

Damages from Pesticide Spray Drift under Trespass Law

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INTRODUCTION

In today's world, millions of people lack access to sufficient quantities of food to meet recommended dietary needs.¹ As the world's population grows, global demand only increases for food and fiber.² These shortages are occurring despite significant increases in the production of food resulting from new and modified practices including the more intense use of land resources,³ irrigation,⁴ plant breeding,⁵ genetically modified crops,⁶ advances in technology,⁷ im-

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1. It is estimated that one in seven people lack access to sufficient protein and energy in their diet. Charles J. Godfray et al., *Food Security: The Challenge of Feeding 9 Billion People*, 327 SCI. 812, 812 (2010).

2. It is estimated that by 2050 the world will need 70 percent more food due to increasing population and changes in diets. József Popp, Károly Pető & János Nagy, *Pesticide Productivity and Food Security: A Review*, 33 AGRONOMY SUSTAINABLE DEV. 243, 243 (2013). Population growth is also accompanied by an increase in the demand for water for the production of food crops. Henry Vaux Jr., *Water for Agriculture and the Environment: The Ultimate Trade-off*, 14 WATER POLY 136, 137 (2012). Due to insufficient irrigation water, millions of people will be condemned to starvation. *Id.*

3. See Uwe A. Schneider et al., *Impacts of Population Growth, Economic Development, and Technical Change on Global Food Production and Consumption*, 104 AGRIC. SYS. 204, 205 (2011) (noting that intensification of water, fertilizer, pesticides, machinery, and labor has increased food production).

4. See David Molden et al., *Improving Agricultural Water Productivity: Between Optimism and Caution*, 97 AGRIC. WATER MGMT. 528, 530 (2010) (observing potential crop production gains from irrigated crops by reducing plant transpiration).

5. See Godfray et al., *supra* note 1, at 813 (noting the Green Revolution using plant breeding to increase crop production); Eyal Fridman & Dani Zamir, *Next-generation Education in Crop Genetics*, 16 CURRENT OP. PLANT BIO. 218, 219 (2012) (reporting on the dramatic increases in yields due to hybrids); Mark Tester & Peter Langridge, *Breeding Technologies to Increase Crop Production in a Changing World*, 327 SCI. 818, 818 (2010) (calculating a linear increase in food production globally of 32 million metric tons per year due to breeding and agronomic improvements).

6. Genetically modified crops can decrease losses from pests and increase yields by eliminating competition from weeds. See Parvaiz Ahmad et al., *Role of Transgenic Plants in Agriculture and Biopharming*, 30 BIOTECH. ADVANCES 524, 525 (2012) (identifying wheat, rice, and soybean as important transgenic crops that have increased food supplies).

7. Technologies enable agricultural production to be intensified through the employment of more water, fertilizer, pesticides, and machinery. Schneider et al., *supra* note 3, at 205.

proved agricultural management practices,⁸ and the use of pesticides.⁹

However, many pesticides harm humans, other animals, and plants, and consequently, governments regulate their use.¹⁰ In the United States, the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) authorizes a regulatory system under which pesticides cannot be marketed unless they are registered.¹¹ The registration process submits the pesticide to rigorous cost-benefit analysis, and regulators can remove pesticides that prove more dangerous than initially anticipated.¹² Further, FIFRA makes it unlawful “to use any registered pesticide in a manner inconsistent with its labeling.”¹³

Pesticide use inherently involves risks to humans and the environment.¹⁴ One of the risks is the possibility that spray applications will cause particles to drift onto neighboring properties causing damages.¹⁵ The registration of a pesticide covers the possibility of spray drift.¹⁶ Labels warn applicators that the pesticide must be applied in a manner to preclude particles or droplets from being carried onto neighboring properties.¹⁷ Applicators who fail to follow label instructions are liable for damages.¹⁸

8. For example, improvements in a crop’s ability to use less water or saline water may lead to greater yields. Tester & Langridge, *supra* note 5, at 818 (reporting ideas for production increases).

9. See Charles M. Benbrook, *Impacts of Genetically Engineered Crops on Pesticide Use in the U.S.—The First Sixteen Years*, 24 ENVTL. SCI. EUR. 1, 1–13 (2012) (reporting on genetically engineered plants and the usage of pesticides in the production of food crops).

10. See, e.g., Adriane J. Busby & Gabriel Eckstein, *Organophosphates, Friend and Foe: The Promise of Medical Monitoring for Farm Workers and Their Families*, 27 UCLA J. ENVTL. L. & POL’Y 39, 50–68 (2009) (discussing the protection of farm workers from pesticides).

11. 7 U.S.C. § 136j(a)(1) (2014). However, nonregistered pesticides may be produced and exported to other countries. 7 U.S.C. § 136o (2014). See Michael Holley, *The EPA’s Pesticide Export Policy: Why the United States Should Restrict the Exports of Unregistered Pesticides to Developing Countries*, 9 N.Y.U. ENVTL. L.J. 340, 343–48 (2001) (discussing the requirements for exporting unregistered pesticides).

12. 7 U.S.C. § 136d(b)-(c) (2014). See Christopher M. Iaquinto, Note, *A Silent Spring in Deep Water?: Proposing Front-end Regulation of Dispersants after the Deepwater Horizon Disaster*, 39 B.C. ENVTL. AFF. L. REV. 419, 437 (2012) (noting the ability of EPA to cancel or suspend the registration of a pesticide).

13. 7 U.S.C. § 136j(a)(2)(G) (2014). See *Peconic Baykeeper, Inc. v. Suffolk Cnty.*, 600 F.3d 180, 188 (2d Cir. 2010) (finding that the district court did not explain how it found the spraying to be in compliance with the FIFRA label).

14. See, e.g., John Wargo, *Our Children’s Toxic Legacy: How Science and Law Fail to Protect Us from Pesticides*, Yale Univ. Press, 1998 (arguing that the U.S. government’s policies on pesticides have neglected adequate consideration of exposures and the risks faced by children).

15. See, e.g., Theodore A. Feitshans, *An Analysis of State Pesticide Drift Laws Revisited*, 20 SAN JOAQUIN AGRIC. L. REV. 23, 23–29 (2010–2011) (recounting state regulations governing pesticide spray drift); Theodore A. Feitshans, *An Analysis of State Pesticide Drift Laws*, 9 SAN JOAQUIN AGRIC. L. REV. 37, 40–67 (1999) (introducing the issue of state regulation of pesticide spray drift).

16. 40 C.F.R. § 158.130(g) (2014) (requiring data that evaluates pesticide spray drift derived from studies of droplet size spectrum and spray drift field evaluations). Further regulatory provisions delineate a table for determining spray drift data. 40 C.F.R. § 158.1100 (2014).

17. See Constantino Vischetti et al., *Measures to Reduce Pesticide Spray Drift in a Small Aquatic Ecosystem in Vineyard Estate*, 389 SCI. TOTAL ENV’T 497, 497 (2006) (reporting on the need to employ spray drift management to reduce damages from drift).

