Growing Crime: The Rising Use of Fertilizer for Illegal Purposes and the Need for Stricter Regulations Concerning the Sale and Storage

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GROWING CRIME: THE RISING USE OF FERTILIZER FOR ILLEGAL PURPOSES AND THE NEED FOR STRICTER REGULATIONS CONCERNING ITS SALE AND STORAGE

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I. INTRODUCTION

If you pick up a newspaper or turn on the evening news, you would be hard pressed not to find a story about the growing methamphetamine problem in the Midwest.[1] In the recent past, stories could be found daily discussing the bombing of the Murrah Federal Building in Oklahoma City,[2] and the bombing of the World Trade Center in New York City.[3] Although the problems of methamphetamine

1. *See Meth Labs Use Farm Fertilizer*, TELEGRAPH HERALD, May 3, 1998, at A9 [hereinafter *Meth Labs*]; Steve Macko, *Methamphetamine Invades Middle America*, EMERGENCY NET NEWS SERVICE, at ¶ 2 (Apr. 13, 1997) <http://www.emergency.com/methinvd..html>; Jonathan Roos, *Alarm Over Chemical Thefts*, DES MOINES REG., Nov. 8, 1997, at A1.

2. *See Bomb Ingredient Came Cheap*, ROCKY MOUNTAIN NEWS, May 3, 1997, at 12A [hereinafter *Bomb Ingredient*].

3. *See* Warren E. Leary, *Panel Rejects Adding Markers to Explosives*, N.Y. TIMES, Mar. 5, 1998, at A22.

("meth") and domestic terrorism seem to be unrelated, they share the trait of using a common agricultural tool, fertilizer, to further their growing criminal enterprise.[4]

This Note will examine the use of fertilizers, particularly anhydrous ammonia and ammonium nitrate, in the illegal production of methamphetamine and explosives. Part II will detail the increasing problem of fertilizer being converted to criminal enterprises and the very substantial dangers that methamphetamine and domestic terrorism pose to society.[5] Part III will examine Federal and Iowa statutes that regulate the sale and storage of fertilizer.[6] Part IV will discuss why the current law falls short of dealing with this problem and some possible legislative answers.[7] This Note concludes that, in light of the dramatic increase in the use of anhydrous ammonia and ammonium nitrate for criminal enterprise, current regulations concerning the sale and storage of fertilizer must be amended to curtail this problem.[8]

II. A GROWING PROBLEM

A. *The Appeal of Using Fertilizer For Illegal Activities*

To understand the appeal of using fertilizer for criminal activity, it is necessary to examine how ammonium nitrate is used in domestic terrorism and how anhydrous ammonia is used in the production of methamphetamine. Fertilizer can be obtained with relative ease compared to other chemicals necessary for meth production or domestic terrorism.[9] Another part of fertilizer's appeal is the contribution it makes in carrying out meth production and domestic terrorism.[10]

B. *The Appeal of Ammonium Nitrate*

Ammonium nitrate provides a key ingredient to explosives—nitrogen.[11] This chemical compound provides a fixed form of nitrogen, making its application more practical for agriculture and the explosives industry.[12] Unfortunately, this fixed form also makes the destruction of property possible, and a very real option for people or groups intent on spreading terror.

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4. *See* Roos, *supra* note 1.
5. *See* discussion *infra* Part II.
6. *See* discussion *infra* Part III.
7. *See* discussion *infra* Part IV.
8. *See* discussion *infra* Part V.
9. *See Meth Labs*, *supra* note 1 (discussion availability of anhydrous tanks); Leary, *supra* note 3, at A22 (citing Dr. Edward M. Arnett, emeritus professor of chemistry at Duke University: "The most accessible explosive material to would-be terrorists is ammonium nitrate").
10. *See* Roos, *supra* note 1.
11. *See* Amy M. Hackman, Note, *The Discretionary Function Exception to the Federal Tort Claims Act: How Much is Enough?*, 19 CAMPBELL L. REV. 411, 414 (1997).
12. *See* John W. Mill, Note, *Agriculture Chemical Contamination of Groundwater, An: Economic Analysis of Alternative Liability Rules*, 1991 U. ILL. L. REV. 1135, 1167 & n.8 (1991).

