



American Seed Innovation & Growth Alliance

ASIGA.ORG

Regulating Products, Not Genetics: Why Section 781's Seed Exclusion Must Be Amended

May 2026

EXECUTIVE SUMMARY

Section 781(1)(C)(i) of the FY2026 Agriculture Appropriations Act (P.L. 119-37), enacted November 12, 2025 and effective November 12, 2026, redefines cannabis seed compliance based on the THC content of the parent plant, causing affected seed to fall within the CSA's definition of marijuana — a **Schedule I controlled substance** — and subjecting it to DEA destruction mandates and federal trafficking liability. For the first time in U.S. hemp law, a seed's legal status is determined not by what it is, but by where it came from. The provision imposes a compliance standard with no specified testing protocol, no specified responsible party, and no transition pathway for material already in lawful commerce. [1]

What's at stake on November 12, 2026:

- A \$49.7 million U.S. hemp seed market will begin operating against a compliance standard that cannot be met, bringing seeds under DEA jurisdiction. [6]
- Seed businesses will lose jobs, markets, and access to financial and shipping services.
- Businesses and research institutions with lawful seeds acquired between 2018 and 2026 will become subject to federal trafficking exposure with no statutory safe harbor. [13]
- Patients in approximately 25 jurisdictions that authorize cannabis home cultivation will lose access to the genetics on which their care depends — at the same moment federal rescheduling expands medical recognition. [14][15][16]
- U.S. breeders will lose access to the best genetics for development of a wide range of industrial applications such as building materials, hemp clothing and insulation — as well as soil remediation genetics.
- U.S. breeders will face a compliance burden no major trading partner imposes, ceding the global cannabis genetics market to China, Canada, the EU, and other competitors. [10][11][12]

ASIGA's recommendation:

Strike §781(1)(C)(i) in its entirety. Seeds are already covered by the base hemp definition under the 2018 Farm Bill — if a seed tests at or below 0.3% total THC, it is hemp under federal law. Seeds are also covered by the Federal Seed Act, which requires truth in labeling. [19]

Section 781(1)(C)(i) is not needed to accomplish Section 781's stated purpose, which is to regulate intoxicating hemp products. Sections 781(1)(C)(ii) through (iv) already restrict intoxicating products

directly. Seeds are not intoxicating and do not belong on DEA Schedule I. Congress must take urgent action to protect America’s seed future for growth and innovation.

SECTION I — LEGISLATIVE BACKGROUND AND STATUTORY ANALYSIS

A. The 2018 Farm Bill Foundation. The Agriculture Improvement Act of 2018 defined hemp as any part of *Cannabis sativa* L. with not more than 0.3% delta-9 THC on a dry weight basis, explicitly including “the seeds thereof.” This chemistry-based definition removed hemp from the Controlled Substances Act and established the foundation for the modern domestic hemp and cannabis seed industry. [2][3]

B. The 2022 DEA Clarification. In January 2022, the DEA confirmed that cannabis seeds testing at or below 0.3% delta-9 THC on a dry weight basis fall within the 2018 Farm Bill definition of hemp and are not controlled under the CSA. This guidance enabled investment in and establishment of an interstate seed commerce ecosystem governed by certificates of analysis (COAs) issued at the seed level. [4]

C. Section 781(1)(C)(i): What the Law Actually Says. Section 781, Exclusion C excludes from the hemp definition “any viable seeds from a *Cannabis sativa* L. plant that exceeds a total tetrahydrocannabinols concentration ... of 0.3 percent in the plant on a dry weight basis.” Those three words — “in the plant” — shift the legal onus from the seed itself to the mother plant from which the seed was derived. [1]

D. The Total THC Standard Shift. Section 781 also moves the federal definition of hemp from delta-9 THC to total THC (delta-9 + 0.877 × THCA), closing the THCA pathway that underpinned the high-potency cannabinoid product market. This standard shift is a substantive policy decision worth congressional debate on its own merits. The seed exclusion in §781(1)(C)(i) is unnecessary to accomplish that policy goal. Congress restricts intoxicating products directly with §§781(1)(C)(ii)–(iv), without reaching the non-intoxicating seed. [1]

E. The Enforcement Timeline. Section 781 was signed into law November 12, 2025, with a one-year grace period. Enforcement begins November 12, 2026. No implementing guidance has been issued by USDA, DEA, or any other agency clarifying how compliance will be assessed or how legacy inventories will be treated. Industry has approximately six months to align operations with a standard that has not been operationalized. [1] A traceback system for a seed’s maternal plant THC is virtually impossible to enforce.