18. Plaintiffs have the burden of proving that a pesticide applicator failed to follow directions. See *Orkin Exterminating Co. v. Carder*, 575 S.E.2d 664, 666 (Ga. Ct. App. 2002) (affirming damages for

Applicators following label instructions may also incur liability under common law if they cause pesticide drift to enter properties of others and cause damages.¹⁹ While pesticide particles carried by air currents may injure people,²⁰ the most frequent claim for damages is drift from an herbicide that is carried onto nontarget agricultural crops.²¹ Pesticide particulates may also drift onto nontarget organic crops and lead to damages.²² For these situations, persons suffering damages need to present evidence that establishes liability under a common law cause of action.²³

Generally, plaintiffs who can show that defendants breached a label instruction or regulatory provision can succeed in recovering damages.²⁴ However, for claims not involving labeling or regulatory provisions, plaintiffs need to establish trespass or another common law cause of action as a basis for the recovery of damages. These claims prove challenging for plaintiffs to establish. Due to the common usage of pesticides, strict liability is generally not available as a

pesticide applications where evidence showed the defendant had failed to comply with label instructions); *Kleiss v. Bozdech*, 811 N.E.2d 330, 354 (Ill. Ct. App. 2004) (observing it would be a breach of duty to fail to follow label instructions in the application of pesticides); *Bennett v. Larsen Co.*, 348 N.W.2d 540, 549 (Wis. 1984) (overturning a judgment that dismissed a complaint alleging a breach of a duty of care for pesticide users established by administrative regulation).

19. See *Johnson v. Paynesville Farmers Union Coop. Oil Co.*, 817 N.W.2d 693, 700–01 (Minn. 2012) (considering claims for losses from spray drift); see also Alexandra B. Klass, *Bees, Trees, Preemption, and Nuisance: A New Path to Resolving Pesticide Land Use Disputes*, 32 *ECOLOGY L.Q.* 763, 792–805 (2005) (discussing liability for property damage, crop damage, and/or personal injury).

20. See, e.g., *Macalpine v. Hopper*, No. 10CV220, *9–10 (Colo. Dist. Ct., Delta Cnty., July 5, 2012) (enjoining spraying because the defendants' drift caused throat and lung irritation and difficulties in breathing), available at http://www.pesticideresearch.com/site/docs/Drift/PermanentInjunction_7-5-12.pdf.

21. See, e.g., *United States v. Tropical Fruit, S.E.*, 96 F. Supp. 2d 71, 76–77 (D.P.R. 2000) (finding a violation of FIFRA due to the use of a registered pesticide in a manner inconsistent with its labeling). As scientists search for responses for herbicides that may be used on herbicide-resistant weeds, they may resort to herbicides such as dicamba that are known to present vapor drift damages. J. Franklin Egan & David A. Mortensen, *Quantifying Vapor Drift of Dicamba Herbicides Applied to Soybean*, 31 *ENVTL. TOXICOL. & CHEM.* 1023, 1023 (2012) (studying vapor drift from applications of dicamba due to past experiences with damages to neighboring crops).

22. See, e.g., *Jacobs Farm/Del Cabo, Inc. v. W. Farm Serv., Inc.*, 119 Cal. Rptr. 3d 529, 551 (Cal. Ct. App. 2010) (concluding that plaintiff's nuisance claim was viable for pesticide volatilization that harmed neighboring organic herbs); *Johnson*, 817 N.W.2d at 701 (precluding a trespass claim but finding evidence of a nuisance for damages related to spray drift).

23. See Terence J. Centner, *Securing Recompense under Nuisance Law for Crop Damages from Pesticide Applications*, 432 *SCI. TOTAL ENV'T* 78, 79–80 (2012) (discussing nuisance law actions for pesticide drift).

24. See *Tropical Fruit, S.E.*, 96 F. Supp. 2d at 77–78 (alleging a violation of the pesticide label requirements); *Ark. State Plant Bd. v. Bullock*, 48 S.W.3d 516, 520 (Ark. 2001) (upholding a penalty imposed for violating a state regulation by allowing drift to enter nontarget properties); *Patterson Flying Serv. v. Dept. of Pesticide Regulation*, 74 Cal. Rptr. 3d 290, 303–04 (finding substantial drift from the target site in conflict with the proscription of the pesticide's labeling requirement); *In re N.C. Pesticide Bd.*, 509 S.E.2d 165, 169 (N.C. 1998) (acknowledging a violation of state pesticide regulations by applying a pesticide inconsistent with its label); *Henderson v. Dept. of Agric.*, 875 P.2d 487, 489–90 (Or. Ct. App. 1994) (finding that the applicator and his employer applied pesticides in a manner inconsistent with the labels causing drift onto neighboring properties); see also Feitshans (1999), *supra* note 15, at 40–67 (summarizing liability for spray drift under statutory and regulatory authority).

cause of action.²⁵ Nuisance may be defeated by an anti-nuisance defense.²⁶ FIFRA preempts negligence claims concerning labeling,²⁷ and remaining negligence claims tend to be difficult to prove.²⁸ This means that persons injured by spray drift damages often seek to sue in trespass. Yet, the intangible nature of spray drift makes it difficult for plaintiffs to meet the requirements for a trespass claim. States' approaches to trespass for securing damages resulting from spray drift vary, and this can mean that plaintiffs must carefully plead interference with exclusive possession together with injury to a *res*, meaning substantial property damages or damage that is physical,²⁹ to establish their cause of action in trespass.

TRESPASS ACTIONS FOR SPRAY DRIFT

Trespass involves an invasion of the interest in exclusive possession of land.³⁰ Every unauthorized entry of a tangible object cre-

25. *See, e.g.*, *Mangrum v. Pigue*, 198 S.W.3d 496, 500 (2004) (holding that the aerial spraying of an herbicide is not an ultrahazardous activity so the plaintiff could not maintain a strict liability cause of action); *Dow Chem. Co. v. Ebling*, 723 N.E.2d 881, 908–09 (Ind. Ct. App. 2000) (weighing factors pertaining to ultrahazardous activity and deciding that strict liability was not applicable to the use of the pesticide); *see also* Keith Cunningham-Parmeter, *A Poisoned Field: Farmworkers, Pesticide Exposure, and Tort Recovery in an Era of Regulatory Failure*, 28 N.Y.U. REV. L. & SOC. CHANGE 431, 478–80 (2004) (discussing liability for pesticide drift under strict liability for abnormally dangerous activities); Robert W. Luedeman, *A Tale of Three States: Liability for Overspray and Chemical Drift Caused by Aerial Application in Arkansas, Louisiana, and Mississippi*, 10 S.J. AGRIC. L. REV. 121, 128 (2000) (observing that strict liability seems to be “more interesting to scholars than anyone else”).

26. Every state has enacted anti-nuisance legislation known as right-to-farm laws. Terence J. Centner, *Governmental and Unconstitutional Takings: When Do Right-to-Farm Laws Go Too Far?*, 33 B.C. ENVTL. AFF. L. REV. 87, 87 (2006). *See* *Stickdorn v. Zook*, 957 N.E.2d 1014, 1024 n.5 (Ind. Ct. App. 2011) (observing that the state’s right-to-farm law offers a defense against nuisance actions); *Kanna v. Benton Cnty.*, No. 17270-8-III, 1999 WL 219783, *9-10 (Wash. Ct. App. 1999) (observing that pesticide drift could be lawful under the state’s right-to-farm law).

