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**AUSTRALIAN ATOMIC ENERGY COMMISSION**  
**RESEARCH ESTABLISHMENT**  
**LUCAS HEIGHTS**

**STIMULATION OF SEEDS BY LOW DOSE IRRADIATION**

**A bibliography 1967-1976 with selected references  
on irradiation facilities**

**Compiled by Helen Lawson**

**May 1976**

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Literature search covers the period January 1967 - May 1976

Abstracts searched were:-

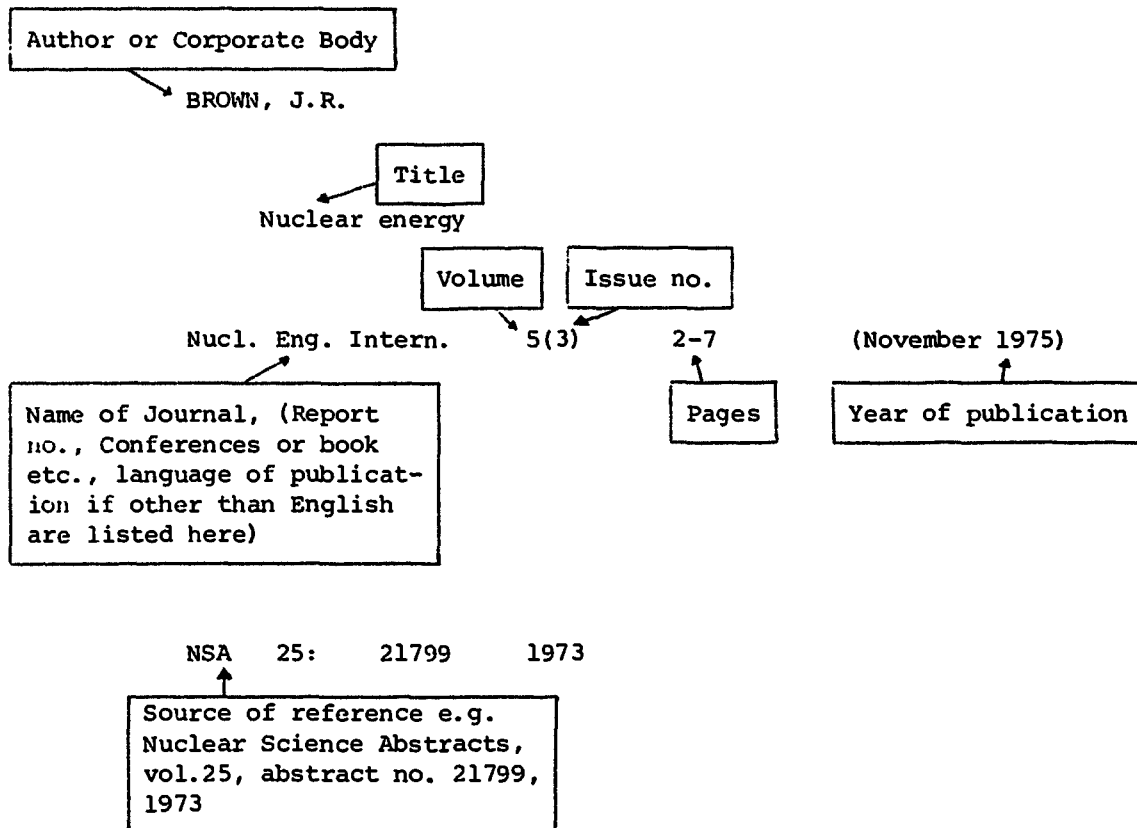
INIS Atomindex (INIS) vol.1, 1970 - vol.7(9), May 1976

Nuclear Science Abstracts (NSA) vol.21, 1967 - vol.33(8), April 1976

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AAEC-LIB/BIB NO.451

STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

A bibliography 1967-1976

with selected references on irradiation facilities

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ABSTRACT

The first section of the bibliography lists material on the stimulation of seeds by low dose irradiation, with particular reference to stimulation of germination and yield. The second section contains a small number of selected references on seed irradiation facilities.

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The following descriptors have been selected from the INIS Thesaurus to describe the subject content of this report for information retrieval purposes. For further details please refer to IAEA-INIS-12 (INIS: Manual for Indexing) and IAEA-INIS-13 (INIS: Thesaurus) published in Vienna by the International Atomic Energy Agency.

BIOLOGICAL RADIATION EFFECTS; GERMINATION; GROWTH; IRRADIATION DEVICES;  
LOW DOSE IRRADIATION; SEEDS; STIMULATION;

1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1975

BEREZINA, N.M. and KAUSHANSKII, D.A.

Presowing irradiation of plant seeds. Moscow, Atomizdat, (1975)

NSA 32: 6654 1975

(STIMULATION; INCREASED YIELD)

BOTTINO, P.J.; SPARROW, A.H.; SCHWEMMER, S.S. and others

Interrelation of exposure and exposure rate in germinating seeds of  
barley and its concurrence with dose-rate theory

Radiat. Bot. 15(1) 17-27 (1975)

INIS 6: 198487 1975

(GAMMA RADIATION; GERMINATION; PLANT GROWTH; SEEDS)

BOZHINOVA-BONEVA, I.

Effect of x-ray on growth and development of grapevine seedlings

Genet. Sel. 8(2) 106-114 (1975) (In Bulgarian)

INIS 7: 22350G 1976

(STIMULATION OF GERMINATION OF SEEDS)

BURTON, G.W.; TIFTON, G.; HANNA, W.W. and others

Silage production and quality of pearl millet sorghum, and corn  
hybrids grown from seed exposed to low doses of gamma rays

Radiat. Bot. 15(1) 33-38 (1975)

INIS 6: 198555 1975

(GAMMA RADIATION; PLANT GROWTH; SEEDS)

DEGNER, W. and SCHACHT, W.

Examinations on the specific effect of low doses of ionizing  
radiation on the seed cultivated plants. 2. 5 year production  
experiments with silo maize seed irradiated with <sup>60</sup>Co-gamma  
radiation

Radiobiol. Radiother. 16(1) 37-49 (1975) (In German)

INIS 6: 217884 1975

(EXTERNAL IRRADIATION; MAIZE; SEEDS)

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1975

LEGNER, W.; SCHACHT, W. and KOEPP, R.

Agricultural field experiments concerning the <sup>60</sup>Co-γ-radiation  
stimulation of silo maize

News1. Appl. Nucl. Methods Biol. Agric. (4) 17-19 (1975) (Summary only)

INIS 6: 218182 1975

(GAMMA RADIATION; PRODUCTIVITY; SEEDS)

FELDMANN, A.

Contributions to radiation stimulation. 4. The influence of  
variations in light and temperature as well as time of  
irradiation on radiation-induced growth stimulation in Lemna  
minor L.

Radiat. Bot. 15(1) 49-58 (1975) (In German)

INIS 6: 198556 1975

(BIOLOGICAL RADIATION EFFECTS; PLANT GROWTH; STIMULATION)

SHRIVASTAVA, M.P.

Effect of gamma irradiation on diploid and tetraploid seeds of  
Cajanus Cajan (L.) Millsp.

