of raffinose, galactinol was not involved, since the synthesis of I without concomitant labeling of galactinol was obsd. in several isotope expts. On the other hand, the formation of small amts. of raffinose in young leaves of some umbellifers was always correlated with labeling of galactinol. During the synthesis of reserve cellulose in the endosperm (identified as mannan), large amts. of trehalose were formed in addn. to sucrose and I. Whereas trehalose disappeared almost completely during ripening, I accumulated continuously.

D-100663w

84: 100663w Chemical weed control in Caraway. Sijsma, R.; Baart, E. A. D.; Vreeke, S. (Inst. Biol. Scheikd. Onderz. Landbouwgewassen, Wageningen, Neth.). *Meded. Fac. Landbouwwet., Rijksuniv. Gent* 1975, 40(2, Pt. 2), 961-73 (Neth). A review with 2 refs.

1977

One result was found

A-84191z

86: 84191z Antibacterial activity of essential oils against certain pathogenic microorganisms. Rasheed, Azmat; Chaudhri, K. N. (Dep. Pharmacol., Fatima Jinnah Med. Coll. Women, Lahore, Pak.). *Pak. J. Sci. Res.* 1974, 26, 25-36 (Eng). Ajowan, cumin, and caraway essential oils were inhibitory to all 6

microorganisms tested when used in undiluted form. In addn., ajowan and caraway oils inhibited *Staphylococcus aureus* and *Streptococcus faecalis* at dilns. of up to 1/1000 and 1/10, resp. Ajowan oil was also effective against all *Proteus* and *Escherichia coli* isolates tested at 1/10 diln.

1978

Six results were found

A-71438b

88: 71438b Endogenous abscisic acid in umbelliferous fruits. Mendez, J. (CSIC, Santiago, Spain). *Z. Pflanzenphysiol.* 1978, 86(1), 61-4 (Eng). Absciscic acid was detected and quantified by optical rotatory dispersion in fruits of *Angelica pachycarpa*, *Carum carvi*, *Coriandrum sativum*, *Foeniculum vulgare*, *Pimpinella anisum*, and *Thapsia villosa*, but was not detected in *Cuminum cyminum* fruits. Its occurrence was substantiated by combined gas chromatog.-mass spectrometry in *A. pachycarpa*, *C. carvi*, *F. vulgare*, *P. anisum*, and *T. villosa*, but barely detectable amts. were noted in *C. cyminum* and *C. sativum*. A direct relation between germination and the level of endogenous abscisic acid could not be established. Phenylcarboxylic acids and coumarins were identified as well. Ghad

B-3090g

88: 3090g Biological properties and essential oils of some spice plants grown at the Kaunas Botanical Garden. (2. Plants, the seeds of which are used as a raw material for picery). Juknevičienė, G.; Dagyte, S.; Stankevičienė, N. Inst. Bot., Vilnius, USSR). *Liet. TSR Mokslu Akad. Darb.*, ser. C 1977, (3), 9-16 (Russ). Essential oil from coriander (*Coriandrum sativum*) seed of 4 cultivars contained 2.79-3.23% α -pinene, 0.64-0.76% camphene, 0.66-1.34% β -pinene, 1.38-1.97% γ -terpinene, 5.37-6.73% *p*-cymol, 69.77-74.23% linalool, 1.09-7.01% borneol + decyl aldehyde, and 2.64-3.87% geraniol. The total content of essential oil in the seed was 1.01-1.49%. Caraway (*Carum carvi*) seed contained 4.25% essential oil contg. 2.16% limonene and 59.53% carvone + carvacrol. Fennelflower (*Nigella sativa*) seed contained 0.45% essential oil. Anise (*Pimpinella anisum*) did not ripen regularly. Chemical characteristics of

C-35965n

88: 35965n The essential oil content in ground spices. Strauss, D. (Landesanst. Lebensm.-, Arzneim.- Gerichth. Chem. Berlin, Ger.). *Dtsch. Lebensm.-Rundsch.* 1977, 73(10), 355 (Ger). Based on 10 y of anal. of ground spices the following values of essential oil content are proposed: cardamom seed 1.5, caraway 1.5, cumin 1.0, anise 1.8, coriander 0.4, allspice 0.8, white pepper 0.8, black pepper 1.0, cloves 15, and cinnamon 15 mL/100 g.