27. *Bates v. Dow Agrosco., LLC*, 544 U.S. 431, 447 (2005) (preempting state labeling requirements that are different from or in addition to labeling and packaging requirements).

28. Trial courts have not been very receptive to claims for spray drift. *See* *Mangrum*, 198 S.W.3d at 500–03 (granting a directed verdict to the defendants on the negligence claim due to the absence of any evidence of a breach of a duty of care and no proximate causation); *Kleiss v. Bozdech*, 811 N.E.2d 330, 343–44 (Ill. Ct. App. 2004) (reversing a trial court’s finding that there was no negligence in the application of a pesticide); *Johnson v. Paynesville Farmers Union Coop. Oil Co.*, 817 N.W.2d 693, 714 (Minn. 2012) (reversing a trial court’s finding that there was no negligence in the application of a pesticide); *Lesiak v. Cent. Valley Agric. Coop., Inc.*, 808 N.W.2d 67, 86 (Neb. 2012) (reversing a trial court’s finding that there was no negligence in the application of a pesticide).

29. *See, e.g.*, *Fletcher v. Conoco Pipe Line Co.*, 129 F. Supp. 2d 1255, 1263 (S.D. Mo. 2001) (finding that stray voltage contamination causing physical damage to property presented evidence of a trespass); *Ramik v. Darling Int’l, Inc.*, 60 F. Supp. 2d 680, 688 (S.D. Mich. 1999) (finding that noxious odors without damage to the *res* does not constitute a trespass).

30. While state law and judicial decisions agree with this requirement, it does not address the issue of the character of invasions of intangible objects and their effect on exclusive possession. *See In re Chi. Flood Litig.*, 680 N.E.2d 265, 277 (Ill. 1997) (concerning a physical invasion by water); *Wendiger v. Forst Farms, Inc.*, 662 N.W.2d 546, 550 (Minn. Ct. App. 2003) (denying a trespass claim for odors); *Beal v. W. Farmers Elec. Coop.*, 228 P.3d 538, 541 (Okla. Ct. Civ. App. 2010) (dismissing a trespass claim for stray electricity); *Babb v. Lee Cnty. Landfill S.C., LLC*, 747 S.E.2d 468, 476 (S.C. 2013) (rejecting a trespass claim for odors due to the absence of “an invasion by a physical, tangible thing”); *John Larkin, Inc. v. Marceau*, 959 A.2d 551, 556 (Vt. 2008) (rejecting a trespass claim involving air particulates).

ates a trespass, even in the absence of damages.³¹ Entry need not be by a person, as an actor may invade another's interest in exclusive possession by intentionally propelling a thing onto the surface of the land.³² Moreover, intent in a jurisdiction may be described broadly to include a person who has reason to be aware of the consequences of an act,³³ including inadvertence or mistake.³⁴ Persons suffering injuries for pesticide spray drift often allege a trespass, and state jurisprudence on trespass will determine whether the facts support a finding of liability.

Invasions of spray drift may not meet the requirements prescribed for tangible objects because airborne drift is considered to be an intangible substance.³⁵ In the absence of a tangible object, courts have determined that there is no interference with exclusive possession.³⁶ Furthermore, as an intangible substance, jurisprudence used for odors,³⁷ dust,³⁸ smoke,³⁹ noise,⁴⁰ and electromagnetic fields⁴¹ may

31. See *Coastal Oil & Gas Corp. v. Garza Energy Trust*, 268 S.W.3d 1, 12 n.36 (Tex. 2008) (noting injury may be slight or no damage at all); *Johnson*, 817 N.W.2d at 704 (noting no damages were required for trespass actions); *Barnes v. Mathis*, 353 S.W.3d 760, 764 (Tex. 2011) (noting that trespass actions do not require damages).

32. See *Johnson v. Paynesville Farmers Union Coop. Oil Co.*, 817 N.W.2d 693, 701 (Minn. 2012) (noting the Restatement (Second) of Torts approves trespass actions for entry of things); *Bradley v. Am. Smelting & Ref. Co.*, 709 P.2d 782, 785 (Wash. 1985) (quoting a comment from § 158 of the Restatement (Second) of Torts on what constitutes trespass).

33. See, e.g., *State v. Courchesne*, 998 A.2d 1, 103 (Conn. 2010) (noting that “the fact finder may infer intent from the natural consequences of one’s voluntary conduct”) (citing *State v. Cobb*, 743 A.2d 1 (1999), cert. denied, 531 U.S. 841, (2000)); *In re Methyl, Tertiary Butyl Ether (“MTBE”) Prods. Liab. Litig.*, 379 F. Supp. 2d 348, 417–18 (S.D.N.Y. 2005) (noting that intent under trespass does not require consequences that are desired); *Brutsche v. Kent*, 193 P.3d 110, 116 (Wash. 2008) (citing § 8A of the Restatement (Second) of Torts under which intent infers consequences that are substantially certain to result).

34. See, e.g., *Royal Ins. Co. v. Pinette*, 756 A.2d 520, 523 (Me. 2000) (noting that defendant’s mistake, inadvertence, or negligence is immaterial if there was intent to be on the land).

35. Judicial decisions on intangible objects focus on noise, odor, and light. See, e.g., *San Diego Gas & Elec. Co. v. Orange Cnty.*, 920 P.2d 669, 695 (Cal. 1996) (describing intangible invasions to include “noise, odor, or light”); *Abington Ltd. P’ship v. Talcott Mountain Sci. Ctr. for Student Involvement Inc.*, 657 A.2d 732, 734 (Conn. Ct. App. 1994) (noting “noise, odor, or light” as intangible intrusions); *Ramik v. Darling Int’l Inc.*, 60 F. Supp. 2d 680, 687 (E.D. Mich. 1999) (identifying intangible intrusions to include “noise, odor, or light”) (citing *Wilson v. Interlake Steel Co.*, 32 Cal.3d 229, 233 (1982)). The Fifth Circuit Court of Appeals found that “airborne particles are neither direct nor tangible.” *Stevenson v. E.I. DuPont de Nemours & Co.*, 327 F.3d 400, 405 (5th Cir. 2003). See *Adams v. Cleveland-Cliffs Iron Co.*, 602 N.W.2d 215, 220 (Mich. Ct. App. 1999) (discussing differences between tangible and intangible invasions); *Johnson*, 817 N.W.2d at 702 (finding that the particulate matter of spray drift was an intangible substance).

36. See *infra* notes 109–130 and accompanying text.

37. See *Ramik*, 60 F. Supp. 2d at 688 (holding that odor without damage to the *res* is not an interference with possession and therefore does not constitute a trespass); *Johnson*, 817 N.W.2d at 702–03 (applying the results of an odor case to allegations of pesticide spray drift); *Babb v. Lee Cnty. Landfill S.C., LLC*, 747 S.E.2d 468, 476 (S.C. 2013) (finding “that odors cannot give rise to a trespass claim”).