Curr. Sci. (India) 44(5) 167-168 (1975)

NSA 31: 22948 1975

(INCREASED GERMINATION)

TORNE, S.G. and RAUT DESAI, N.P.

Effect of ionizing radiation on seed germination of Passiflora  
species

Curr. Sci. (India) 44(4) 112-113 (1975)

NSA 31: 19935 1975

(ACCELERATED SEED GERMINATION)

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1974

Symposium on use of radiations and radioisotopes in studies of plant productivity. Patanagar, India, April 12-14, 1974.

Programme and abstracts

CONF-7404111 (Abstracts) (1974)

NSA 32: 22509 1975

(INDUCED GROWTH STIMULATION)

ABDRAKHMANOV, O.K.; FILIPPOVA, N.F. and KRYUKOVA, L.M.

Effects of ionizing radiations on certain physiological processes of licorice

ERDA-tr-1 pp.175-177

(Translated from Radiobiologiya 14(5) 787-789 (1974))

INIS 6: 217877 1975 NSA 32: 6653 1975

(STIMULATION OF GERMINATION, PLANT GROWTH AND PRODUCTIVITY)

BEREZINA, N.M.; KUZIN, A.M. and others

Putting the pre-sowing gamma irradiation of seeds and operational model of the kolos gamma facility into agricultural practice.

(Review)

Obzor. At. Ehnerg. 37(1) 43-51 (1974) (In Russian)

(For English translation see the journal Sov. J. At. Energy)

INIS 6: 180742 1974

(GAMMA RADIATION; SEEDS)

DASKALOV, Kh. and MALTSEVA, S.

Radiostimulating effect in tomatoes

Radiobiologiya 14(2) 257-260 (1974) (In Russian)

(For English translation see the journal Radiobiology)

INIS 6: 196087 1975

(GAMMA RADIATION; RIPENING; SEEDS)



## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1974

DEGNER, W. and SCHACHT, W.

Specific effects of low doses of ionizing radiations on seed of  
cultivated plants

Radiobiol.-Radiother. 15(6) 661-667 (1974) (In German)

INIS 6: 217885 1975 NSA 32: 1092 1975

(STIMULATION OF YIELD)

FEDIN, P. and POPOV, I.

Effect of pre-planting irradiation of seeds on the sugar beet  
yield

Rast. Nauki 11(5) 32-37 (1974) (In Bulgarian)

INIS 6: 175264 1975 INIS 7: 223510 1976

NSA 32: 3694 1975

(STIMULATION)

FELDMANN, A.

Radiation induced mitotic delay and stimulation of growth

Stimul. Newsl. (6) 10-16 (1974)

NSA 32: 28232 1975 INIS 6: 206451 1975

FENDRIK, I. and BORS, J.

The influence of ionizing radiation on the growth of early red  
radish. Part 1. Effect of radiation applied to young plants  
and seeds

Stimul. Newsl. (6) 56-60 (1974)

INIS 6: 206702 1975 NSA 32: 28237 1975

GORANOV, A.I. and BOIKOVA, N.A.

Investigation of the post-irradiation effects on the yield and  
coefficient of resistivity in  $M_1$  of *Allium cepa* L. in relation  
to pre-sowing  $\gamma$ -irradiation of seeds

God. Sofij. Univ., Biol. Fak. 66(2) 241-248 (1974) (In Bulgarian)

INIS 7: 223512 1976

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1974

JAHAGIRDAR, H.A.; KHALATKAR, A.W. and DNYANSAGAR, V.R.

Low dose stimulation in foeniculum vulgare

Stimul. Newsl. (6) 1-3 (1974)

INIS 6: 206703 1975 NSA 32: 28239 1975

(STIMULATION SIGNIFICANT AFTER LOKR FOR SEED YIELD)

KAHAN, R.S.

Accelerated and increased development of inflorescences in tomato  
plants from irradiated seeds

Radiat. Bot. 14(4) 257-262 (1974)

INIS 6: 180589 1975 NSA 32: 1082 1975

(STIMULATION)

KHAFIZOV, R.N.

Practical use of gamma rays and fast neutrons in the treatment  
of tomato seeds

AEC-tr-7471 pp.191-194 (1974)

(Translated from Radiobiologiya 13(3) 471-474 (1973))

INIS 5: 130202 1974 NSA 30: 6878 1974

(STIMULATION OF GERMINATION)

KHANOLKAR, S.M.; KHALATKAR, A.S. and DNYANBAGAR, V.R.

Gamma radiation induced stimulation of growth and fruit yield  
in Carum copticum

Stimul. Newsl. (6) 4-9 (1974)

INIS 6: 206704 1975 NSA 32: 28238 1975

KUZIN, A.M. and TAGI-ZADE, Z.A.

Acceleration of alpha - amylase synthesis during irradiation of  
barley seeds at doses inducing the stimulation of development

AEC-tr-7471 pp.144-146 (1974)

(Translated from Radiobiologiya 13(3) 437-439 (1973))

NSA 30: 6876 1974

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1974

MIRCHEV, M. and NEDELICHEVA, N.

Ionizing radiation effect on the lucerne yield

Rastenievdyd. Nauki. 11(10) 18-22 (1974) (In Bulgarian)

INIS 7: 223516 1976

OGOR, E. and ODETOLA, J.A.

Trials with x-rays and gamma rays on oil palm pollen and seeds

From Joint FAO/IAEA Division of Atomic Energy in Food and Agriculture.

Improvement of vegetatively propagated plants through induced mutations.

Proceedings of a research co-ordinated meeting held at Tokai, 30 September-

4 October 1974

IAEA-173 pp.105-111 (1975)

INIS 6: 218206 1975

(POSITIVE EFFECT UPON INITIATION OF GERMINATION)

Radiation induced growth stimulation

From Symposium on Use of Radiations and Radioisotopes in Studies of Plant

Productivity. Pantnagar, India, 12 April 1974

CONF-7404111 pp.187-228 (1974)

NSA 33: 12319 1976

RAGHUVANSHI, S.S. and SINGH, A.K.

Studies on the effect of gamma rays on Trigonella foenum-graecum L.

Cytologia 39(3) 473-482 (1974)

INIS 6: 206452 1975

(BIOLOGICAL RADIATION EFFECTS; CHROMOSOMAL ABERRATIONS; GERMINATION; PLANT GROWTH; SEEDS)

SINGH, B.B.

Radiation-induced changes in catalase, lipase and ascorbic acid of safflower seeds during germination

Radiat. Bot. 14(3) 195-199 (1974)

INIS 6: 165526 1975

(GAMMA RADIATION; GERMINATION; SEEDS; STIMULATION)

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1974

TUMANYAN, E.R.

Effect of radiation on tomato seeds and seedlings

Biol. Zh. Arm. 27(8) 65-73 (1974) (In Russian)

NSA 31: 19924 1975

(STIMULATION)

1973

BABOTH, E.; NIEMANN, E.G.; FENDRIK, I. and others

Spectrophotometric detection of low dose irradiation effects in  
plants. (Preliminary Report)

Stimul. Newsl. (5) 54-55 (1973)

INIS 5: 152456 1974

(GERMINATION; PLANT GROWTH; SEEDS; STIMULATION)

BALANE, R.D.G.