D-5025p

88: 5025p Spice aroma extract. Chiovini, Jacky; Maud Jean Paul; Adamer, Siegfried (Societe des Produits Nestle, A.) Ger. Offen. 2,621,868 (Cl. A23L1/221). 22 Sep. 88. Swiss Appl. 76/2,896, 09 Mar 1976; 22 pp. Spice extract prepd. by mixing the gas released on grinding the spice with successive nonpolar and polar org. solvent exts. of the ground spice. Thus, 350 kg nutmegs were ground to a particle size of 0.5 mm at -40° , the powder was transferred to a sealed container held under vacuum during warming to 20° , and then at 12° for 12 h while flushing with N₂. The grinder gas was condensed in 3 stages at -80° to give 6.2 kg fraction A. The powder was extd. with 500 L petroleum ether (b. $40-60^{\circ}$) in closed circulation with solvent replacement at 2 and 4 h. The exts. were condensed in vacuo at 30° to give 63.7 kg fraction B, with approx. 22% solids. A similar extn. and concn. was carried out with EtOH to give 28.0 kg fraction C, contg. 50% solids. Combining the fractions gave 97.9 kg nutmeg ext. The solvents were distd. and recovered. Complete evapn. of fraction C, addn. of fraction B, and subsequent complete solvent evapn. at 30° in vacuo, and addn. of fraction A gave 69.9 kg nutmeg oleoresin contg. <10 ppm solvents.

E-70358p

88: 70358p Testing of various mutagenic agents for application in caraway (*Carum carvi*, L.). Okoniewska, Janina (Zakl. Hodowli Rosl., Inst. Przem. Zielarskiego, Poznan, Pol.). *Hodowla Rosl., Aklim. Nasienn.* 1977, 21(1), 63-86 (Pol.). *C. carvi* seeds were less sensitive to the action of fast neutrons than to γ - or x-radiation. The latter 2 were lethal at >20 kR. A 6- or 12-h treatment with 0.25% ethylenimine [151-56-4] and a 24-h treatment with 0.12% mutagen were also lethal. Second generation plants grown from seeds treated with x-rays or ethylenimine showed more chlorophyll defects than did plants from seeds treated with neutrons or γ -rays. Two new mutants of *C. carvi*, of potential com. usefulness, were obtained following neutron and ethylenimine treatment.

F-34514c

88: 34514c Characterization of the 'reserve cellulose' of the endosperm of *Carum carvi* as a $\beta(1-4)$ -mannan. Hopf, Herbert; Kandler, Otto (Bot. Inst., Univ. Muenchen, Munich, Ger.). *Phytochemistry* 1977, 16(11), 1715-17 (Eng). The reserve polysaccharide of the endosperm of *C. carvi* consisted of >90% mannose and was characterized as a $\beta(1-4)$ -mannan. Total or partial acid hydrolysis, enzymic breakdown, or acetolysis of either palm or *C. carvi* mannan yielded the same mono- and oligosaccharides, indicating a similar chem. structure of the 2 reserve polysaccharides. However, *C. carvi* contained only traces of the alkali-sol. mannan A dominant in the palm endosperm polysaccharide.

88: 34515d Isothiocyanates, thioureas, and thiocarbamates

1979

Two results were found

A-156266f

91: 156266f Evaluation of freshness of fruit and vegetable salads on the basis of changes of enzyme activity. Wojtal, Romuald; Urbanowicz, Mieczyslaw; Zielinski, Aleksander (Dep. Hum. Nutr., Poznan, Pol.). *Rocz. Akad. Roln. Poznaniu* 1979, 107, 101-6 (Eng). The urease [9002-13-5], peroxidase [9003-99-0], and acid phosphatase [9001-77-8] activities of mixed fruit-vegetable salads increased rapidly during storage (presumably as a result of tissue autolysis), correlating with quality deterioration if no seasonings were added. However, condiments, esp. red pepper and sweet basil, decreased enzyme activity in salads contg. mayonnaise and leek for up to 20-9 h; after this, activity increased (and quality decreased) rapidly.