38. See *Darney v. Dragon Prods. Co.*, 771 F. Supp. 2d 91, 105–07 (D. Me. 2011) (considering allegations of a trespass by airborne dust and blasting tremors).

39. See *Maddy v. Vulcan Materials Co.*, 737 F. Supp. 1528, 1540 (D. Kan. 1990) (observing that smoke without substantial damage to property is not a trespass); *Paris v. Lussier*, No. 2010-034, 2010 WL 7791942 (Vt. July 16, 2010) (considering allegations of a trespass by smoke, particulates, and/or carbon monoxide).

be applied to actions involving spray drift even though drift is different from these other intangibles.

An examination of claims involving intangible substances discloses three features that limit the success of a trespass lawsuit for pesticide spray drift. The first feature involves a limitation on trespass actions because spray drift is considered an interference with the use and enjoyment of land, and plaintiffs have a remedy under nuisance law.⁴² Second, state jurisprudence may hold that spray drift does not interfere with the plaintiff's exclusive possession.⁴³ Third, a court may require that intangible intrusions need to result in injury to a *res*.⁴⁴ An evaluation of these separate features means that a claim for damages resulting from spray drift requires a careful accounting of the facts to qualify as a trespass under state law.

A. Remedy under Nuisance Law

Courts in some states have justified their denial of liability under trespass for spray drift damages by the presence of the alternative remedy of nuisance for invasions of intangible substances.⁴⁵ Because intangible substances interfering “with an owner’s use and enjoyment of land” are nuisances, an action in trespass is not needed.⁴⁶ The availability of nuisance law provides adequate redress for persons suffering damages from pesticide drift.

In 2012, the Minnesota Supreme Court drew upon the distinctions between nuisance and trespass when responding to allegations of damages for spray drift in *Johnson v. Paynesville Farmers Union*

40. See *Wilson v. Interlake Steel Co.*, 649 P.2d 922, 924 (Cal. 1982) (finding that noise not damaging property does not constitute a trespass); *Maddy*, 737 F. Supp. at 1540 (observing that noise without substantial damage to the plaintiff's property is not a trespass).

41. See *Barnett v. Conn. Light & Power Co.*, 900 F. Supp. 2d 224, 245–46 (D. Conn. 2012) (finding that alleged intrusions by intangible electromagnetic fields did not constitute a trespass).

42. See *infra* notes 45–65 and accompanying text.

43. See *infra* notes 66–84 and accompanying text.

44. See *infra* notes 87–110 and accompanying text.

45. Trespass is identified as an interference with exclusive possession while nuisance interferes with use and enjoyment. *Martin v. Reynolds Metals Co.*, 342 P.2d 790, 792 (Or. 1959). This leads to a conclusion that intrusions interfering with the right to exclusive possession of property involve the law of trespass while intrusions to the interest in use and enjoyment of property involve nuisance law. Adam Mossoff, *Spam—Oy, What a Nuisance*, 19 BERKELEY TECH. L.J. 625, 646 (2004). See *San Diego Gas & Elec. Co. v. Orange Cnty.*, 920 P.2d 669, 695 (Cal. 1996) (finding intangible objects are not trespasses because they are actionable under nuisance law); *John Larkin, Inc. v. Marceau*, 959 A.2d 551, 553–54 (Vt. 2008) (noting that smoke, gas, noise, and invisible particles are only actionable as a private nuisance).

46. See, e.g., *Babb v. Lee Cnty. Landfill S.C., LLC*, 747 S.E.2d 468, 479 (S.C. 2013) (observing that intangible invasions giving rise to nuisances cannot give rise to a trespass claim); *Padilla v. Lawrence*, 685 P.2d 964, 971 (N.M. Ct. App. 1984) (observing that intangible intrusions such as noise and odor are actionable under nuisance law rather than trespass) (citing *Wilson v. Interlake Steel Co.*, 32 Cal.3d 229, 233 (1982)).

Cooperative Oil Company.⁴⁷ The court noted that spray drift was an intangible agency.⁴⁸ After observing that traditional distinctions between nuisance and trespass have become blurred,⁴⁹ the court acknowledged an earlier decision in which invasive odors from a confined hog operation were not recognized as a trespass.⁵⁰ Given this precedent, the court found that an intrusion of pesticide spray drift could not constitute a trespass as intangible invasions in Minnesota provide plaintiffs a cause of action in nuisance.⁵¹ Trespass involves an invasion of a plaintiff's right to exercise exclusive possession of land while nuisance involves interference with a plaintiff's use and enjoyment of the land.⁵² The drift of pesticides did not result in a tangible object invading plaintiffs' land, so it was not a trespass.⁵³ Nuisance law provides remedies for intangible invasions.

A court in Connecticut reached a similar result.⁵⁴ Responding to a claim for damages from electromagnetic fields, the court noted that there was no substance or thing entering the plaintiff's land.⁵⁵ This led the court to decline to find a trespass, since intangible intrusions can be dealt with as nuisance cases.⁵⁶ Likewise, a court in Michigan sought "to preserve the separate identities of trespass and nuisance" when considering intrusions of dust, noise, and vibrations.⁵⁷ The Michigan court felt that proving real and substantial damages and balancing them against the usefulness of the offending activity should not apply to trespass law because it would endanger the right to exclusion.⁵⁸

Yet, American jurisprudence generally is open to allowing claims under both trespass and nuisance.⁵⁹ The torts of trespass and

47. *Johnson v. Paynesville Farmers Union Coop Oil Co.*, 817 N.W.2d 693, 702–03 (Minn. 2012).

48. *Id.* at 702 (noting that the disruption to a landowner's exclusive possessory interest is different for intangible spray drift).

49. *Id.* at 704.

50. *Id.* at 702. (citing *Wendiger v. Forst Farms, Inc.*, 662 N.W.2d 546 (Minn. Ct. App. 2003)).

51. *Id.* at 703–05 (citing *Borland v. Sanders Lead Co.*, 396 So. 2d 523 (Ala. 1979) and *Bradley v. Am. Smelting & Ref. Co.*, 709 P.2d 782 (Wash. 1985)).

52. *Wendiger v. Forst Farms, Inc.*, 662 N.W.2d 546, 550 (Minn. Ct. App. 2003).

53. *Johnson v. Paynesville Farmers Union Coop Oil Co.*, 817 N.W.2d 693, 705 (Minn. 2012).

54. *Barnett v. Conn. Light & Power Co.*, 900 F. Supp. 2d 224, 245–46 (D. Conn. 2012).

55. *Id.*

56. *Id.* at 246.

57. *Adams v. Cleveland-Cliffs Iron Co.*, 602 N.W.2d 215, 221 (Mich. Ct. App. 1999) (rejecting the modern view of trespass that would eliminate the requirement of a direct invasion by a tangible object).