F. Procedural Concern: Policy by Appropriations. Section 781 was enacted as part of a continuing appropriations vehicle with no standalone hearing, no public comment period, and no Agriculture Committee markup. Redefining a major agricultural commodity classification, restructuring federal-state compliance frameworks, and creating new categories of federal controlled-substance exposure is well outside routine appropriations practice.

G. State Seed Regulations are Robust and Adequate. Several States have implemented specific regulatory requirements for the sale of *Cannabis sativa* L. seeds. For example, Minnesota requires cannabis seed labelers and distributors to follow the Minnesota Seed Law and to register with the MN Department of Agriculture. [23] Seed labels must show the kind, variety, lot number, net weight, “packed for” or “sell by” date, and labeler’s name and address, backed by germination and purity tests and Certificates of Analysis. [24] There is no problem that needs federal intervention.

SECTION II — THE SCIENTIFIC AND LEGAL PARADOX

A. Seeds Do Not Produce THC. Cannabinoid biosynthesis is localized exclusively to glandular trichomes — tissues that seeds do not contain. Any trace THC detectable on a seed surface is de minimis surface contamination from adjacent floral tissue at harvest, not a property of the seed itself. The law creates the anomaly of classifying a seed as a controlled substance not based on its own chemical composition but based on the genetic lineage of the plant from which it was derived. [7][8][9]

B. The Enforcement Impossibility Problem. The statute specifies no testing time point, no tissue to be sampled, no analytical method, no responsible party, and no chain-of-custody requirement to link a seed to its parent plant's test result. Compliance is definitionally undefined. For seed already in inventory on the effective date, parental THC history cannot be reconstructed at any cost because the parent plant no longer exists to be tested. No regulation USDA could issue can supply a compliance pathway for material already in lawful commerce. At a minimum, Congress will need to appropriate significant new funds for this traceback and audit program for future seed stock.

C. Conflict with Federal Research Policy. Executive Order 14370 (December 18, 2025) directs HHS, FDA, CMS, and NIH to remove barriers to cannabis research and expand access to hemp-derived cannabinoid products for medical applications. Section 781(1)(C)(i) simultaneously restricts the genetic material on which that research and market expansion depends. The two policies are pulling in opposite directions at the federal level. [5]

D. Schedule III Rescheduling Does Not Cure This. AG Order No. 6754-2026 (effective April 28, 2026) reschedules to Schedule III only (1) marijuana in FDA-approved drug products and (2) marijuana subject to state medical marijuana licenses. Section 781(1)(C)(i)-excluded seeds qualify for neither narrow category and therefore default back to Schedule I under the CSA's general marijuana definition. The federal government's most stringent control category attaches to germplasm at the same moment its more lenient category attaches to the finished medical product that germplasm could produce. [16]

SECTION III — ECONOMIC AND INDUSTRY IMPACT

A. The Scale of What Is at Risk. Section 781 will have a serious negative impact on innovation in industrial hemp. Research and development of the best genetics for building materials and fiber, and the potential for multi-use varieties which produce hemp seed oil, fiber, insulation and medicine will be set back decades or stalled completely.