B-103637w

91: 103637w Stimulation effect of CCC on growth and chemical constituents of caraway and fennel plants. El-Labban, H. M.; Abou-Zied, E. N. (Fac. Agric., Cent. Delta Univ., Egypt). *Ann. Agric. Sci.* 1975 (Pub. 1977), 20(2), 187-92 (Eng). CCC [999-81-5] (500 and 1000 ppm) stimulated stem growth of caraway (*Carum carvi*), whereas higher doses (2000-4000 ppm) stimulated stem growth of fennel (*Foeniculum vulgare*). CCC also increased the no. of umbels in both plants. The volatile oil percentages, and the crude fat and carbohydrate content in the seeds of both plants were increased by CCC treatment. The yield and wt. of the seeds were slightly affected by CCC.

1980

Five results were found

A-44658v

93: 44658v Feed intake limiting composition for ruminants. Betz, Norman L.; Seibert, Robert L. (Ralston Purina Co.) U.S. 4,197,319 (Cl. 426-2; A23K1/00), 08 Apr 1980, Appl. 850,501, 10 Nov 1977; 5 pp. A feed intake-limiting supplement contg. meat meal, oleoresin of *Capsicum*, $(\text{NH}_4)_2\text{HPO}_4$, and(or) $(\text{NH}_4)_2\text{SO}_4$ produces an undesirable taste and(or) odor in the feed, which allows cattle self-feeding. Thus, 15 crossbred cows (av. wt. 1000 lb) consuming approx. 18 lb feed/head/day were given a feed contg. meat meal 12, $(\text{NH}_4)_2\text{HPO}_4$ 2.4, $(\text{NH}_4)_2\text{SO}_4$ 2.0, and oleoresin of *Capsicum* 0.30%. Their feed intake was reduced to an av. of 3.8 lb/head/day.

B-44284y

93-44284y Inhibitory effects of spices on growth and toxin production of toxigenic fungi. Hitokoto, Hiroshi; Morozumi, Satoshi; Wauke, Tomoaki; Sakai, Senzo; Kurata, Hiroshi (Dep. Microbiol., Tokyo Metropol. Res. Lab. Public Health, Tokyo, Japan 160). *Appl. Environ. Microbiol.* 1980, 39(4), 818-22 (Eng). The inhibitory effects of 29 com. powd. spices on the growth and toxin prodn. of three species of toxigenic *Aspergillus* were obsd. by introducing these materials into culture media for mycotoxin prodn. Of the 29 samples tested, cloves, star anise seeds, and allspice completely inhibited the fungal growth, whereas most of the others inhibited only the toxin prodn. Eugenol extd. from cloves and thymol from thyme caused complete inhibition of the growth of both *A. flavus* and *A. versicolor* at ≤ 0.4 mg/mL. At a concn. of 2 mg/mL, anethol extd. from star anise seeds inhibited growth by all strains.

C-184489r

93-184489r Redox behavior of spices in meat products. Gerhardt, U.; Boehm, T. (Chem. Mikrobiol. Lab., Firma Gewuerzmueller-Intern., Stuttgart, Fed. Rep. Ger.). *Fleischwirtschaft* 1980, 60(8), 1523-6 (Ger). The redox potential of a no. of spices tested was inversely proportional to their total phenol content as detd. by the Folin-Denis method. Adding spices to meat products delayed the rise in redox potential during storage and therefore extended their storage life. Anise, caraway, paprika, allspice, marjoram, rosemary, sage, and cinnamon had strong reducing activity, whereas red pepper, coriander, black and white pepper, nutmeg, thyme, ginger, and onions had relatively low reducing activity.