Ammonium nitrate creates an effective explosive when combined with a few other common products.[13] The process of constructing a "home-made" explosive and a list of the chemicals needed can be easily obtained from the Internet.[14] One of the simplest bombs to construct, and one that is very effective, is an Ammonium Nitrate Fuel Oil (ANFO) bomb.[15]

It is alleged that ammonium nitrate bombs were used in the bombing of the Murrah Federal Building in Oklahoma City,[16] the World Trade Center Bombing in New York City,[17] and the University of Wisconsin Math Research Building bombing.[18] Although fertilizer bombs comprise only a portion of all illegal explosives used in the United States,[19] they pose a significant danger to the public because of their capacity for mass destruction and their appeal to domestic terrorists. The fertilizer bomb used in Oklahoma City killed one hundred sixty-eight people,[20] while the World Trade Center bomb killed six people and injured over one thousand.[21]

C. *The Appeal of Anhydrous Ammonia*

The appeal of using anhydrous ammonia for the production of methamphetamine is again, like ammonium nitrate, grounded in its chemistry. Although anhydrous ammonia is not an actual ingredient in methamphetamine, it "greatly reduces the time to cook the drug."[22] One of the chemical properties of anhydrous is that it is "a hydroscopic compound, meaning it seeks water from the nearest source . . . ."[23] This property is appealing to drug producers who want to get their products out on the street as soon as possible.

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13. *See, e.g., Ammonium Nitrate—Fuel Oil Solution* (visited Oct. 20, 1999) <http://www.nw.com.au/~dwarf/text/anfos.htm>.

14. *See, e.g., id.*; *ANFOS* (last visited Oct. 20, 1999) <http://hackplace.com/anarchy/bombs/anfo.txt>.

15. *See, e.g., Ammonium Nitrate—Fuel Oil Solution* (visited Oct. 20, 1999) <http://www.nw.com.au/~dwarf/text/anfos.htm>.

16. *See No Quick Fix for U.S. Terrorism Vulnerability, Report Concludes,* TULSA WORLD, Apr. 17, 1998, at A-3.

17. *See* FEDERAL BUREAU OF INVESTIGATION, U.S. DEP'T OF JUSTICE 1993, TERRORISM IN THE UNITED STATES, 25 (1994) (discussing the World Trade Center bombing investigation).

18. *See* Reynold N. Hoover, *Learning from Oklahoma City: Federal and State Explosives Laws in the United States,* 5 KAN. J.L. & PUB. POL'Y 35, 38 (1995).

19. *See* Monica Sue Barry, Note, *Stockpiling Weapons: Can Private Militias Receive Protection Under the First and Second Amendments?,* 18 T. JEFFERSON L. REV. 61, 95 & n.18 (1996).

20. *See* Karen Abbott, *Bomb Victims Want to Sue Explosives Maker,* ROCKY MOUNTAIN NEWS, Jan. 26, 1998, at 24A.

21. *See* Hoover, *supra* note 18, at 39.

22. *Meth Labs, supra* note 1, at A9.

23. Associated Press, *Officials: Anhydrous Ammonia Theft Skyrockets,* TH ON-LINE IOWA NEWS (visited Oct. 19, 1999) <http://www.thonline.com/th/news/111097/iowa/82742.html>.

There are over a thousand different recipes for manufacturing methamphetamine.[24] A recipe favored by small meth labs is called the "Nazi method."[25] It is a recipe that utilizes anhydrous ammonia to reduce the "cooking time."[26] Like instructions for ammonium nitrate bombs, meth recipes are not hard to find. Recipes and other instructions for creating a clandestine meth lab are accessible on the Internet.[27] The ease of access to methods for manufacturing meth has increased along with the number of meth users.[28]

From 1992 to 1995, meth use has increased in some communities up to three hundred percent.[29] Meth is a growing epidemic that is affecting all parts of the country.[30] Almost three thousand addicts in the San Francisco Bay and San Diego regions checked into drug treatment centers in 1994.[31] "According to the 1996 National Household Survey on Drug Abuse, an estimated 4.9 million people (2.3 percent of the population) have tried methamphetamine at some time in their lives."[32]

In the Midwest, the problem is equally as pressing. In January of 1998, law enforcement netted thirty-one arrests in three separate drug raids in Mason City and Charles City, Iowa.[33] "In Iowa, meth arrests accounted for forty-seven percent of drug activity in 1995, compared to less than five percent in 1991."[34] With such a high increase in meth use comes a corresponding increase in demand for the drug.[35]

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24. *See* KOCH CRIME INSTITUTE, *Methamphetamine: Frequently Asked Questions* (visited Nov. 8, 1999) <http://www.kci.ws/meth_info/faq_meth.htm>.

25. *See* Ruth Schubert, *New Recipe Has Meth Labs Cooking*, SEATTLE TIMES, Aug. 19, 1996, at B1, *available in* 1996 WL 3678083.

26. *Officers Asking Public to Report Meth Makers* (visited Sept. 1, 1999) <http://www.morningsun.net/stories/122198/loc_1221980004.html>.