The U.S. hemp seed market grew from \$2.9 million in 2023 to \$49.7 million in 2025, with total U.S. industrial hemp production value reaching \$739 million in 2025 (up 64% from 2024). The hemp industry estimates that §781 in its entirety affects approximately 95% of existing hemp-derived cannabinoid products, representing more than 300,000 jobs and \$1.5 billion in state tax revenue; the share attributable to §781(1)(C)(i) is concentrated in the seed, breeder, and germplasm segments. [6][17]

The potential for development of products derived from *Cannabis sativa* L. is enormous. BMW and Mercedes-Benz are already using hemp-sourced plastics in automobiles. [20] U.S. and world demand for hemp food products is surging, driven by the plant's high protein content, omega-3 and omega-6 fatty acids, and the absence of gluten. [21] However, the plant's potential will not be realized or expanded in the U.S. if the seed law change takes effect.

B. Impact on Seed Banks and Breeders. Developing low-THC cultivars requires crossing high-expressing parental lines and selecting in subsequent generations for the desired chemotype. Under §781(1)(C)(i), seeds produced from those crosses can themselves test below 0.3% total THC, yet still be excluded from

the hemp definition because of the parent plant’s chemistry. Working seed libraries holding thousands to tens of thousands of accessions acquired lawfully between 2018 and 2026 become potential Schedule I material on the effective date, with no statutory safe harbor. [1][13]

“Breeding new varieties suited to the widely varied climates of the US is a critical step in the growth and development of the US hemp industry. Breeding is a multiyear process that requires substantially different regulation from biomass and flower production. Breeders must have access to diverse genetic populations that express a range of characteristics for isolation and crossing into existing varieties for improvement. Breeders must be free to collect, flower, hybridize and evaluate species, landraces and varieties.” [22] The Section 781 requirements of traceback and DEA oversight will hinder or stall research and development.

C. Impact on Farmers and Cultivators. Licensed hemp farmers depend on access to seed with documented chemotype performance. Loss of seed market depth through breeder exit, supply contraction, or compliance-driven inventory destruction translates directly into reduced cultivar choice, higher per-unit seed cost, and slower replacement of underperforming varieties. Seed acreage reached 3,537 acres in 2025 (up 64% year-over-year), reflecting a farmer base already invested in seed-grown hemp production and exposed to seed-side supply disruption. [6]

D. Impact on Medical Patients. As of 2024, 47 states, DC, and three territories allow medical cannabis use. Approximately 25 jurisdictions authorize home cultivation, where registered patients reproduce specific cultivars from seed to maintain consistency of cannabinoid and terpene profile — including CBD:THC ratios used in seizure management and low-THC, high-CBG cultivars used in inflammatory and neuropathic pain management. Section 781(1)(C)(i) withdraws the federal hemp-compliant pathway by which seed for those cultivars has moved interstate, harming veterans accessing alternative therapies and older adults using cannabis for chronic pain and sleep. [14][15]

E. Genetic Diversity and Agricultural Innovation. Like any other crop, cannabis genetics require diverse parental starting material to isolate and breed forward desirable traits while breeding out undesirable ones. Trait-specific introgression projects — such as breeding for disease resistance, drought tolerance, fiber strength for hempcrete, or regional adaptation to specific day-length and growing-degree-day profiles — depend on continued breeder access to a wide germplasm base. Regionally adapted variety development for U.S. growing conditions is hamstrung by foreclosing the ordinary breeding pipeline. [18]

F. Competitive Global Implications. No comparable jurisdiction regulates cannabis seed by parental plant THC traceability. Canada evaluates variety compliance through multi-year field performance trials of the cultivated plant; the EU operates a Common Catalogue system based on certified field trial performance. The European Union Drugs Agency has confirmed that national control of cannabis seeds is not obligatory under the UN drug conventions. Health Canada’s own technical manual acknowledges that “it is almost impossible to obtain the seeds free from extraneous THC in the form of residues arising from other parts of the plant.”

China currently controls 35–40% of the global hemp market. If the law change is implemented as written, the U.S. will hand the seed market to foreign competitors while functionally creating a non-tariff trade barrier on U.S.-bred cannabis cultivars at precisely the moment international demand for them is increasing. [10][11][12]

SECTION IV — POLICY RECOMMENDATION AND ASIGA ASK

The Legislative Ask

Strike §781(1)(C)(i) Entirely.