Radioisotopes in tree breeding

For. Dig. (Philippines) 1(2) 6-8 (1973)

INIS 5: 117283 1974

(GAMMA RADIATION; GERMINATION; GROWTH; SEEDS)

BANCHER, E.; RIEDERER, P. and WASHVETTL, J.

Influence of  $\gamma$ -<sup>60</sup>Co irradiation on carrot seeds. Pt.2. Qualitative  
and quantitative investigations on carotenes in the harvested crop

Angew. Bot. 47(5/6) 199-204 (1973) (In German)

INIS 5: 119734 1974

(DOSE RESPONSE RELATIONSHIPS; GAMMA RADIATION; GERMINATION; PLANT GROWTH;  
SEEDS)

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1973

CONGER, B.V.; KILLION, D.P. and CONSTANTIN, M.J.

Effect of fission neutron, beta and gamma radiation on seedling  
growth of dormant and germinating seeds of barley

Radiat. Bot. 13(3) 173-180 (1973)

INIS 4: 088512 1973

(BIOLOGICAL RADIATION EFFECTS; GERMINATION; GROWTH; SEEDS)

DASKALOFF, C. and MALCEVA, S.

A study on radio-stimulation effect in tomato, pepper and  
eggplant

Stimul. Newsl. (5) 27-36 (1973)

INIS 5: 152461 1974

(IRRADIATION; PLANT GROWTH; PRODUCTIVITY; SEEDS; STIMULATION)

DJELEPOV, K.

Studies on the effect of pre-sowing irradiation with low doses  
of gamma rays on seeds of common winter wheat

Stimul. Newsl. (5) 37-42 (1973)

INIS 5: 152462 1974

(GERMINATION; PLANT GROWTH; SEEDS; STIMULATION)

EHRENBERG, L.; NAESLUND, M. and FEDORCSAK, I.

Possible biochemical mechanisms of radiostimulation of living  
cells

Stimul. Newsl. (5) 1-14 (1973)

INIS 5: 152463 1974

(IRRADIATION; PRODUCTIVITY; STIMULATION)

ERNST, D.

The definition and statistical evaluation of radiation stimulation

Stimul. Newsl. (5) 15-26 (1973)

INIS 5: 152464 1974

(IRRADIATION; STIMULATION)

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1973

HALL, N.S.

Future of the use of radiation in agriculture

From Fourth International Congress of Radiation Research, Evian, France,

29 June 1970

pp.1477-1480 of Advances in Radiation Research. Biology and Medicine. Vol.III

ed. J.F. Duplan. N.Y., Gordon and Breach, (1973)

CONF-700610-P3 (B and M)

NSA 31: 26066 1975

IZVORSKA, N.

The gamma-ray effect on the growth, productivity and some biochemical changes of pepper

Izv. Inst. Fiziol. Rast. "Metodi Popov" Bulg. Akad. Nauk 18: 79-86 (1973)

(In Bulgarian)

INIS 5: 148470 1974

NSA 31: 14326 1975

(GAMMA RADIATION; PLANT GROWTH; SEEDS; STIMULATION)

JOSEPH, B.; GAUR, B.K.; CHADHA, M.S. and others

Stimulation of growth in *Ocimum kilimandscharicum* by low-dose x-irradiation

Aust. J. Biol. Sci. 26(2) 349-355 (1973)

INIS 4: 076132 1973

NSA 28: 24755 1973

(LOW DOSE IRRADIATION; GERMINATION; PLANT GROWTH; SEEDS; STIMULATION)

KAHAN, R.S.

Increased vegetative and generative plant growth induced by presowing treatment of seeds with "small"  $\gamma$ -radiation doses

(Abstracts of the Regional Conference on Radiation Protection, March 5-8, 1973, Israel)

INIS-mf-1166 (1973)

INIS 5: 114998 1974

(LOW DOSE IRRADIATION; GERMINATION; SEEDS)

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1973

LIVINGSTON, G.K. and STETTLER, R.F.

Radiation-induced stimulation of pollen-tube elongation in  
Douglas-Fir

Radiat. Bot. 13(2) 65-72 (1973)

NSA 28: 8373 1973

(SPEED UP OF GERMINATION)

MATHEW, T. and GAUR, B.K.

Radiation stimulation of germination in dormant cock lebur  
(xanthium stramonium) seeds)

Stimul. Newsl. (5) 43-47 (1973)

INIS 5: 152480 1974

(GAMMA RADIATION; GERMINATION; SEEDS; STIMULATION)

NIRALE, A.S. and GAUR, B.K.

Radiation induced stimulation in crop plants

Indian Soc. Nucl. Tech. Agric. Biol. Newsl. 2(2) 60-63 (1973)

INIS 5: 119971 1974

(LOW DOSE IRRADIATION; SEEDS; STIMULATION)

PAPAZOV, A.

Problems of radiation stimulation introduction by means of seeds  
irradiation before sowingFrom Conference on Problems of Application of Radiation Installations and  
Radiation Technology. Budapest, 2-4 October 1972

INIS-mf-1535 (1973) (In Russian)

INIS 5: 152207 1974

(IRRADIATION; STIMULATION; SEEDS)

SHEPSTONE, B.J.

Effect of ionizing radiation on seeds of Vicia Faba

S. Afr. J. Sci. 69(7) 207-212 (1973)

NSA 30: 521 1974

(STIMULATION OF GROWTH RATE OF ROOTS)

## I. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1973

SIDRAK, G.H. and SUESS, A.

Effects of low doses of gamma radiation on the growth and yield  
of two varieties of tomato

Radiat. Bot. 13(6) 309-314 (1973)

INIS 5: 119750 1974 NSA 29: 27027 1974

(BIOLOGICAL RADIATION EFFECTS; GERMINATION; PRODUCTIVITY; SEEDS)

SPIEGEL-ROY, P. and PADOVA, R.

Radiosensitivity of Shamouti orange (*Citrus sinensis*) seeds and  
buds

Radiat. Bot. 13(2) 105-110 (1973)

NSA 28: 5951 1973

(LOW DOSE STIMULATION OF GERMINATION AND EARLY GROWTH)

SRIVASTAVA, H.K.

The effects of gamma-irradiation on growth and energy metabolism  
of wheat seedling

Curr. Sci. (India) 42(3) 81-84 (1973)

INIS 4: 073888 1973

(GAMMA RADIATION; GERMINATION; SEEDS)

SUBHASHI, K. and NIZAM, J.

Preliminary study on the effect of x-ray irradiation on *Capsicum*  
Annum

Sci. Cult. (Calcutta) 39(8) 349 (1973)

NSA 29: 21147 1974

(ACCELERATED GERMINATION TIME AND GROWTH PROCESSES)

TODOROV, G.

Effect of low radiation doses on the growth, development and  
yield of maize

Rastenievdyd. Nauki 10(5) 3-11 (1973) (In Bulgarian)

INIS 5: 143835 1974

(GAMMA RADIATION; PLANT GROWTH; SEEDS; STIMULATION)



## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1973

YAMAGUCHI, Hikoyuki

Radiation effects upon dried seeds

From Proceedings of the Study Meeting on Initial Stage in the Biological Effect of Radiation and the Chain Separation Mechanism. Hatano, Hiroyuki and Saito, Masahiro (eds.)