D-202865s

93-202865s Occurrence of hydroxybenzoic acids and hydroxycinnamic acids in spices. IV. Phenolics of spices. Schulz, Juergen M.; Herrmann, Karl (Univ. Hannover, D-3000 Hannover, 91 Fed. Rep. Ger.). *Z. Lebensm.-Unters. Forsch.* 1980, 171(3), 193-9 (Ger). Hydroxycinnamic and hydroxybenzoic acids were detd. in many common herbs and spices, after release from their naturally occurring derivs. In tropical spices, hydroxybenzoic and hydroxycinnamic acids were found at approx. equal concns., mostly between 10 and 200 ppm each. In the herbs, the hydroxycinnamic acids predominate. Apiaceae (Umbelliferae), Lamiaceae (Labiatae), and Asteraceae (Compositae) showed *caffeic acid* [331-39-5] at 0.1 to >2% of dry wt. Anise seed and white mustard seed contained 0.1% *p*-hydroxybenzoic acid [99-96-7].

E-148260a

93: 148260a Pesticide residues in imported spices. A survey for chlorinated hydrocarbons. Sullivan, James H. (Grocery Prod. Div., McCormick Co., Inc., Baltimore, MD 21202 USA). *J. Agric. Food Chem.* 1980, 28(5), 1031-4 (Eng). Pesticides analyses for residues of chlorinated hydrocarbons were performed on 28 spices from 25 producing countries. Several shipments were examd. during several crop years. In all, 226 samples were analyzed. Low levels of DDT [50-29-3] and BHC [58-89-9] were detected consistently, the level being generally below 0.5 ppm. Residues of other chlorinated hydrocarbons, such as polychlorinated biphenyls, Dieldrin [60-57-1], Endrin [72-20-8], and HCB [118-74-1], were detected sporadically at a very low level. Except for oregano from Mexico, some of which is grown in an area where DDT is actively used, there is no

Page 001

relation between pesticide residues and country of origin or individual spice. In view of the low level detected and the uniformity of detection, there does not appear to be any cause for concern.

1981

Three results were found

A-113542h

95: 113542h Aflatoxin determinations in caraway. Hoffmann, Birgit R. (D-6500 Mainz, 1 Fed. Rep. Ger.). *Fleischwirtschaft* 1981, 61(7), 1034-6, 1039-42 (Ger). Several methods of detg. aflatoxins in caraway, including 11 solvent systems, 6 spray reagents, 5 TLC methods, 3 methods of pptn. with Pb(OAc)₂, and 4 column chromatog. methods, were examd. and compared.

B-131064h

95: 131064h Equilibrium moisture and essential oil content of commercial spices. Statistical evaluation of analyses of approximately 750 spice samples. Zuercher, K.; Hadorn, H. (Zentrallab. Coop Schweiz, Basel, Switz.). *Dtsch. Lebensm.-Rundsch.* 1981, 77(7), 239-45 (Ger). Spices and herbs (750 samples of 45 types) were analyzed for moisture and essential oil. The equil. moisture levels should be $\leq 65\%$ to prevent mold development,

but a no. of samples had $>65\%$ moisture. For unground white pepper, 46 of 60 samples had $>65\%$, and 9 had 80-95% equil. moisture. Histograms of equil. moisture and a table of essential oil contents and stds. of the Swiss Food Books IV and V are given. The std. min. values of essential oils of nutmeg, caraway, and cinnamon are unrealistically high.