58. *Id.*

59. *See* Restatement (Second) of Torts § 821D cmt. e (1977); *see also* *Lhotka v. U.S.*, 114 F.3d 751, 754 (8th Cir. 1997) (finding the plaintiffs had established a prima facie case in both nuisance and trespass); *Borland v. Sanders Lead Co.*, 369 So. 2d 523, 527 (Ala. 1979) (maintaining that the same conduct of defendants may result in actionable invasions under both nuisance and trespass law); *Cook v. Rockwell Int'l Corp.*, 564 F. Supp. 2d 1189, 1198 (D. Colo. 2008) (acknowledging that both the nuisance and trespass actions supported damages).

nuisance address separate interests.⁶⁰ Implying that invasions of particles constituting nuisances should not also be considered as trespasses runs counter to giving full recognition to factual situations and injurious behavior.⁶¹ If both interests have been infringed by an invasion of particles, an injured plaintiff should be able to initiate a legal action under both causes of action.⁶² Given distinctions in burdens of proof,⁶³ statutory defenses,⁶⁴ and statutes of limitations,⁶⁵ it seems incongruous not to allow plaintiffs to allege both causes of action.

B. Interference with Exclusive Possession

Trespasses require an unauthorized intrusion that interferes with the exclusive possession of land.⁶⁶ The issue for spray drift is whether particles flowing onto a nontarget site actually interfere with the plaintiff's exclusive possession.⁶⁷ Some courts note that an interference with exclusive possession requires a tangible invasion so that intangibles such as spray drift cannot constitute a trespass.⁶⁸ Other courts have recognized distinctions between invasions of intangible substances such as light or sound that may not physically interfere with the possession of property⁶⁹ versus intangibles that do cause an interference.⁷⁰ If intangible spray drift is determined to physically in-

60. Borland, 369 So. 2d at 527 (noting that nuisance and trespass are separate torts for the protection of different interests invaded by a defendant).

61. Trespasses may involve invasions causing an interference with possession of property while nuisances consider invasions of personal rights and privileges. *Lhotka v. U.S.*, 114 F.3d at 753–54.

62. See *Hoery v. U.S.*, 64 P.3d 214, 222 (Colo. 2003) (finding that “[t]he daily migration and presence of those chemicals on Hoery’s property constitute the continuing torts of trespass and nuisance”); *Walker Drug Co. v. La Sal Oil Co.*, 902 P.2d 1229, 1234 (Utah 1995) (acknowledging that the plaintiffs could sue in trespass and nuisance); *Stickdorn v. Zook*, 957 N.E.2d 1014, 1024 (Ind. Ct. App. 2011) (allowing both nuisance and trespass actions for damages).

63. See *Wilson v. Interlake Steel Co.*, 649 P.2d 922, 925 (Cal. 1982) (observing that a trespass requires an invasion of exclusive possession while nuisance requires an interference with private use and enjoyment of property (quoting Prosser, *Torts* § 89 (4th Ed. 1971)).

64. The most significant statutory defense that could affect actions for damages from spray drift involve state right-to-farm laws that operate to defeat nuisance lawsuits. See *Kanna v. Benton Cnty.*, No. 17270-8-III, 1999 WL 219783, *9-10 (Wash. Ct. App. 1999) (observing that defendant could be shielded by the state’s right-to-farm law); *Stickdorn v. Zook*, 957 N.E.2d 1014, 1024 (Ind. Ct. App. 2011) (observing that the state’s anti-nuisance law offers a defense against nuisance actions but did not apply given the facts of the case).

65. In some states, the statute of limitations for nuisance is shorter than for trespass actions. See *Ex Parte Brian Nelson Excavating, LLC*, 25 So. 3d 1143, 1146 (Ala. 2009) (noting that there is a two-year statute of limitations for nuisance actions, but six year statute of limitations for trespasses).

66. See *Johnson v. Paynesville Farmers Union Coop. Oil Co.*, 817 N.W.2d 693, 701 (Minn. 2012); *John Larkin, Inc. v. Marceau*, 959 A.2d 551, 554 (Vt. 2008).

67. See *John Larkin, Inc.*, 959 A.2d at 554 (observing that absent a demonstrated physical impact, the airborne particles had not interfered with “the landowner’s right to exclusive possession of the land”).

68. See *Johnson*, 817 N.W.2d at 701.

69. See *Kramer v. Angel’s Path, LLC*, 882 N.E.2d 46, 56 (Ohio Ct. App. 2007) (declining to find that light involved a physical intrusion needed to support a trespass allegation).

70. See *Macalpine v. Hopper*, No. 10CV220, at *3 (Colo. Dist. Ct., Delta Cnty., July 5, 2012) (finding that the plaintiffs had felt the spray drift); *Stevenson v. E.I. DuPont de Nemours & Co.*, 327

terfere with exclusive possession, the facts support an allegation of trespass.⁷¹ However, whenever the entry of an intangible substance is less disruptive and does not interfere with a landowner's exclusive possessory interest, a court might find that the substance does not require that the landowner share possession.⁷² Without a showing of an interference with exclusive possession, there is no trespass in these situations.

Returning to the *Johnson* case in which the Minnesota Supreme Court considered an allegation for damages from pesticide spray drift, the court noted that a trespass traditionally required "some physical, tangible agency," as opposed to intangible substances entering another's property.⁷³ The court proceeded to dismiss the plaintiffs' trespass claim, holding that there was no interference with an exclusive possessory interest.⁷⁴ Instead, the court found that the facts, if proven, would show the spray drift interfering with the plaintiffs' use and enjoyment of their land.⁷⁵

The Vermont Supreme Court also had the opportunity to consider an allegation of a trespass by pesticides in *John Larkin, Inc. v. Marceau*.⁷⁶ The court found that the plaintiff never made any showing that the dispersion of pesticides onto its property "deprived it of exclusive possession of its property or had any other impact on the property."⁷⁷ In the absence of a demonstrated physical impact, there was no interference with exclusive possession, so the dismissal of the trespass allegation was affirmed.⁷⁸ However, the court declined to decide "the question of whether the intrusion of airborne particulates may ever be a trespass. . ."⁷⁹

Subsequently in *Paris v. Lussier*, the Vermont Supreme Court considered an action alleging a trespass by smoke, particulate matter, and carbon monoxide from a neighbor's wood stove.⁸⁰ Due to the absence of a physical impact on plaintiffs' property from the intangible invasion of airborne particulates, the court concluded that there was no invasion of plaintiffs' exclusive possession.⁸¹ To delineate a claim

F.3d 400, 406 (5th Cir. 2003) (acknowledging that airborne particulates can show a substance entering property to support a cause of action in trespass).

71. Macalpine, at *3.

72. *Johnson*, 817 N.W.2d at 702.

73. *Id.* at 701–02 (citing James A. Henderson, Jr. et al., *The Torts Process* 386 (7th ed. 2007)).

74. *Id.* at 705 (observing there was no claim that a tangible object invaded plaintiffs' property).

75. *Id.* at 713 (finding the plaintiffs still had a viable nuisance claim).

76. 959 A.2d 551 (Vt. 2008).

77. *Id.* at 556.

78. *Id.*

79. *Id.* at 555.