27. *See generally Manufacturing Methamphetamine* (visited Oct. 13, 1999) <http://www.overthrow.com/crystal.html> (on file with author) (discussing general information on meth, and links to cites with recipes for manufacturing). *See, e.g.*, UNCLE Y. FESTER, SECRETS OF METHAMPHETAMINE MANUFACTURE: INCLUDING RECIPES FOR MDA, ECSTASY, AND OTHER PSYCHEDELIC AMPHETAMINES (4th ed. 1996) (book is also available on the internet at <http://shop.barnesandnoble.com> (upon request)).

28. *See* Schubert, *supra* note 25.

29. *See* KOCH CRIME INSTITUTE, *Methamphetamine: Frequently Asked Questions* (visited Nov. 8, 1999) <http://www.thonline.com/th/news/111097/iowa/82742.html>.

30. *See* Macko, *supra* note 1, at ¶ 3 (explaining the flood of methamphetamine into the middle states of the U.S.). *See generally* Schubert, *supra* note 25 (explaining the existence of methamphetamine in the Northwest, West, Southwest, and East).

31. *See The Methamphetamine Control Act of 1996* (visited Oct. 3, 1998) <http://www.senate.gov/member/ca/feinstein/general/meth1.html>.

32. U.S. DEP'T OF HEALTH AND HUMAN SERVICES & NATIONAL INSTITUTES OF HEALTH, METHAMPHETAMINE ABUSE AND ADDICTION, NAT. INST. ON DRUG ABUSE RESEARCH REPORT SERIES 2 (1998).

33. *See Congressman Nussle Applauds Attack On Drugs in Ways and Means Committee and on House Floor*, CONG. PRESS RELEASE, May 15, 1998, at 2.

34. Macko, *supra* note 1, at ¶ 8.

35. *See, e.g., id.* (stating that methamphetamine use is increasing and there is also a huge appetite for methamphetamine).

Although it is estimated that ninety percent of Iowa's meth is brought in from Mexico,[36] demand has created a cottage industry for supplying meth.[37] In Iowa and the Midwest, clandestine drug labs have proliferated.[38] In the Midwest in 1992, the DEA seized six meth labs, but by 1996 that number was up to 303 meth labs seized.[39] That number increased to five hundred in 1997.[40] For Iowa the figures are staggering. Jerry Nelson, a special agent with the Iowa Division of Criminal Investigations' clandestine lab team was cited saying "[t]he state raided 31 labs in 1996, 63 labs in 1997 and already has dismantled 44 in 1998".[41]

The demand for methamphetamine and the rapid multiplication of drug labs have pressed drug producers to manufacture as much meth as they can as fast as they can.[42] This returns us to the appeal of anhydrous ammonia in the production of methamphetamine. The appeal of both ammonium nitrate and anhydrous ammonia to facilitate criminal activity has created an illegal market for these fertilizers.[43] The demand for fertilizer has added to the problem of growing crime.[44]

D. *How Ammonium Nitrate is Obtained*

As mentioned in Part II, much of the appeal of fertilizer to criminals is the easy accessibility in comparison to other chemicals necessary for the production of methamphetamine or domestic terrorism through the use of explosives.[45] This is particularly true of ammonium nitrate.[46] The acquisition of ammonium nitrate by criminals presents a particularly difficult problem for law enforcement, the current state of the law provides access to it through purchase, theft or both.[47]

The legitimate need of access to fertilizer for agricultural purposes has opened the door for criminals to exploit it in illegal activities. Ammonium nitrate is the most accessible explosive component for domestic terrorists because it is used

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36. *See* Susan Bosch, *Law Enforcement Officials Chip Away at Meth Problem*, WATERLOO AND CEDAR FALLS COURIER, Jan. 31, 1999, at A1.

37. *See id.*

38. *See Meth Labs*, *supra* note 1.

39. *See* Macko, *supra* note 1 at ¶ 10.

40. *See* KOCH CRIME INSTITUTE, *Methamphetamine: Frequently Asked Questions*, (visited Nov. 8, 1999) <http://www.kci.ws/meth_info/faq_meth.htm>.

41. *Meth Labs*, *supra* note 1, at A9. As of October 29, 1998, law enforcement had seized over 200 labs, well over the 125 labs estimated to be seized for the year. *See id.*

42. *See* Macko, *supra* note 1, at ¶ 17.

43. *See* Bosch, *supra* note 36.

44. *See Meth Labs*, *supra* note 1.

45. *See id.*

46. *See* Leary, *supra* note 3.

47. *See Meth Labs*, *supra* note 1; *Manufacturing Methamphetamine* (visited on Oct. 13, 1999) <http://www.overthrow.com/crystal.html> (noting that many Methamphetamine components are easily purchased) (on file with author).

extensively for legitimate purposes in agriculture, construction, and mining.[48] Domestic terrorists can either buy or steal ammonium nitrate because it is legitimately stored and sold at farm supply and service companies throughout the nation.[49]

Large quantities of ammonium nitrate are needed to produce the kind of destruction desired by domestic terrorist.[50] An ample supply, however, is always available because legitimate industries also require large quantities.[51] As will be discussed, a more than sufficient supply can be obtained to produce a deadly explosion. Examples of how criminals obtain ammonium nitrate are not hard to find. They highlight the problem with current restrictions on the sales and storage of fertilizers that will be discussed in Part III of this Note.