C-21388i

95:21388i **Role of abscisic acid in dormancy of caraway (*Carum carvi* L.) seeds.** Hradilik, Jan; Fiserova, Helena (Vys. Sk. Zemed. Brne, 662 65 Brno, Czech.). *Acta Univ. Agric., Fac. Agron. (Brno)* 1980, 28(2), 39-64 (Czech). A linear relation between abscisic acid (ABA) content and dormancy degree in caraway seeds was found. Cold seed stratification at 4° for 20-40 days (seeds a day before were treated with aq. soln. of CaO and CuSO₄ (1 + 1%)) decreased the ABA content, both endogenous and exogenous (25 mg/L applied to stratified seeds), and after the end of stratification exogenously applied ABA (0.25-0.5 mg/L) had no inhibiting effect on caraway seed germination. Germination of nonstratified seeds was fully inhibited at 25 mg ABA/L. Light stimulated the seed germination, the effect increasing when seeds were stratified. The stratification-induced decrease in ABA content was variety dependent, and the decrease in exogenous ABA by stratification was the faster the less ABA the seeds contained. Anatomical studies of the abscission layer in forms that drop or do not drop fruit were also carried out. They showed that in non-dropping form no sepn. takes place. 95:21388i

1982

Five results were found

A-195800u

97:195800u **Calcium mobilization into developing seedlings of umbelliferous plants.** Lott, John N. A.; Spitzer, Ernest; Vollmer, Catherine M. (Dep. Biol., McMaster Univ., Hamilton, ON Can. L8S 4K1). *Can. J. Bot.* 1982, 60(8), 1404-8 (Eng). Ca mobilization into developing seedlings of several umbelliferous plants including carrot (*Daucus carota* cv Imperator 408), wild carrot (*D. carota*), caraway (*Carum carvi*), anise (*Pimpinella anisum*), dill (*Anethum graveolens*), celery (*Apium graveolens* cv Tall Utah), fennel (*Foeniculum vulgare*), parsnip (*Pastinaca sativa* cv Hallow Crown), parsley (*Petroselinum sativum* cv Moss Curled), and chervil (*Anthriscus cerefolium* cv Curled) was investigated with emphasis on carrot and celery. Ca detns. using at. absorption spectrometry of carrot and celery embryos obtained from dry mericarps and carrot and celery seedlings collected when the pericarp plus testa plus endosperm remains fell off the seedlings, revealed that some Ca uptake occurred in carrot and possibly celery. It is possible that some of the Ca obtained by the seedlings came from the Ca oxalate crystals but the Ca could also have originated from other Ca sources within the endosperm. Polarized light studies of endosperm remains from carrot, celery and the other members of the family Umbelliferae investigated revealed that large members of Ca oxalate crystals were present in the endosperm remains after sepn. from the seedlings. The results of these studies indicate that Ca oxalate crystals are not used extensively as a Ca source during germination and early seedling growth. 97:195800u

B-195799a

97:195799a Protein bodies in umbelliferous seeds. III. Characterization of calcium-rich crystals. Spitzer, Ernest; Lott, John N. A. (Dep. Biol., McMaster Univ., Hamilton, ON Can. L8S 4K1). *Can. J. Bot.* 1982, 60(8), 1399-403 (Eng). The chem. compn. of the Ca-rich crystal inclusions present in the seed portion bodies of carrot (*Daucus carota* cv Imperator 408), wild carrot (*D. carota*), caraway (*Carum carvi*), anise (*Pimpinella anisum*), dill (*Anethum graveolens*), celery (*Apium graveolens* cv Tall Utah), fennel (*Foeniculum vulgare*), parsnip (*Pastinaca sativa* cv Hollow Crown), parsley (*Petroselinum sativum* cv Moss Curled), and chervil (*Anthriscus cerefolium* cv Curled) was detd. Using a variety of methods including x-ray diffraction, IR spectroscopy, microincineration, energy dispersive x-ray anal., soly. studies, and staining, the chem. compn. of the Ca-rich crystal inclusions was identified as calcium oxalate.