80. No. 2010-034, 2010 WL 7791942, *1 (Vt. July 16, 2010)

81. *Id.* at *3.

of trespass, some type of physical impact was required to establish an interference with exclusive possession.⁸² The court specifically reported that the plaintiffs had not “demonstrated [any] physical impact on their property resulting from the airborne particulates.”⁸³

The recent *Macalpine v. Hopper* case from Colorado shows that given sufficient pleadings, a court may find that pesticide drift interferes with exclusive possession.⁸⁴ The court concluded that the physical intrusion of spray drift contaminants was a physical invasion because the plaintiffs had “felt the effects of the [defendants’] spray.”⁸⁵ Given the physical nature of the spray residue, the Colorado court found that the spray drift constituted a trespass that did not require proof of actual damages.⁸⁶

C. Substantial Damages or Physical Damage

To establish a cause of action in trespass for an invasion by an intangible substance, courts in a number of states have delineated an additional requirement involving substantial damages to a *res*, or thing.⁸⁷ While historic trespass law did not require damages, adding a requirement of damage to a *res* for intangible substances means that trespass law demands an interference with the right of possession.⁸⁸ The requirement of damages or injury means that intrusions of intangible substances occurring as part of normal activities are not trespasses.⁸⁹ For example, ambient air almost always contains particles from many sources so that invasions of expected and ordinary particles are not trespasses.⁹⁰ But concentrations of intruding particles that cause significant interferences may constitute a trespass if they injure

82. *Id.*

83. *Id.*

84. No. 10CV220 (Colo. Dist. Ct., Delta Cnty., July 5, 2012).

85. *Id.* at *2.

86. *Id.* at *5.

87. See *supra* note 29 and accompanying text. See also Randall Bezanson & Andrew Finkelman, *Trespassory Art*, 43 U. MICH. J.L. REFORM 245, 290 (2010) (concluding that the new rubric for intangible trespasses under Oregon law requires substantial injury); Woodrow Barfield, *Commercial Speech, Intellectual Property Rights, and Advertising Using Virtual Images Inserted in TV, Film, and the Real World*, 13 UCLA ENTERTAIN. L. REV. 153, 171 (2006) (noting that a damage requirement applied to an invasion of noise); *Borland v. Sanders Lead Co.*, 396 So. 2d 523, 529 (Ala. 1979) (delineating four requirements for trespasses involving intrusions of particulate matter); *Pub. Serv. Co. of Colo. v. Van Wyk*, 27 P.3d 377, 390 (Colo. 2001) (requiring physical damage to property).

88. See, e.g., *Borland*, 396 So. 2d at 529 (delineating a requirement of substantial damages to a *res*); *In re Worldcom, Inc.*, 546 F.3d 211, 219 (8th Cir. 2008) (noting that substantial damage to land is needed before a light pulse could be found to effect a trespass).

89. See, e.g., *Van Scoy v. Shell Oil Co.*, No. 95-15961, 1996 WL 563449, *1-2 (9th Cir. 1996) (noting the absence of proof of excess material being deposited on plaintiff’s property so that there was no action in trespass).

90. See *Johnson v. Paynesville Farmers Union Coop. Oil Co.*, 817 N.W.2d 693, 703 (Minn. 2012); *John Larkin, Inc. v. Marceau*, 959 A.2d 551, 555 (Vt. 2008).

a *res*.⁹¹

A leading authority for the requirement of substantial damages is *Borland v. Sanders Lead Company*, an Alabama case involving the trespass of lead particulates and sulfoxide gases.⁹² The Alabama Supreme Court decided that intangible invasions of property interests interfering “with the right to exclusive possession of property” were trespasses.⁹³ The court determined that trespass is not dependent upon whether the intruding substance is tangible or intangible and that invisible pieces of matter or energy intruding on property could constitute a trespass.⁹⁴ However, for a trespass by intangible substances under Alabama law, the court delineated four requirements: an invasion, intentional doing of the act, reasonable foreseeability, and substantial damages.⁹⁵

Borland and others created the “modern view” of trespass law.⁹⁶ Intrusions of intangible particles may constitute a trespass if they meet a further requirement of substantial damages to the *res*.⁹⁷ By incorporating a requirement of substantial damages, trespass can be used to address invasions of intangible substances.⁹⁸ While intrusions of particles and droplets causing damages to property may be trespasses under this jurisprudence, intrusions of light,⁹⁹ odors,¹⁰⁰ and electromagnetic fields¹⁰¹ generally are not trespasses.¹⁰² Substantial

91. *See, e.g.*, *John Larkin, Inc.*, 959 A.2d at 551. *See also supra* note 30.

92. 396 So. 2d 523, 527–28 (Ala. 1979). The *Borland* court relied on the earlier *Martin v. Reynolds Metals Co.* case, 342 P.2d 790, 794 (Or. 1959).

93. 396 So. 2d at 529.

94. *Id.* at 528–29 (relying on *Martin v. Reynolds Metals Co.*, 342 P.2d 790 (Or. 1959)).

95. *Id.* at 529.

96. *See, e.g.*, *Darney v. Dragon Prods. Co.*, 771 F. Supp. 2d 91, 105–07 (D. Me. 2011) (discussing the modern view of trespass law for airborne dust and the requirement of “proof of damage to the invaded property”); *Bradley v. Am. Smelting & Ref. Co.*, 709 P.2d 782, 689 (Wash. 1985) (declining to cling to outdated doctrines and recognizing the abandonment of distinguishing between direct and indirect invasions).

97. *See Bradley*, 709 P.2d at 690 (accepting the *Borland* elements of trespass law that include substantial damages to the *res*).

98. *See, e.g., id.* at 691 (accepting and approving the four elements set forth in *Borland* for airborne particulates); *In re Worldcom, Inc.*, 546 F.3d 211, 219 (8th Cir. 2008) (noting that invasions by intangibles may not interfere with possession unless there is substantial damage to the *res*). The justification for requiring substantial damage to a *res* for intangible invasions is to preserve trespass’s focus on interferences with rights of possession. *Id.*

99. *See In re Worldcom, Inc.*, 546 F.3d at 219 (noting that a trespass of light pulses would require an allegation of substantial damage to land).

100. *See San Diego Gas & Elec. Co. v. Orange Cnty.*, 920 P.2d 669, 695 (Cal. 1996) (noting that intangible intrusions of light, noise, and odor alone were not trespasses); *Ramik v. Darling Int’l, Inc.*, 60 F. Supp. 2d 680, 688 (S.D., Mich. 1999) (finding odors were not trespasses); *Babb v. Lee Cnty. Landfill S.C., LLC*, 747 S.E.2d 468, 476 (S.C. 2013) (finding that odors do not give rise to a trespass claim).

101. *See Barnett v. Conn. Light & Power Co.*, 900 F. Supp. 2d 224, 239 (D. Conn. 2012) (noting that an intangible intrusion of an electromagnetic current is not a trespass). Yet if a plaintiff pleads a physical presence causing damages, stray electric voltage may raise a claim for trespass. *Fletcher v. Conoco Pipe Line Co.*, 129 F. Supp. 2d 1255, 1263 (S.D. Mo. 2001) (observing that the claim of accelerated corrosion of metal structures and other damages presented evidence of a trespass).

damages to the *res* show an interference with exclusive possession so that the intrusion of intangible particles constitutes a trespass.¹⁰³

Rather than focusing on substantial damages to a *res*, some courts have espoused a requirement involving physical damage to the plaintiff's property. Interpreting Colorado law, the Tenth Circuit Court of Appeals considered a trespass allegation involving a release of plutonium particles that contaminated plaintiffs' properties.¹⁰⁴ Since the particles were impalpable, the court found them to be intangible and required a showing of physical damage to find liability.¹⁰⁵ Upon remand, the plaintiffs would be required to prove "actual physical damage to their property" to establish a trespass for the invasion of intangible particles.¹⁰⁶ A federal district court in Missouri interpreted the state's law to enable plaintiffs to maintain a trespass cause of action for stray electricity that allegedly had a deleterious effect on their electric motors and appliances and accelerated corrosion of metal structures.¹⁰⁷ By alleging actual physical damage by the escaping electricity, the plaintiffs had presented sufficient evidence to maintain a cause of action in trespass.