KURRI-TR-120 pp.65-66 (1973)

INIS 6: 215125 1975

(BIOLOGICAL RADIATION EFFECTS; GAMMA RADIATION; SEEDS; STRAND BREAKS; THERMOLUMINESCENCE)

ZANNONE, L. and ROTILI, P.

X-ray treatment effects on alfalfa quantitative traits

pp.1445-1454 of Advances in Radiation Research. Biology and Medicine. Vol.III ed. J.T. Duplan. New York, Gordon and Breach, (1973)

CONF-700610-P3 (B and M)

INIS 6: 190362 1975 NSA 31: 26065 1975

(BIOLOGICAL RADIATION EFFECTS; PLANT GROWTH; SEEDS; X-RADIATION)

1972

ALBA, G. de; REYES, N. and HERNANDES, A.

Irradiation of seeds of sorghum (*sorghum vulgare*) and wheat (*Triticum vulgare*) with gamma-rays

p.453-455 of Joint FAO/IAEA Division of Atomic Energy in Food and Agriculture. Induced Mutations and Plant Improvement. Proceedings of a Latin American Study Group Meeting, held Buenos Aires, 16-20 November 1970. Vienna, IAEA (1972) (Panel Proceedings Series) (In Spanish)

INIS 3: 026290 1972

(FERTILITY; GAMMA RADIATION; SEEDS; SURVIVAL TIME)

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1972

BERYOSINA, N.M.

Application of gamma-ray irradiation of seed before sowing for  
increase of agricultural yield

Isotopenpraxis 8(4) 153-4 (1972) (In German)

NSA 26: 56376 1972

BHARGAVA, S.C. and SIROHI, S.

Effect of x-ray irradiation on flowering response of some crop  
plants

Indian J. Agr. Sci. 42(5) 389-392 (1972)

NSA 28: 30089 1973

BOZZINI, A.

Nuclear methods for increasing food production  
vol.12, pp.153-162 of Fourth International Conference on Peaceful Uses of  
Atomic Energy. Geneva, 6-16 September 1971. Vienna, IAEA/UN, (1972)

A/CONF-49/P-192

INIS 3: 026597 1972

CALIFORNIA UNIVERSITY, Los Angeles. Laboratory of Nuclear Medicine and  
Radiation Biology

Effects of gamma radiation on seed germination and seedling  
survival

TID-25954 p.49-53 (1972)

INIS 4: 043010 1973

(GERMINATION; SEEDS; GAMMA RADIATION)

CASTA, J.

Comprehensive report on the neutron irradiation facilities and the  
dosimetry system used in the seed-irradiation program

From Meeting on Radiobiological Applications of Neutron Irradiation. Vienna,  
6 December 1971

pp.9-25 of Radiobiological Applications of Neutron Irradiation. Vienna, IAEA,  
(1972)

STI/PUB-325; CONF-711204

INIS 4: 043233 1973

NSA 27: 20038 1973

(IRRADIATION REACTORS; SEEDS)

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1972

CHADWICK, K.H.; LEENHOUTS, H.P.; OOSTERHEERT, W.F. and others

Effect of neutron dose-rate and spectrum on the growth of

Himalaya barley seeds

pp.67-75 of Joint FAO/IAEA Division of Atomic Energy in Food and Agriculture.

Neutron Irradiation of Seeds. III. Vienna, IAEA, (1972)

Technical Report Series no.141

INIS 4: 058683 1973

(DOSE-RESPONSE RELATIONSHIPS; GAMMA RADIATION; PLANT GROWTH; SEEDS)

CHENG, C.H.

Dosimetry and the use of the standard neutron irradiation facility

in the Tsing Hua Reactor

From 3rd Meeting on the Use of Seeds as Biological Monitors for Neutron

Irradiation, Knoxville, Tenn., 17 November 1969

pp.27-30 of Neutron Irradiation of Seeds. III. Vienna, IAEA, (1972)

STI/DOC-10/141; CONF-691120

NSA 28: 2865 1973

CHENG, Chen-Hwa

Studies on the effect of neutron irradiation on seeds. Part of a

co-ordinated programme of research on the use of neutrons in

seeds irradiation. Final report for the period 1 December 1968 -

29 February 1972

IAEA-R-592-F (1972)

INIS 4: 082724 1973

(DOSE RATES; GROWTH; IRRADIATION PROCEDURES; SEEDS)

CONGER, B.V.; CONSTANTIN, M.J. and CARABIA, J.V.

Seed radiosensitivity: wide range in oxygen-enhancement ratio

after gamma-irradiation of eight-species

Int. J. Radiat. Biol. 22(3) 225-235 (September 1972)

INIS 4: 045724 1973

(BIOLOGICAL RADIATION EFFECTS; PLANT GROWTH; ALFALFA; BARLEY; GRASS; LETTUCE;  
SEEDS)

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1972

CORNEANU, G.C. and SZEKELY, I.B.

The action of combined x-radiations and magnetic fields on dry seeds of *Pisum sativum* L.

Radiat. Bot. 12(5) 315-322 (1972)

INIS 4: 048102 1973

(DOSE-RESPONSE RELATIONSHIPS; GERMINATION; PLANT GROWTH; SEEDS)

DASKALOV, Kh. and MAETSEVA, S.

Studies on the radiostimulating effect on tomatoes, pepper and aubergines obtained after irradiation of the seeds with low doses of gamma rays  $^{60}\text{Co}$

From National Conference on Uses of Radioisotopes and Ionizing Radiation in Biology and Agriculture. Sofia, Bulgaria, 28 November 1972

INIS-mf-732 (1972) (In Bulgarian)

INIS 4: 091200 1973 NSA 29: 18583 1974

(LOW DOSE IRRADIATION; SEEDS; STIMULATION)

FASULO, M.P.; MANTOVANI, G.; DALL'OLIO, G. and others

Alterations of sugar beets by  $\gamma$ -irradiation of the seed

Zucker 25(8) 247-256 (1972) (In German)

INIS 3: 031311 1972

(GAMMA RADIATION; PLANT GROWTH; SEEDS; STIMULATION)

FOWLER, D.B. and MaQUEEN, K.F.

Effect of low doses of gamma radiation on yield and other agronomic characters of spring wheat (*Triticum aestivum*)

Radiat. Bot. 12(5) 349-53 (1972)

NSA 27: 5475 1973

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1972

GARG, O.K.; TIWANI, B. and SINGH, O.

Effect of pre-sowing gamma-irradiated seeds in relation to the germination behaviour of Indian Colza (*Brassica Campestris* L. var. Sarson Prain)

Indian J. Agr. Sci. 42(7) 553-556 (1972)

INIS 4: 056451 1973 NSA 28: 8395 1973

(LOW DOSE STIMULATION OF GERMINATION)

GAUR, B.K. and JOSEPH, B.