Seeds are already covered by the base hemp definition and the Federal Seed Act. If a seed tests at or below 0.3% total THC, it is hemp under §781(1)(A). No separate seed exclusion is needed to accomplish §781's stated purpose; §§781(1)(C)(ii)–(iv) address intoxicating products without touching seed.

SECTION V — CONCLUSION

Section 781(1)(C)(i) is not principally a cannabis policy question. It is a multi-faceted issue impacting economic opportunity and job creation, agricultural seed compliance, federal-state preemption, international competitiveness, and federal research policy — all stacked on a six-month enforcement clock. The provision's defects are not partisan and not industry-specific; they would be defects under any administration, in any sector, applied to any crop.

No federal regulation evaluates wheat seed by the alcohol content of the beer it could be brewed into. No federal regulation evaluates corn seed by the aflatoxin level of its parent field — aflatoxin is real, regulated, and consequential, but it is regulated by testing the grain itself, because its expression varies with environmental conditions independently of genetics. Regulating any seed by parental chemistry rather than by the chemistry of the seed itself is not consistent with how U.S. agricultural law has been written for any other commodity, for any other purpose, at any other time.

The November 12, 2026 deadline converts inaction into a policy choice. After that date, lawful seed inventories built over eight years of operation under the 2018 Farm Bill would move into controlled-substance exposure with no transition pathway. State medical programs would lose the genetic supply chain on which they depend at the same moment that federal rescheduling expands recognition of medical cannabis.

American breeders would lose access to the best genetics for industrial applications, including building materials, seed oils, fibers, medicines and multi-use varieties. International competitors would gain market share in top-tier genetics. Seed businesses, many of which are small businesses in rural areas, would cut jobs and lose access to financial and shipping services. None of these outcomes is necessary to accomplish §781's stated purpose of restricting intoxicating cannabinoid products. Seeds are not intoxicating.

ASIGA respectfully requests that Congress urgently act before November 12, 2026 to prevent seed from being listed as a DEA Schedule I substance. Strike §781(1)(C)(i) in its entirety to remove maternal traceback requirements, protect American businesses, and preserve legacy germplasm inventories. ASIGA is open to a comparable remedy that allows the hemp genetics industry to flourish.

REFERENCES

- [1] P.L. 119-37, div. B, title VII, §781(1)(C), Nov. 12, 2025, 139 Stat. 558. Effective November 12, 2026. Codified at 7 U.S.C. §1639o as amended.
- [2] 7 U.S.C. §1639o(1) and (2)(D) (P.L. 115-334, 2018 Farm Bill). Pre-amendment hemp definition; research exemption covers plants used in research at institutions of higher education or independent research institutes.
- [3] 21 U.S.C. §802(16), Controlled Substances Act. Hemp excluded at §802(16)(B)(i) by cross-reference to 7 U.S.C. §1639o.
- [4] Boos, T.L. (2022, January 6). Letter to Shane Pennington, Esq. re: Control status of Cannabis sativa L. seeds, tissue culture, and genetic material under the CSA. DEA, Drug and Chemical Evaluation Section, Diversion Control Division.
- [5] Executive Order 14370, “Increasing Medical Marijuana and Cannabidiol Research,” December 18, 2025. Federal Register Vol. 90, No. 244, pp. 60541–60543 (December 23, 2025).
- [6] USDA NASS, National Hemp Report (April 16, 2026). Seed value 2025: \$49.7M (up 193%); 2024: \$16.9M (up 482%); 2023: \$2.9M. Total production value 2025: \$739M. Available: https://www.nass.usda.gov/Publications/Todays_Reports/reports/hempan26.pdf
- [7] Ross, S.A., Mehmedic, Z., Murphy, T.P., & ElSohly, M.A. (2000). GC-MS analysis of the total Δ9-THC content of both drug- and fiber-type Cannabis seeds. *Journal of Analytical Toxicology*, 24(8), 715–717.
- [8] Livingston, S.J., et al. (2019). Cannabis glandular trichomes alter morphology and metabolite content during flower maturation. *The Plant Journal*, 101(1), 37–56. DOI: 10.1111/tpj.14516.
- [9] Liu, Y., Zhu, P., Cai, S., Haughn, G., & Page, J.E. (2021). Three novel transcription factors involved in cannabinoid biosynthesis in Cannabis sativa L. *Plant Molecular Biology*, 106(1–2), 49–65. DOI: 10.1007/s11103-021-01129-9.
- [10] Health Canada: (a) Policy on the Exemption of Industrial Hemp Varieties from THC Testing During the Growing Season. (b) Industrial Hemp Technical Manual. (c) Industrial Hemp Regulations, SOR/2018-145. Available: <https://www.canada.ca/en/health-canada/services/drugs-medication/cannabis/producing-selling-hemp.html>
- [11] European Commission, Agriculture and Rural Development — Hemp. 116 hemp varieties registered in the EU Common Catalogue as of 2024. Available: https://agriculture.ec.europa.eu/farming/crop-productions-and-plant-based-products/hemp_en
- [12] European Union Drugs Agency (EUDA), Cannabis Laws in Europe FAQ: “national control is not obligatory for cannabis seeds under the UN conventions.” Available: https://www.euda.europa.eu/publications/faqs/cannabis-laws-in-europe-faq/international-obligations_en
- [13] 21 U.S.C. §841(b)(1). Federal controlled substance trafficking penalties. §841(b)(1)(B)(vii): five-year mandatory minimum for 100 kg or 100 plants. §841(b)(1)(A)(vii): ten-year mandatory minimum for 1,000 kg or 1,000 plants.
- [14] CDC, State Medical Cannabis Laws (as of February 2024). 47 states, DC, and 3 territories allow medical cannabis use. Available: <https://www.cdc.gov/cannabis/about/state-medical-cannabis-laws.html>