Other courts require some type of physical presence by examining whether the facts show an intangible substance being deposited on the plaintiff's property. The Fifth Circuit Court of Appeals considered allegations of a trespass by airborne heavy metals that contaminated plaintiffs' properties and caused other damages.¹⁰⁸ The court found that Texas law allowed trespass actions for airborne particulates if they deposited some "thing" on the plaintiffs' properties.¹⁰⁹ Because the plaintiffs had introduced evidence that the airborne particulates were deposited on their properties, they had established evidence of a trespass.¹¹⁰

102. See *Beal v. W. Farmers Elec. Coop.*, 228 P.3d 538, 541 (Okla. Ct. App. 2009) (noting that intangible invasions must cause physical damage to property) (citing 75 Am. Jur. 2d Trespass § 27 (2000)).

103. See *id.* (coupling exclusive possession with an intentional invasion, foreseeability, and substantial damage to property for intangible intrusions). An interference with exclusive possession may require substantial damages. See *Paris v. Lussier*, No. 2010-034, 2010 WL 7791942 (Vt. July 16, 2010), *1 (differentiating intangible trespass actions to require substantial damages).

104. *Cook v. Rockwell Int'l Corp.*, 618 F.3d 1127, 1148-49 (10th Cir. 2010).

105. *Id.*

106. *Id.* at 1149.

107. *Fletcher v. Conoco Pipe Line Co.*, 129 F. Supp. 2d 1255, at 1263 (S.D. Mo. 2001).

108. *Stevenson v. E.I. DuPont de Nemours & Co.*, 327 F.3d 400 (5th Cir. 2003).

109. *Id.* at 406. The court rejected the argument that substantial damage to the property was required. *Id.*

110. *Id.* at 403 (affirming the jury verdict that defendant was liable for a trespass).

D. Bringing Lawsuits for Trespass or Nuisance

Plaintiffs bringing actions for invasions of intangible objects in states with historic limitations on trespass law will need to differentiate their situations to overcome judicial precedents. This may be achieved by introducing detailed evidence to establish a trespass that distinguishes the case from whatever limitation was present in an earlier decision. The facts and evidence of some pesticide drift cases lend themselves to differentiation and qualification as a trespass.

In rare situations, plaintiffs may have been present during the spraying and seen and felt the spray drift coming onto their property. This evidence existed in a Colorado case and was used, with further affidavits, to establish liability under trespass law.¹¹¹ The plaintiffs showed that the Malathion residue on their property came from the defendant and that there were no other spray applications that would account for residues. Without acknowledging a physical invasion, the court found the evidence sufficient to grant the plaintiffs summary judgment on the trespass claim.¹¹²

In most spray drift cases, plaintiffs will not have felt the effects of the spray drift so other evidence is required to establish a trespass. Typically, this will involve damages to a crop.¹¹³ As soon as a problem is noted, a plaintiff will need to evaluate the situation to determine whether sufficient evidence can be obtained to establish liability and whether the damages are sufficient to invest in efforts to secure relief. Gathering evidence to establish causation and prove a trespass will require the assistance of experts who know what to look for, what is needed, and can perform the necessary tests to relate the pesticide drift to injuries.

Plaintiffs generally will need to introduce evidence of physical damage to plants related to a defendant's spray activities to establish a trespass.¹¹⁴ An agronomic inspection and tissue samples from the affected area can form the basis of evidence of pesticide damage. The samples would undergo testing using liquid and gas chromatographic methods with mass spectrophotometric detection to identify the culprit pesticide residue.¹¹⁵ This evidence will need to be gathered im-

111. Macalpine, at *6 .

112. *Id.* at *5.

113. See *Mayeux v. Cane-Air, Inc.*, 426 So. 2d 305, 308 (5th Cir. 1983) (involving damages to a soybean crop); *Schoppe v. Applied Chems. Div., Mobley Co., Inc.*, 418 So. 2d 833, 835 (Miss. 1982) (considering damage to cotton and soybean crops).

114. See *John Larkin, Inc. v. Marceau*, 959 A.2d 551, 555 (Vt. 2008) (finding that in the absence of "a demonstrated physical impact" on plaintiffs' property, there could not be a trespass).

115. U.S. Dep't of Agric., 2010 – 2011 Pilot Study Pesticide Residue Testing of Organic Produce, at 2, Nov. 2012, available at <http://www.ams.usda.gov/AMSV1.0/getfile?dDocName=>

mediately as plants rapidly metabolize some pesticides and, in some cases, residues may no longer be present in dead tissue.¹¹⁶ Samples may need to be chilled or frozen to preserve evidence of a pesticide residue.¹¹⁷ Moreover, documentation of the chain of custody of the samples will need to meet evidentiary standards.¹¹⁸

A plaintiff will also need to secure the spray records of all possible neighbors whose actions might have contributed to the damages.¹¹⁹ With information on the dates of applications of pesticides, a plaintiff can match residue samples to a specific pesticide used by an applicator. Next, the plaintiff can document information on the wind and climatic conditions of the day of the pesticide application to show a relationship between the defendant's action and the drift damages.¹²⁰ Further, the plaintiff may gather affidavits from other neighbors documenting the nonuse of the culprit pesticide to support the claim that the pesticide causing damage came from the defendant.

With the information from the samples and records of pesticide usage, the plaintiff would need one or more experts on crop damages to offer testimony as expert witnesses.¹²¹ The experts would explain that the damage to the plants was consistent with the application of the culprit pesticide, how the pesticide affected the growth and development of the crop, and the amount of the financial loss suffered by the plaintiff.

For states in which courts have found that intangible invasions do not interfere with a landowner's exclusive possession of land, plaintiffs may be able to distinguish that a deposit of spray has interfered with their possession. Agricultural producers use their properties to grow crops that they sell to others. Any action by an unauthor-

STELPRDC5101234 (last visited Feb. 3, 2014) (noting the use of testing to determine the presence of pesticide residues).

116. A&L Can. Labs., Inc., Pesticide Residue Analysis. A&L CAN. LABS. INC., at 2, available at http://www.alcanada.com/index_htm_files/Pesticide_Residue_Guide_2013.pdf (last visited Feb. 3, 2014) (delineating a sampling procedure for plant tissues).

117. A&L Can. Labs., Inc., *id.*; European Comm'n Health & Consumer Protection Directorate-General, *Guidance document on analytical quality control and validation procedures for pesticide residues analysis in food and feed*, SANCO/12571/2013, Nov. 19, 2013, at 2, available at http://ec.europa.eu/food/plant/plant_protection_products/guidance_documents/docs/qualcontrol_en.pdf (last visited Feb. 3, 2014).