C-195798z

97:195798z Protein bodies in umbelliferous seeds. II. Elemental composition. Spitzer, Ernest; Lott, John N. A. (Dep. Biol., McMaster Univ., Hamilton, ON Can. L8S 4K1). *Can. J. Bot.* 1982, 60(8), 1392-8 (Eng). The elemental compn. of the protein bodies from several members of the Umbelliferae including carrot (*Daucus carota* cv Imperator 408), wild carrot (*D. carota*), caraway (*Carum carvi*), anise (*Pimpinella anisum*), dill (*Anethum graveolens*), celery (*Apium graveolens* cv Tall Utah), fennel (*Foeniculum vulgare*), parsnip (*Pastinaca sativa* cv Hollow Crown), parsley (*Petroselinum sativum* cv Moss Curled) and chervil (*Anthriscus cerefolium* cv Curled) was detd. using energy dispersive x-ray anal. Globoid crystals in the endosperm usually contained P, K, and Mg or infrequently P, K, Mg, and Ca. In the embryos of carrot and caraway, P was always present with a combination of K, Mg, or Ca. Ca was the only element detectable in the Ca-rich crystals. The proteinaceous matrix

always contained S and K regardless of the inclusion present in the protein body. Quant. detns. of P, Mg, K, and Ca are presented for all membranes studied except wild carrot, chervil, celery, and fennel. In all species analyzed in this manner, K or Ca were present in the highest amts. followed by P and Mg. Ca-localization studies showed that most of the Ca is located in the endosperm and pericarp portions of the mericarp.

E-143287n

97:143287n Disinfection of seasonings by ethylene oxide fumigation. Gerhardt, U.; Ladd Effio, Jose Carlos (Chen. Mikrobiol. Labors, Firma Gewuerzmueller Int., Stuttgart, Fed. Rep. Ger.). *Dtsch. Molk.-Ztg.* 1982, 103(30), 1016-19 (Ger.). The effects of ethylene oxide [75-21-8] fumigation on microbial cell counts were studied in cardamom, coriander, caraway, and black and white pepper, and the results were tabulated. For spices low in microbial contamination (white pepper and caraway), disinfection was complete after 6 h of exposure to ethylene oxide at 250 g/m³. When microbial contamination was high, it was preferable to use higher ethylene oxide concns. (750 g/m³) rather than longer exposure times, to avoid excessive residue buildup in the spices. Spices contg. NaCl should not be treated with ethylene oxide because of possible ethylene chlorohydrin [107-07-3] formation.

F-79004p

tablets, injections and bulk powder.

97: 79004p **Determination of mercury in homeopathic preparations and medical substances and drugs.** Kovar, Karl Artur; Jarre, Gert; Lautenschlaeger, Werner; Maassen, Juergen (Pharm. Inst., Univ. Tuebingen, 7400 Tuebingen, 1 Fed. Rep. Ger.). *Arch. Pharm. (Weinheim, Ger.)* 1982, 315(8), 662-74 (Ger). A new decompn. app. for detg. Hg in the nanogram range is based on pyrolysis of the sample in Ar and complete combustion of the pyrolysis products in O, with

amalgamation of free Hg on Ag wool, followed by liberation at high temp. and detn. by at. absorption spectroscopy. The sensitivity of the method is 3×10^{-10} g Hg, the recovery was 99.9% and the relative std. deviation was 0.62%. Examn. of mercuric cyanate in homeopathic solns., tablets, and globuli (D2-D9) shows that there is a great deviation from theor. content. With normal dosages of 15 selected medical substances and 50 vegetable drugs the crit. load of 0.3 mg Hg/wk is not reached. The highest Hg contents were found in drugs from leaves and herbs.

