

REFERENCES

- Alexander, S.A., 2024, Impact of Phytosanitary Irradiation on Polar Antioxidants in Peels of 'Granny Smith' Apples, *Thesis*, Schmid College of Science and Technology, Chapman University, Orange, California.
- Aryanta, I.W.R., 2022, Manfaat Buah Naga Untuk Kesehatan, *E-Jurnal Widya Kesehatan*, Vol. 4 (2).
- Attix, F.H., 2004, *Introduction to Radiological Physics and Radiation Dosimetry*, WILEY-VCH verlag GmbH & Co. KGaA, Madison, Wisconsin.
- Bland, J.M., Altman, D., 1986, Statistical Methods for Assessing Agreement Between Two Methods Of Clinical Measurement, *The Lancet*, Vol. 327, Pp. 307–310, DOI:10.1016/S0140-6736(86)90837-8.
- BPS, 2025, Buletin Statistik Perdagangan Luar Negeri: Ekspor menurut HS, Desember 2024, *Badan Pusat Statistik*. <https://www.bps.go.id/id/publication/2025/02/28/940d4b1b63231ab02ae0a031/buletin-statistik-perdagangan-luar-negeri-ekspor-menurut-hs--desember-2024.html> (Accesses at 8-Agustus-2024)
- BRIN, 2025, *Hasil Uji Terap Dosimeter Alanine* [Unpublished raw data], Badan Riset dan Inovasi Nasional, Indonesia.
- Cao, V.C., Vo, A.T., Le, Q.T., Le, N.T., Duong, T.H., Tran, H.-N., 2021, Depth-dose profiles in continuous and discontinuous materials of food products and medical devices irradiated by 10 MeV electron beam, *Journal of Radioanalytical and Nuclear Chemistry*, Vol. 330, Pp. 609–617, DOI:10.1007/s10967-021-07985-5.
- Firmansyah, O.A., Kurniawan, B., Saputro, B., Walo, M., Gryczka, U., Nuraeni, N., 2025, A Review of Emerging Trends in Experimental, Simulation, and Theoretical Methods for Dose Calculation in Radiation Processing, *Nukleonika*, Vol. 70 (3), Pp. 59–77, DOI:10.2478/nuka-2025-0007.
- Gex, 2007, *High Energy Ebeam Energy Calculation Using GEX Wedge Array Cards in Risø Aluminum Wedge (4.5 to 12 MeV)*. https://library.gexcorp.com/wp-content/uploads/2025/07/100-204_A-Ebeam-Energy-Determination-Using-GEX-Wedge-Array-Cards.pdf
- Hallman, G.J., 2006, Guidelines for The Use Of Irradiation as A Phytosanitary Treatment, ISPM No. 18, Jan, 2016.
- IAEA, 2002, *Dosimetry for Food Irradiation*, Technical Reports Series No. 409.
- IAEA, 2010, *Use of Mathematical Modelling in Electron Beam Processing: A Guidebook*, Technical Reports Series No. 1.
- Indarwatmi, M., Kuswadi, A.N., 2021, Uji in Vitro Dosis Iradiasi Gamma untuk

Perlakuan Fitosanitari Terhadap Hama Lalat Buah *Bactrocera Carambolae* (Diptera: Tephritidae), *Prosiding Simposium Dan Pameran Teknologi Aplikasi Isotop Dan Radiasi*, Jakarta, Indonesia.

IPPC, 2025, The Importance of Plant Health Within One Health, *Commission On Phytosanitary Measures Nineteenth Session*, Roma.

ISO/ASTM, 2015, *Standard Practice for Dosimetry in an Electron Facility for Radiation Processing at Energies between 300 keV and 25 MeV*, No. 51649.

IAEA, 2025, *User's Manual: Particle and Heavy Ion Transport code System (PHITS)* — English version, Japan Atomic Energy Agency (IAEA), Japan.

Jayaraman, S., Lanzl, L.H., 2004, Collision and Radiation Loss in Charged-Particle Interactions, *Clinical Radiotherapy Physics*, Berlin.

Kim, J., Moreira, R.G., Castell-Perez, M.E., 2015, Improving Phytosanitary Irradiation Treatment of Mangoes Using Monte Carlo Simulation, *Journal of Food Engineering*, Vol. 149, Pp. 137–143, DOI:10.1016/j.jfoodeng.2014.10.005.

Ly, N.T., Chung, C. Van, Khanh, C.N., Hong, P.T.T., Binh, D., Thanh, L.Q., Tuan, V.A., Ngoc, N.D., Vy, N.T., Hien, P.T.T., Quynh, T.N.T., Hao, T.H.N., 2021, Effects of Electron Beam Irradiation On Dose Uniformity Ratio and Quality Of Hoa Loc Mango, *Vietnam Conference on Nuclear Science and Technology*, Vietnam.

Montgomery, D.C., Runger, G.J., 2011, *Applied Statistics and Probability for engineers*, John Wiley & Sons, United States of America.