118. *See, e.g.*, *Williams v. Illinois*, 132 S. Ct. 2221, 2239 (2012) (delineating conventional chain-of-custody evidence).

119. Applicators of restricted use pesticides will have these records due to a requirement under FIFRA. *See* 7 C.F.R. § 110.3 (2013).

120. *See* F.M. Fishel & J.A. Ferrell, *Managing Pesticide Drift*, UNIV. OF FLA. INST. OF FOOD AND AGRIC. SCI. EXTENSION, 3–5, available at <http://edis.ifas.ufl.edu/pdf/PI/P123200.pdf> (last visited Feb. 3, 2014) (discussing how wind, air temperature, and relative humidity affect spray drift).

121. *See* *Mayeux v. Cane-Air, Inc.*, 426 So. 2d 305, 308 (5th Cir. 1983) (demonstrating how an expert witness testifies to establish damage to a crop from exposure to a pesticide); *Schoppe v. Applied Chems. Div., Mobley Co., Inc.*, 418 So. 2d 833, 835 (Miss. 1982) (using expert witnesses to establish the amount of loss from pesticide drift).

ized person that denigrates a crop interferes with the owner's exclusive right to use property for crop production. The unauthorized physical injury to plant material caused by a defendant's spray drift constitutes an interference with a plaintiff's exclusive possession.

With the careful documentation of spray drift damages, a plaintiff can distinguish the case from established precedents that declined to recognize trespasses by intangibles. This might start with an explanation on how an action in trespass for spray drift is different from actions concerning dust, electromagnetic fields, or vibrations. The evidence from the testing laboratory showing the presence of an unauthorized deposit of a pesticide would constitute evidence of an invasion of a plaintiff's property with a deposit that caused physical damage. This evidence would distinguish spray drift from other types of invasions that lack deposits. Moreover, the physical damage would establish interference with a plaintiff's exclusive possession. The evidence would enable the court to differentiate earlier precedents that declined to recognize a trespass action for entry of intangibles.

For example, a court concluded in a spray drift case from Vermont that the plaintiffs failed to demonstrate a "physical impact" on property so were not able to establish a cause of action in trespass.¹²² This precedent does not preclude a subsequent plaintiff from developing evidence that documents a physical impact. Through an orderly documentation of the defendant's actions, a plaintiff could establish injury to plants from a pesticide used by a defendant. Through the introduction of evidence of destruction of plants or stunting or physical alteration of growing plants, a plaintiff can present evidence of physical damage.¹²³ This suggests that in some spray drift cases, a plaintiff should be able to assemble the necessary documentation to meet the requirement of a physical impact.

Another problem with trespasses by intangibles such as dust has been the absence of "proof of damage to the invaded property."¹²⁴ An allegation of trespass with evidence of a documented deposit of a pesticide interfering with exclusive possession that caused physical damage supports a trespass. A conclusion that the facts of a spray drift case present sufficient evidence to maintain an action is trespass would not change trespass law for most intangible invasions. Only invasions with a deposit clearly related to physical damages would qualify as a trespass.

122. *John Larkin, Inc. v. Marceau*, 959 A.2d 551, 555 (Vt. 2008).

123. The unauthorized physical changes to plant materials caused by a defendant's spray drift, identifiable through testing and records of spray applications, would establish that the defendant's use of a pesticide caused the damage.

124. *Darney v. Dragon Products Co., LLC*, 994 A.2d 804, 807 (ME 2010).

CONCLUSION

Activities that generate intangible substances that are carried in the air onto properties of others present courts with difficult questions concerning liability for damages. Because different intangible substances pose greater dangers and inflict greater harm than others, some states have proceeded to differentiate particles from intangibles such as odors, noise, and radiation waves. The distinctions suggest that attempts to treat all intangible substances as similar are misplaced.¹²⁵ While ambient air may always contain intangible substances, this should not mean that unnatural concentrations of particles from human activities damaging properties of others cannot be a trespass.

Persons causing particles to invade properties of others to damage a possessory interest in property are trespassing. A Texas court concluded particles were a “thing” that could invade another’s property and constitute a trespass.¹²⁶ Evidence that the plaintiff photographed an intrusion and smelled and felt the spray drift led a Colorado court to conclude that the existence of particles was a trespass.¹²⁷ States adopting a “modern view” of trespass law allow recoveries for invasions of intangible substances if there are substantial damages or physical invasions.¹²⁸ Alternatively, the jurisprudence of at least one state provides that intangible particles constitute a trespass without a showing of actual or substantial harm.¹²⁹

The existence of a nuisance cause of action should not impinge a plaintiff’s right to recover damages under trespass law.¹³⁰ This is particularly important whenever an anti-nuisance statute shields an invasion of spray drift or when a statute of limitations has expired for a nuisance claim of action but not for trespass. Although trespass law is not as amenable as nuisance for balancing equities, the rights of

125. *E.g.*, *Johnson v. Paynesville Farmers Union Coop. Oil Co.*, 817 N.W.2d 693, 702 (Minn. 2012) (equating spray drift with smells).

126. *Stevenson v. E.I. DuPont de Nemours & Co.*, 327 F.3d 400, 406 (5th Cir. 2003).

127. *Macalpine v. Hopper*, No. 10CV220, *9–10 (Colo. Dist. Ct., Delta Cnty., July 5, 2012).

128. However, many states have rejected the modern theory. *See In re Worldcom, Inc.*, 546 F.3d 211, 217 (8th Cir. 2008) (discussing the modern view of trespass that recognizes intangible invasions but finding the invasion had not caused substantial damage to plaintiff’s land); *Darney v. Dragon Prods. Co.*, 771 F. Supp. 2d 91, 105–07 (D. Me. 2011) (considering the modern view of trespass for an intrusion of dust particles but finding no viable trespass claim given the absence of proof of damage to the invaded property); *John Larkin, Inc. v. Marceau*, 959 A.2d 551, 554–55 (Vt. 2008) (acknowledging the modern theory of trespass allowing claims for intangible airborne particulates but dismissing the trespass claim due to the absence of a physical impact interfering with exclusive possession).

129. *See In re Tenn. Valley Auth. Ash Spill Litig.*, 805 F. Supp. 2d 468, 484 (E.D. Tenn. 2011) (finding that invasions of intangible particles in Tennessee are trespasses without a showing of actual or substantial harm); *Stephens v. Koch Foods, LLC*, 667 F. Supp. 2d 768, 794–96 (E.D. Tenn. 2011) (adopting the modern view of trespass to allow a claim for trespass of gasses to proceed).

130. *See* Restatement (Second) of Torts § 821D cmt. e (1977).

persons generating intangible substances and those claiming injuries from the substances may be reconciled under trespass law. This is accomplished under the “modern view” of trespass law by requiring a plaintiff to show substantial damages to a *res* or physical damage. State law may be expected to evolve so that plaintiffs suffering damages from an unreasonable invasion of an intangible substance can secure relief under trespass law.