1983

One result was found

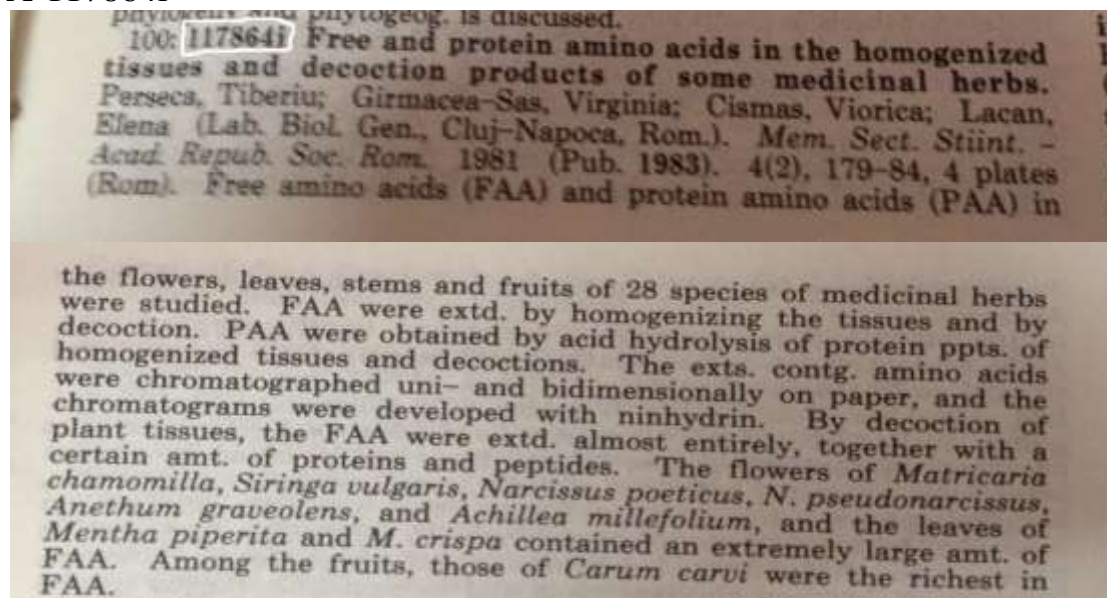
A-201258y

98: 204258y **Identification of some Thai medicinal plants.** Jewwachdamrongkul, Yenchit; Dechatiwongse, Thaweephol; Pecharaply, Daroon; Bansiddhi, Jaree; Kanchanapee, Panida (Dep. Med. Sci., Mahidol Univ., Bangkok, Thailand). *Varasarn Paesachasarthara* 1982, 9(3), 65-73 (Eng). Seeds of 9 com. Thai medicinal plants known as Thian-thong-kao were investigated for their botanical origin and chem properties by color tests and TLC. Only 8 different plant drugs were found since 2 of the prepn. (dill seed) were identical. The others were *Nigella sativa*, *Lepidium sativum*, cumin, parsley, caraway, fennel, and *Plantago ovata* seeds.