Nature of radiation induced stimulation in seedling growth  
Stimul. Newsl. (4) 43-54 (1972)

INIS 4: 079076 1973 NSA 28: 24758 1973

(BARLEY; LOW DOSE IRRADIATION; SEEDS; STIMULATION)

GOPAL-AYENGAR, A.R.; RAO, N.S.; BHATT, B.Y. and others

Studies on the effect of neutron irradiation on seeds  
pp.1-12 of Joint FAO/IAEA Division of Atomic Energy in Food and Agriculture.  
Neutron Irradiation of Seeds. III. Vienna, IAEA, (1972)

Technical reports series no.141

INIS 4: 056452 1973

(GERMINATION; HEIGHT; PLANT GROWTH; SEEDS)

GORANOV, A.

Germination energy and the germination of seed and growth of the main root and hypocotyls, as affected by gamma-irradiation and post-irradiation temperature treatment of *Cucurbita maxima* Duch.

God. Sofij. Univ., Biol. Fak. 65(2) 123-148 (1972) (In Bulgarian)

NSA 30: 3542 1974

(STIMULATION OF GROWTH)

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1972

GORANOV, A.

Investigation of the ripe fruits of *Cucurbita maxima* Duch., grown from seeds presowing treated with gamma-rays and subjected to post-irradiation treatment

God. Sofij. Univ., Biol. Fak. 65(2) 173-186 (1972) (In Bulgarian with English summary)

INIS 5: 117154 1974

(GROWTH; SEEDS; STIMULATION)

GORANOV, A.

Stem growth number of leaves and branches depending on gamma-irradiation pre-sowing temperature treatment of *Cucurbita maxima* Duch.

God. Sofij. Univ., Biol. Fak. 65(2) 149-171 (1972) (In Bulgarian)

NSA 30: 3533 1974

(STIMULATION OF GROWTH)

GORANOV, A. and ANGELOV, A.

Influence of presowing gamma-irradiation on the yield of *Phaseolus Vulgaris* var - *subcompressus* All

God. Sofij. Univ., Biol. Fak. 65(2) 186-206 (1972) (In Bulgarian)

INIS 5: 112333 1974

(GERMINATION; SEEDS)

GOVINDASWAMI, S.; GHOSH, A.K. and MISRA, R.N.

Improvement in quality characteristics and yield attributes through gamma irradiation in rice

Indian J. Agric. Sci. 42(10) 869-872 (1972)

INIS 4: 079080 1973

NSA 31: 696 1975

(GAMMA RADIATION; PRODUCTIVITY; MUTANTS)

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1972

HYOSCYAMUS, Niger L.; MALIK, S.; AKRAM, M. and others

Effect of gamma cobalt ( $\gamma$  <sup>60</sup>Co) radiation on the growth and  
alkaloidal contents of medicinal plants. Part 1

Pak. J. Sci. Ind. Res. 15(6) 384-385 (1972)

NSA 29: 27031 1974

(INCREASED YIELD)

INTERNATIONAL ATOMIC ENERGY AGENCY

Neutron irradiation of seeds. III

Technical Report Series no.141. Meeting held at Knoxville, Tenn., November  
17-20, 1969. Vienna, IAEA, (1972)

STI/DOC-10/141; CONF-691120

NSA 28: 2859 1973

JUNTA de ENERGIA NUCLEAR MADRID, SpainThe use of isotopes and radiation in agriculture and food  
production in Spainvol.12, pp.163-178 of Fourth International Conference on Peaceful Uses of  
Atomic Energy. Geneva, 6-16 September 1971. Vienna, IAEA/UN, (1972)

(In Spanish)

A/CONF-49/P-728

INIS 3: 026611 1972

KARABANOV, I.A. and VEREMEICHIK, V.E.

Effect of radiation on the productivity and polyphenol composition  
of buckwheat

Dokl. Akad. Nauk. SSSR 203(2) 488-90 (1972) (In Russian)

NSA 26: 56377 1972

(INCREASED PRODUCTIVITY)

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1972

KAUSHANSKI, David Aronovich; GUREVICH, Yakov A.; ZHUKOV, Boris G. and others:

Gamma-irradiation apparatus for granular material

British Patent 1,263,638 16 February 1972 (filed 16 June 1970)

NSA 26: 25719 1972

(PARTICULAR APPLICATION FOR IRRADIATING SEEDS PRIOR TO SOWING)

KONDAREV, M. and BOZHINOVA, I.

Gamma effects on seeds and cuttings of certain vine varieties  
of the *Vitis Vinifera* L. SpeciesFrom Second National Conference on Uses of Radioisotopes and Ionizing  
Radiation in Biology and Agriculture. Sofia, Bulgaria, 28 November 1972

INIS-mf-756 (1972) (In Bulgarian)

NSA 29: 24467 1974

KUPIN, A.M.

Molecular mechanisms of a stimulating effect of ionizing radiation  
on plant seeds

Radiobiologiya 12 5 635-643 (1973) (In Russian)

INIS 41 256454 1973

IONIZING RADIATION EFFECTS: SEEDS

KUPIN, A.M.; SPRECHINA, N.M.; KAUSHANSKI, A.D. and others:

Theoretical bases and practical results of the pre-irradiation  
of seeds with gamma rays in USSR

Soviet News 1-11 1971

INIS 41 256454 1973 SA 29: 24467 1974

SEEDS: IRRADIATION: INFORMATION ON FOODS: IRRADIATION FACILITY:

KONDAREV, M. and BOZHINOVA, I.

Stimulation of irradiated and non-irradiated seeds of *Phaseolus*  
L. under various thermal temperature conditions

INIS 41 256454 1973

INIS 41 256454 1973

SEEDS: IRRADIATION: SEEDS: PHASEOLUS: FACILITY: IRRADIATION:



## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1972

MALUSZYNSKI, M.

Effect of barley seed treatment with x-rays on growth dynamics  
of seedlings roots and stems

Bull. Acad. Pol. Sci., Ser. Sci. Bol. 20: 91-96 (1972)

INIS 4: 045729 1973

(BIOLOGICAL RADIATION EFFECTS; PLANT GROWTH; SEEDS)

MANTOVANI, G.; FASULO, M.P.; MANCINI, F. and others

Effect of  $\gamma$ -irradiation of seed on properties of sugar beet

Zucker 25(4) 113-116 (1972) (In German)

NSA 26: 53386 1972

(Only in some cases a clear tendency toward improving particular properties of  
the beet could be found after irradiation with some doses)

MARCOS FILHO, J.; BRAGANTINI, C. and SANTOS, F.D.P.

Behaviour of rice seeds (*Oryza Sativa* L.) submitted to gamma  
radiation

CENA-BC-007 (November 1972) (In Portuguese)

NSA 33: 3189 1976

(GAMMA RADIATION; GERMINATION; PRODUCTIVITY; SEEDS)

SANTOS, I.S.

Progress in applying nuclear methods to increase production of rice,  
soybean and coconut in the Philippines

From vol.12, pp.179-188 of Fourth International Conference on Peaceful Uses  
of Atomic Energy. Geneva, 6-16 September 1971. Vienna, IAEA/UN, (1972)

Sci. Rev. (Manila) 12(1) 19-26 (1972)

A/CONF-49/P-748

INIS 3: 026629 1972

NSA 27: 12296 1973

(IMPROVED GRAIN YIELD POTENTIAL)

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1972

SIDDIQUI, S.H. and MIYEEB, K.A.