- [15]** Marijuana Policy Project, 2026 Cannabis Policy Reform tracker; Cannabiz Media (April 2026). Approximately 25 markets (24 states + DC) authorize home cultivation for recreational or medical use.
- [16]** DEA Final Order, AG Order No. 6754-2026. Issued April 23, 2026; effective April 28, 2026. 91 Fed. Reg. 22714 (April 28, 2026), FR Doc. 2026-08176. Available: <https://www.federalregister.gov/documents/2026/04/28/2026-08176/>
- [17]** U.S. Hemp Roundtable, industry impact statement regarding §781. Estimates ~95% of hemp-derived cannabinoid products affected, >300,000 jobs, \$1.5B in state tax revenue. Figures pertain to §781 as a whole.
- [18]** Gage, K. Industrial Hemp & Illinois Farmers: A Research-Based Perspective. Southern Illinois University Carbondale (Weed Science & Plant Biology; affiliate, SIU Cannabis Science Center).
- [19]** American Seed Trade Association, “Laws, Regs & Other Considerations When Buying Hemp Seed” (July 2025). Available: <https://www.betterseed.org/wp-content/uploads/Laws-Regs-Other-Considerations-when-Buying-Hemp-Seed.pdf>
- [20]** Hemp Foundation, “How the Auto Industry Uses Hemp Plastic” (October 2025). Available: <https://hempfoundation.net/how-the-auto-industry-uses-hemp-plastic/>
- [21]** Global Market Statistics, “Hemp-based Food Market Overview” (May 20, 2026). Available: <https://www.globalmarketstatistics.com/market-reports/hemp-based-food-market-17432>
- [22]** National Industrial Hemp Council, “Fit For Purpose: A Smarter Regulatory Path” (July 2025). Available: https://nihcoa.com/wp-content/uploads/2025/07/Fit-for-Purpose_Smarter-Regulatory-Path-DIGITAL.pdf
- [23]** Minnesota Department of Agriculture, “Cannabis Seed” (cannabis seed labeling and permit requirements under the Minnesota Seed Law). Available: <https://www.mda.state.mn.us/cannabis-seed>
- [24]** Minnesota Department of Agriculture, “Cannabis Seed FAQ” (April 2024). Available: <https://www.mda.state.mn.us/sites/default/files/docs/2024-04/Cannabis-Seed-FAQ.pdf>