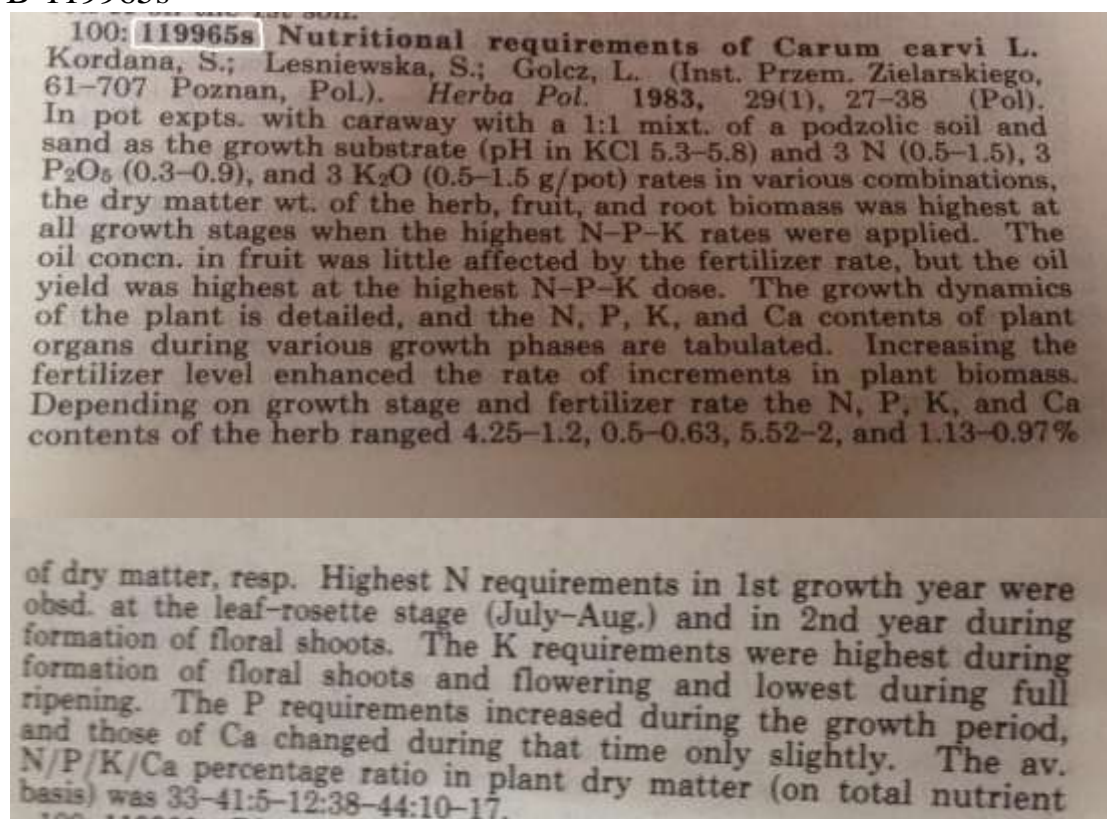
1984

Five results were found

A-117864i



B-119965s



C-39666e

64 39666e Determination of pesticide residues and other critical impurities - such as toxic trace metals - in medicinal plants. 1. Pesticide residues in drugs.

D-4961v

100 4961v Calcium, iron and oxalate content of some condiments and spices. Ramasastri, B. V. (Natl. Inst. Nutr., Indian Counc. Med. Res., Hyderabad, 500 007 India). *Qual. Plant. - Plant Foods Hum. Nutr.* 1983, 33(1), 11-15 (Eng). The condiments and spices consumed in India were analyzed for their Ca, P, and Fe and for the content of total and water-sol. oxalates [144-62-7]. A no. of spices were quite rich in Ca and also in oxalates. In many of the spices the oxalates were mainly in the insol. form although a few spices contained oxalates mostly in the water-sol. form. Theor. calcns. on the basis of the Ca and oxalate contents had shown that although the oxalate content is high, a portion of the Ca present in a no. of spices may be available to the body. Some of the spices like ajowan (*Trachyspermum ammi*), turmeric (*Curcuma domestica*), and caraway seeds (*Carum carvi*) were also rich in Fe. Since some of them are quite inexpensive and, at the same time, rich in Ca and Fe, people can be encouraged to consume spices like ajowan to improve the nutritional quality of their diets.

E-99955h

100 99955h Seeking physiological active compounds in flowering plants of Kirghizia. Alimbaeva, P. K.; Nuralieva, Zh. S.; Akimaliev, A.; Aslanoekova, R. (USSR). *Deposited Doc.* 1983, VINITI 87-83, 19 pp. (Russ). Avail. VINITI. Of the 68 species analyzed, triterpene saponins were found in 38 and steroidal ones in 5. The total saponin content ranged 0.2-≥18%. A hemolysis of blood erythrocytes was obsd. in 35 exts. of the plant material, and the hemolytic index calcd. for 17 species ranged from 215 to 1563. The glycosidal fraction was detd. in 25 species studied, with the typical no. of glycosidal spots being 2-16. Some plants were high in flavonoids, but the content of essential oils in the species studied was low (0.25-0.31%). Bacteriostatic effects of glycosidal fractions isolated were noted. Of the species investigated, *Selsel giganteum*, *S. macrophyllum*, *Ferula foetidissima*, *Clematis songarica*, *Prangos pabulovia*, and *Phlomis ocephila* had highest contents of the physiol. active substances detd.

تقسيم التقرير

1- احمد هلال مطرود

1965-1960

2- علي رعد عبد+احسان محمد صادق

1979-1966

3- رؤى رائد

1984-1980

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