Nikandrovs, M., 2024, Monte Carlo Modelling of Kilovoltage Radiotherapy, *Doctoral Thesis*, University College Dublin.

Noerachman, T., Cristin, A., Rahayu, R., Fitriati, Y., 2012, *Pedoman Teknis Perlakuan Karantina Tumbuhan dengan Iradiasi Sinar Gamma*, Seri Perlakuan Karantina Tumbuhan.

Oh, S.-Y., Kim, J., Kwon, S.-H., Chung, S.-W., Kwon, S.-G., Park, J.-M., Choi, W.-S., 2014, Monte Carlo Simulation of Phytosanitary Irradiation Treatment for Mangosteen Using MRI-based Geometry, *Journal of Biosystems Engineering*, Vol. 39 (3), Hal. 205–214, DOI:10.5307/JBE.2014.39.3.205.

Oliveira, P.S. de, Coelho, C.C. de S., Campos, R. da S., Freitas-Silva, O., Júnior, M.F., 2025, Effects of Electron-Beam (E-Beam) Irradiation on The Postharvest Quality of 'Golden' Papayas, *Food Physics*, Vol. 2, DOI:10.1016/j.foodp.2025.100054.

Pierard, A., 2025, Expanding the Boundaries of Irradiation Transforming Industries with E-beam and X-ray, *Hits the Road Southeast Asia Edition*, Indonesia.

Podgorsak, B.E., 2003, *Radiation Oncology Physics: A Handbook for Teachers and Students*, Edition 19th, IAEA, Vienna, Austria.

- Podgorsak, E.B., 2016, *Interactions of Charged Particles with Matter*, Radiation Physics for Medical Physicists, Springer International Publishing Switzerland, Pp. 229–276.
- Sato, T., Iwamoto, Y., Hashimoto, S., Ogawa, T., Furuta, T., Abe, S., Kai, T., Matsuya, Y., Matsuda, N., Hirata, Y., Sekikawa, T., Yao, L., P.E.Tsai, Hunter, H.N., Iwase, H., Sakaki, Y., Sugihara, K., Shigyo, N., Sihver, L., Niita, K., 2024, *PHITS's Manual User Version 3.35*, JAEA, Japan.
- Security, H.L., 2021, *Compendium of Material Composition Data for Radiation Transport Modeling*, Pacific Northwest National Laboratory, United States.
- Sinambela., B.R., 2024, Dampak Penggunaan Pestisida dalam Kegiatan Pertanian terhadap Lingkungan Hidup dan Kesehatan, *Agrotek: Jurnal Ilmiah Ilmu Pertanian*, Vol. 8 (2), DOI: 10.33096/agrotek.v8i2.625.
- Studenikin, F.R., Bliznyuk, U.A., Chernyaev, A.P., Khankin, V. V., Krusanov, G.A., 2021, Impact of Aluminum Plates on Uniformity of Depth Dose Distribution in Object during Electron Processing, *Moscow University Physics Bulletin*, Vol. 76, Pp. S1–S7, DOI:10.3103/S0027134922010106.
- Thao, P.T.T., Tuan, H.S.M., 2024, Impact of Electron Radiation on Bactrocera dorsalis Hendel Development on Dragon Fruit, *IOP Conference Series: Earth and Environmental Science*, Vol. 1399, DOI:10.1088/1755-1315/1399/1/012008.
- Tong, J., Rakovski, C., Prakash, A., 2015, Phytosanitary Irradiation Preserves the Quality of Fresh Blueberries and Grapes during Storage, *Hort Science*, Vol. 50 (11), Pp. 1666–1670. DOI: 10.21273/HORTSCI.50.11.1666
- Tuan, N.A., Tao, C. Van, Rangacharyulu, C., 2019, The Depth-Dose Curve Depends on The Inhomogeneity of The Material Irradiated by Electron Beam, *Radiation Physics and Chemistry*, Vol. 163, Pp. 22–25, DOI:10.1016/j.radphyschem.2019.05.001.
- Vargasab, A., Brisona, J., 2023, X-Ray and E-Beam Irradiation for Phytosanitary Control in Navel Oranges and Blueberries, *PlumX Metrics*, DOI:10.2139/ssrn.4540863.
- Walpole, R.E., Myers, R.H., Myers, S.L., Ye, K., 1993, *Probability and Statistics for Engineers and Scientists*, Edition 5th, Macmillan, New York.
- Wangler, T.P., 2008, *RF Linear accelerators*, John Wiley & Sons, United State America.
- Zolotov, S.A., Bliznyuk, U.A., Studenikin, F.R., Borshchegovskaya, P.Y., Krusanov, G.A., 2023, Combination of Aluminum Plates of Different Thicknesses to Increase the Homogeneity of Radiation Treatment by Accelerated Electrons, *Physics of Particles and Nuclei Letters*, Vol. 20, Pp. 954–958, DOI:10.1134/S1547477123040726.