Gamma irradiation induced early growth stimulation in some cucurbits  
 Stimul. Newsl. (4) 12-17 (1972)  
 NSA 28: 30088 1973

SORIANO, J.D.; IBE, L.D.; CLARIDGE, M.V. and others

Fast neutron dosimetry and seed irradiation in the Philippine  
 Standard Neutron Irradiation Facility  
 From 3rd Meeting on the Use of Seeds as Biological Monitors for Neutron  
 Irradiation. Knoxville, Tenn., 17 November 1969  
 pp.13-16 of Neutron Irradiation of Seeds. III. Vienna, IAEA, (1972)  
 STI/DOC-10/141; CONF-691120  
 NSA 28: 2862 1973

STOILOV, M.

Studies on the effects of neutron irradiation on seeds  
 (Part of a coordinated programme of research on the use of neutrons in seed  
 irradiation. Final report for the period 1 December 1967 - 30 November 1971)  
 IAEA-R-546-F (1972)  
 INIS 4: 088727 1973  
 (DOSE-RESPONSE RELATIONSHIPS; GROWTH; SEEDS)

STOILOV, M.; FILEV, K.; TROCHEV, T. and others

Dosimetric and radiobiological investigation with the standard neutron  
 facility in reactor IRT-2000  
 From 3rd Meeting on the Use of Seeds as Biological Monitors for Neutron  
 Irradiation. Knoxville, Tenn., 17 November 1969  
 pp.21-25 of Neutron Irradiation of Seeds. III. Vienna, IAEA, (1972)  
 STI/DOC-10/141; CONF-691120  
 NSA 28: 2864 1973

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1972

ZEIMALOV, I.I.; ALIEV, A.A. and RIZA-ZADE, R.R.

Influence of pre-planting gamma irradiation on the yield and  
phytophthorosis of potatoes

AEC-tr-7362 pp.231-4

(Translated from Radiobiologiya 12(2) 311-13 (1972))

NSA 27: 2731 1973

(STIMULATION OF YIELD)

1971

AKHUND-ZADE, I.M. and IMAMALIEV, G.N.

Effects of preplanting gamma irradiation on Feijoa seeds

AEC-tr-7304 pp.210-212

(Translated from Radiobiologiya 11(4) 636-7 (1971))

NSA 26: 36359 1972

(STIMULATION)

BEREZINA, N.M.

Gamma irradiation of seeds before sowing for increasing the crop  
capacity of agricultural plants

Izotopy SSSR (21) 8-10 (1971) (In Russian)

INIS 3: 017902 1972

NSA 26: 41110 1972

(STIMULATION)

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1971

BEREZINA, N.M.

The results of studies on presown irradiation of seeds of agricultural plants

pp.60-69 of Isotope and Nuclear Radiation Application in Agriculture. Section

1. Agricultural Radiobiology. Moscow, Atomizdat, (1971) (In Russian)

INIS 5: 130187 1974

(GAMMA RADIATION; PLANT GROWTH; SEEDS; STIMULATION)

BORS, J. and ZIMMER, K.

Effects of low doses of x-rays on rooting and yield of carnation  
"William Sim"

Gartenbauwissenschaft 36(3) 209-14 (1971) (In German)

NSA 26: 17969 1972

(ROOT GROWTH INCREASED)

CALDERA, P.G.

Gamma stimulation of maize

Stimul. Newsl. (2) 5-10 (1971)

INIS 3: 019638 1972

NSA 26: 53385 1972

(GAMMA RADIATION; SEEDS)

CASERTA, G. and CERVIGNI, T.

Physico-chemical aspects of radiosensitivity of plant seeds

inferred from the analysis of thermally stimulated radioluminescence

CNEN-RT/EL-71-2 (1971)

INIS 3: 015625 1972

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1971

COUTINHO, M.P.

Preliminary results of x-ray application on grape seeds

Stimul. Newsl. (2) 1-4 (1971)

INIS 3: 020473 1972

(GERMINATION; PLANT GROWTH; STIMULATION)

DESAI, B.M. and GAUR, B.K.

Effect of low doses of x-rays on radish and carrot

Stimul. Newsl. (2) 27-30 (1971)

NSA 26: 53391 1972

(STIMULATION SIGNIFICANT AT 5,000R)

FENDRIK, I. and BORS, J.

Study of interaction of "low" dose of radiation with presoaking  
of seeds on the yield of spring barley 'impala'

Stimul. Newsl. (3) 17-19 (1971)

INIS 5: 146334 1974

(PRODUCTIVITY; SEEDS; STIMULATION)

GAUR, B.K. and DESAI, B.M.

Screening of crop plants for radiation induced stimulation.

Part 1. Kidney bean, onion and lettuce

Stimul. Newsl. (3) 13-16 (1971)

INIS 5: 146335 1974

(IRRADIATION; SEEDS; STIMULATION)

GOL'DSHMID, L.G.

Storage effect in the seeds treated by  $\gamma$ -radiation and radio-  
sensitivity of plantsIsotope and Nuclear Radiation Application in Agriculture. Section 2. Isotope  
Application in Crop Science and Agriculture. Moscow, Atomizdat, (1971)

(In Russian)

INIS 5: 130195 1974

NSA 31: 3660 1975

(GAMMA RADIATION; SEEDS; STIMULATION)

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1971

HAUNOLD, E. and ZVARA, J.

Nitrogen content of two spring wheat varieties as affected by irradiation

Stimul. Newsl. (3) 30-36 (1971)

INIS 5: 146336 1974

(GAMMA RADIATION; STIMULATION)

KOMAR, E.G. and KHOMYAKOV, A.M.

Electron irradiation application for stimulation and inhibition of potato germination

pp.82-87 of Isotope and Nuclear Radiation Application in Agriculture. Section

1. Agricultural Radiobiology. Moscow, Atomizdat, (1971) (In Russian)

INIS 5: 130204 1974

(GERMINATION; PLANT GROWTH; STIMULATION)

KRYUKOVA, L.M. and ABDRAKHMANOV, O.K.

Effects of ionizing radiation and phyto-hormones on the germination and growth of ural licorice

Fiziol. Rast. 18(5) 1043-5 (1971) (In Russian)

NSA 26: 23041 1972

(STIMULATED SEED GERMINATION)

LEBEDINETS, L.N.

Growth and morphogenesis of Pecan under the effect of  $\gamma$ -rays  $^{60}\text{Co}$

Tsitol Genet. 5(1) 45-8 (1971) (In Russian)

NSA 26: 17973 1972

(STIMULATION OF GERMINATION)

MacQUEEN, K.F.; KETCHESON, J.W.; LAPINS, K.O. and others

Canadian studies on applications of isotopes and radiation in agriculture and food preservation

A/CONF-49/P-162 (1971)

INIS 2: 011066 1971

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1971

NALBORCZYK, E.; ZELAWSKA, B. and KOLAKOWSKA, M.

Effects of x-rays on seed germination and growth of Scots pine  
(*Pinus silvestris* L.) seedlings of different provenience

Acta Soc. Bot. Pol. 40: 403-412 (1971)

INIS 3: 026302 1972

(BIOLOGICAL RADIATION EFFECTS; GERMINATION; PLANT GROWTH; SEEDS)

NANDPURI, K.S.; SANDHU, K.S. and RANDHAWA, K.S.

Effect of irradiation on variability in Okra (*Abelmoschus*  
*Esculentus* (L) Moench)

J. Res. (Ludhiana) 8(2) 183-8 (1971)

NSA 26: 53390 1972

PALANICHAMY, K.; SINGH, V.P. and SIDDIQ, E.A.

A note on the effect of x-irradiation on growing embryos in rice  
Curr. Sci. (India) 40(22) 610-611 (1971)

INIS 3: 019592 1972

(GERMINATION; RADIATION EFFECTS)

PREOBRAZHENSKAYA, E.I.

Radiosensitivity of plant seeds

Moscow, Atomizdat, (1971) (In Russian)

NSA 26: 7113 1972

(3 categories: 1. sensitive, 2. somewhat resistant and 3. resistant.

Correlations were established between these groups according to plant survival  
rates and other factors: seed germination, stimulating dose level and plant  
morphology)

PRIVALOV, G.F. and SHMELEVA, Yu.F.

Radiosensitivity of sea Buckthorn seeds

AEC-tr-7303 pp.140-6

(Translated from Radiobiologiya 11(3) 421-5 (1971))

NSA 26: 33645 1972

(SOME STIMULATION)

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1971

RAJPUT, M.A. and KHAN, A.H.

Radiosensitivity studies in sunflower (*Helianthus annuus*)

Nucleus (Karachi) 8(1-2) 84-87 (1971)

INIS 3: 017888 1972

(GERMINATION; SEEDLINGS; GAMMA RADIATION)

RAO, N.S.; MISTRY, K.B. and GOPAL-AYENGAR, A.R.

Crop improvement and fertiliser studies including soil-plant  
relationships using radiations

A/CONF-49/P-537 (1971)

INIS 2: 011067 1971

STARZYNSKI, K.

Application of nuclear energy for increase of food production in  
Poland

A/CONF-49/P-329 (1971)

INIS 2: 011071 1971

SUESS, A. and BRETSCHNEIDER-HERMANN, B.

Effect of low radiation doses on barley and wheat

Stimul. Newsl. (2) 36-44 (1971)

NSA 26: 41111 1972

(INCREASED YIELD)

SUESS, A. and GROSSE, W.

The relation between seed irradiation, fertilizer level and yield  
of spring barley

Stimul. Newsl. (3) 22-29 (1971)

INIS 5: 146122 1974

(PRODUCTIVITY; SEEDS; STIMULATION)



## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1971

SUKACH, K.I.

Investigation into the stimulation effect in maize plants under the action of presowing irradiation of seeds  
pp.78-80 of Isotope and Nuclear Radiation Application in Agriculture. Section 1. Agricultural Radiobiology. Moscow, Atomizdat, (1971) (In Russian)  
INIS 5: 130225 1974  
(IRRADIATION; PLANT GROWTH; SEEDS; STIMULATION)

YULDASHEV, S.Kh.; AKCHURINA, N.A. and DOMINA, N.D.

Effect of pre-sowing irradiation of seed by gamma rays of  $^{60}\text{Co}$  on morphological structure of cotton plants  
Uzb. Biol. Zh. (no.5) 37-9 (1971) (In Russian)  
NSA 26: 36364 1972  
(STIMULATION OF GROWTH AND DEVELOPMENT)

ZELAWSKI, W. and NALBORCZYK, E.

Productivity of photosynthesis in Scots pine (*Pinus silvestris* L.) seedlings grown from seed irradiated by x-rays  
Acta Soc. Bot. Pol. 40: 413-421 (1971)  
INIS 3: 026312 1972  
(BIOLOGICAL RADIATION EFFECTS; PLANT GROWTH; SEEDS)

1970

BIDZILYA, N.I. (ed.)

Proceedings of the 1st All-Union Symposium on the Radiobiology of Plants, Kiev, 12-16, 1970  
CONF-700572  
NSA 26: 43264 1972  
(EFFECTS OF PLANTING IRRADIATED SEEDS ON THE GROWTH DEVELOPMENT AND PRODUCTIVITY OF PLANTS)

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1970

BOUYER, S.

Use of atomic energy in agriculture. Future prospects in Africa  
pp.47-58 of Peaceful Uses of Atomic Energy in Africa. Proceedings of the  
Symposium, Kinshara, 28 July-1 August 1969. Vienna, IAEA, (1970) (In French)

INIS 1: 000040 1970

BREZINOVA, A.; KRALOVA, M. and HOSEK, K.

Effect of low doses of ionizing radiation on the initial growth  
and nitrogen content of summer wheat

Rostlin. Vyroba 16(8) 877-884 (August 1970) (In Czech.)

INIS 2: 005142 1971

CHIRA, E. and KANTOR, J.

Sensitivity of seeds of some forest species to the action of  
gamma rays

Acta Univ. Agr. (Brno.), Ser. C 39(4) 315-23 (1970)

NSA 26: 15436 1972

(SOME STIMULATION)

DAS, B.C.

Effects of gamma radiation on germination and seedling development  
of mulberry

Sci. Cult. (Calcutta) 36: 60-1 (1970)

INIS 1: 001642 1970 NSA 25: 21962 1971

(GERMINATION PERCENTAGE HIGHER)

FENDRIK, I.

Effects of low doses of radiation on yield strawberry (Fragaria  
Anana SSA)

Stimul. Newsl. (1) 8-12 (1970)

NSA 26: 43270 1972

(INCREASED YIELD)

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1970

GEORGIEV, G. and TOPCHIEVA, A.

A study of the radiosensitivity of soya beans by irradiation of  
seed with gamma-rays

Genet. Selekt. 3(5) 403-409 (1970) (In Bulgarian with Russian and  
English summary)

INIS 2: 013004 1971 NSA 26: 20590 1972

(SOME STIMULATION)

JOSEPH, B. and GAUR, N.K.

X-ray induced stimulation of growth in *Ocimum Killimandscharicum*  
Stimul. Newsl. (1) 34-8 (1970)

INIS 3: 017882 1972 NSA 26: 43266 1972

(STIMULATION)

KWON, Oh Yong

Studies on the acceleration of germination in carrot seed. II.  
Effects of x-ray and ultraviolet light in the germination of  
carrot seed

Korean J. Bot. 13(2) 15-20 (1970)

NSA 26: 12549 1972

PANNONHALMI, K.

Stimulation of emergence of x-irradiation in sugar beets of  
different grades of ploidy

Stimul. Newsl. (1) 21-2 (1970)

NSA 26: 53389 1972

RAJPUT, M.A.

The effect of gamma irradiation on germination and seedling growth  
in wheat

Nucleus (Karachi) 7(3) 178-182 (1970)

INIS 3: 017887 1972

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1970

RIPA, A. ed.

Plants in National Agriculture. V

Riga; Izdevnieciba Zinatne, (1970) (In Russian)

NSA 25: 13599 1971

(Influence of  $\gamma$ -rays on the harvest and stimulation of growth of hot-house cucumber)

RIZA-ZADE, R.R.; SULEJMANOVA, N.L. and TAGIEV, A.T.

Irradiation of sunflower and barley seeds before sowing

Izotopy SSSR (18) 50 (1970) (In Russian)

INIS 1: 002017 1970

SIDRAK, G.H.

Effect of low doses of ionizing radiation on the growth and  
respiration of yeast and broad beans

Stimul. Newsl. (1) 1-3 (1970)

INIS 3: 017893 1972

(GAMMA RADIATION; PLANT GROWTH; SEEDS; STIMULATION)

ZANKOV, Z.

Gamma-ray treatment of vine seeds

Gradinar. Lozar. Nauka 2(7) 77-87 (1970) (In Bulgarian)

INIS 3: 020475 1972

(GERMINATION; PLANT GROWTH)

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1969

DAS, A.

Effects of recurrent irradiation on *Lathyrus Sativus* Linn. and  
*Hordeum Vulgare* Linn.

Trans. Bose Res. Inst. (Calcutta) 32(3-4) 75-92 (1969)

NSA 27: 9835 1973

(Radiosensitivity coefficient for germination, growth rate in height and  
root length and for dry weight of seedlings determined using  $S = e^{-KD}$ )

EL-LAKANY, Mohamed Hosny Hassan

Studies on the effects of ionizing radiation on some western  
coniferous species. Vancouver B.C., Univ. of British Columbia,  
(1969). Thesis

NSA 25: 8799 1971

(SOME STIMULATION OF SEED GERMINATION AND SEEDLING SURVIVAL)

JAUHAR, P.P.

Morphological and physiological effects of radiations and  
radioisotopes on potatoes, *solanum Tuberosum* L.

Indian J. Agr. Sci. 39(1) 88-100 (1969)

NSA 26: 17971 1972

(STIMULATION OF TUBER SPROUTING AND GROWTH, TUBERIZATION AND YIELD)

ZEZYULINSKII, V.M.; GRECHANOVSKAYA, T.M.; GOL'DSHMID, L.G. and others

Use of  $\gamma$  radiation to obtain basic material for selections  
of sunflowers

Selek. Scmenovod. (6) 41-3 (1969) (In Russian)

NSA 25: 16380 1971

(INCREASED SEED HARVEST AND QUALITY OF PLANT)

ZHATOV, A.N. and KOVALENKO, V.M.

Influence of preplanting gamma-irradiation on the germination rate  
of seeds and the survival of hemp seedlings

Radiobiologiya 9: 769-772 (1969) (In Russian)

NSA 24: 12321 1970

(INCREASED ENERGY OF GERMINATION AND FIELD GERMINATION RATE)

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1968

CHANG, Kwon Yawl and BIN, Yeoung Ho

Studies on the productivities of some soybean lines after x-rays  
and thermal neutron seed irradiations

J. Nucl. Sci. (Seoul) 8(Pt.2) 169-75 (1968) (In Korean)

NSA 23: 5053 1969

(IMPROVED YIELD)

CLARK, G.M.; SWEANEY, W.P.; BUNTING, W.R. and others

Germination and survival of conifers following chronic gamma  
irradiation of seed

Radiat. Bot. 8: 59-66 (1968)

NSA 22: 33976 1968

(HIGH GERMINATION RATE)

SHARKOVSKII, P.A.; MILLER, A.T. and RUBINA, E.A.

Action of various types of ionizing irradiation on flax and hemp

Latv. PSR Zinat. Akad. Vestis. (5) 83-90 (1968) (In Russian)

NSA 23: 12243 1969

(STIMULATION OF PLANT GROWTH)

SILNY, Andre

Contribution to the study of the effect of a low dose of gamma  
irradiation on seeds and tubers before planting

CEA-R-3502 (May 1968) (In French)

NSA 23: 2978 1969

TARANOV, O.N.

Influence of irradiation of the seeds on the growth and physiological  
modifications of Tobacco

Tr. Inst. Bot. Akad. Nauk Kazakh. SSR 26: 97-104 (1968) (In Russian)

NSA 24: 25403 1970

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1967

BOGDASHEVSKAYA, O.V.; RUNOVA, Yu. N.; PANARIN, V.P. and others

The influence of  $\gamma$ -radiation on the structure of plant yields

Radiobiologiya 7: 281-4 (1967) (In Russian)

NSA 21: 34816 1967

(STIMULATION)

GABORCIK, S. and SRB, Vladimir

The germinating capacity of the seeds of some grass varieties

of the meadow-grass family (Poaceae) after irradiation with x-rays

Genet. Slechteni 3: 101-8 (1967) (In Czech.)

NSA 22: 33975 1968

KULESZA, J.; MOSZCZYNSKI, P. and KROH, J.

The influence of  $^{60}\text{Co}$   $\gamma$  irradiation of pea seeds on the thiamine biosynthesis in 10-day plants

Biol. Plant., Acad. Sci. Bohemoslov 9: 15-19 (1967)

NSA 22: 6758 1968

(STIMULATED GROWTH; INCREASED YIELD)

PATIL, R.P.

Effect of gamma rays on germination in Solanum khasianum Clarke

Curr. Sci. (India) 36: 131-2 (1967)

NSA 21: 20428 1967

FUDOLPH, T.D.

Effects of x-irradiation of seed on  $x_1$  and  $x_2$  generations in Pinus Banksiana Lambert

Radiat. Bot. 7: 303-12 (1967)

NSA 21: 41379 1967

(STIMULATION OF GERMINATION)

SILVY, Andre

The values for the stimulation effects obtained by  $\gamma$  irradiation of seeds of tomato (*Lycopersicum esculentum* L) var primabel

Compt. Rend., Ser. D 264: 1653-6 (1967) (In French)

NSA 21: 28681 1967

## 1. STIMULATION OF SEEDS BY LOW DOSE IRRADIATION

1967

TOUAKANYAN, G.A.

Effects of x radiation on plants of summer squash

Biol. Zh. Arm. 20(12) 73-6 (1967) (In Russian)

NSA 22: 33979 1968

(ACCELERATED GROWTH OF SEEDLINGS; STIMULATORY EFFECT ON LEAF SIZE)

1966

AVAKYAN, D.O. and BABAYAN, V.O.

Heading of plants grown from x-irradiated vernalized seed  
of winter crop wheat

Biol. Zh. Arm. 19(6) 18-22 (1966) (In Russian)

NSA 21: 6712 1967

(STIMULATION OF EARING OF WHEAT)

DIACONU, P.; BANU, M. and CIRSTEA, S.

Effect of gamma-rays on corn seeds

An. Inst. Cercet. Pentru Cereale, Plante Teh. Fundelea 34; 343-52 (1966)

(In Rumanian)

NSA 23: 10116 1969

(STIMULATION)

HUBBARD, Calvin P.

Atomic irradiation of gladiolus seed

Gladiolus 41: 59-65 (1966)

NSA 21: 43538 1967

(EARLIER, LARGER PERCENTAGE OF GERMINATION)



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(IMPROVED FERTILITY)

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