Perhaps the most familiar case is the bomb used to destroy Murrah Federal Building in Oklahoma City. Testimony at the trial of Terry Nichols revealed that the ammonium nitrate used in the Oklahoma City bomb was obtained from a farm supply company in central Kansas.[52] It was estimated that nearly two tons of ammonium nitrate was used to produce that explosion.[53] How did Nichols and Timothy McVeigh acquire such a large quantity of ammonium nitrate? They purchased it.[54]

FBI special agent Louis Charles Michalko testified that he looked through 132,000 sales tickets from a central Kansas farm supply company's ten branch stores that sold ammonium nitrate.[55] Among those tickets was one for a sale to "Mike Havens," whom prosecutors alleged was Terry Nichols.[56] Nearly two tons of ammonium nitrate costs a mere $457.48.[57]

Theft provides a cheaper alternative for criminals who cannot afford the modest purchase price. Ten times the amount of ammonium nitrate used in the Oklahoma City bomb was stolen from Bruceton Farm Services in Bruceton Mills, Pennsylvania between June 19 and July 28, 1998.[58] The ammonium nitrate was kept in an elevated storage bin, but the theft went undetected for weeks because the Farm Service sold ammonium nitrate from a truck that was still loaded with the chemical.[59] Perhaps even more distressing was the fact that the stolen ammonium nitrate "was

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48. *See* Leary, *supra* note 3.
49. *See id.*
50. *See Bomb Ingredient*, *supra* note 2 .
51. *See* Leary, *supra* note 3.
52. *See Bomb Ingredient*, *supra* note 2.
53. *See* Abbott, *supra* note 20; *Bomb Ingredient*, *supra* note 2.
54. *See Bomb Ingredient*, *supra* note 2.
55. *See id.*
56. *See id.*
57. *See id.*
58. *See Reward Increased for Explosives*, PITTSBURGH POST-GAZETTE, Sept. 9, 1998, at B4.
59. *See FBI Still Seeking Stolen Chemicals*, PITTSBURGH POST-GAZETTE, Aug. 3, 1998 at B2. At the present time it still had not been determined if the fertilizer had been stolen to make an explosive or for agricultural purposes.

rated explosive grade rather than fertilizer grade."[60] The sales and storage of explosive grade ammonium nitrate at farm supply stores is a problem that will be discussed in Section III.

E. *Rising Theft: Obtaining Anhydrous Ammonia*

The relative ease with which anhydrous ammonia is obtained for the production of methamphetamine comes not through purchase, but through theft. Again, legitimate use of anhydrous provides the needed access for criminals to obtain an adequate supply to produce meth. If you have ever driven by fields in the spring you likely have seen tanks of anhydrous ammonia parked in a field. It is from this unsupervised storage of anhydrous in the fields and at farm supply stores that local meth producers obtain a supply to cook their meth.[61]

Recently in Iowa, the stories on the evening news and in the newspaper are filled with weekly reports of the theft of anhydrous ammonia, or the discovery of supplies found at meth labs.[62] The reports are supported by alarming statistics.[63] Although farmers do not know they have been robbed because the thieves only take a small amount from the large tanks, Jerry Nelson, a special agent with the Iowa Division of Criminal Investigations' clandestine lab team, states that "there has been a 'drastic increase' in anhydrous ammonia thefts in the past six months."[64]

The problem is not limited to tanks in the field. Meth producers are going to farm cooperatives to steal anhydrous from storage tanks.[65] Since January of 1997, there have been seven reported thefts of anhydrous ammonia in Madison County, Iowa.[66] Dan Schreck, manager of Farmers Cooperative Co. in Earlham, Iowa reported losing two full tanks of anhydrous in one night.[67] The problem has become so severe that law enforcement officers have begun keeping tabs on small cooperatives.[68] "At the Heartland Co-op in Elkhart, Iowa, burglars struck ammonia tanks up to three times per week this summer."[69] Sheriff's deputies made about ten

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60. *Id.*
61. *See id.*; *Meth Labs*, *supra* note 1, at A9.
62. *See id.*
63. *See id.* Thirty-one labs in 1996, sixty-three labs in 1997, and forty-four labs by May of 1998 were dismantled in Iowa. *See id.*
64. *Id.* Evidence of the theft is often left at the site, such as siphoning hoses and propane cylinders used to transport the anhydrous. *Id.*
65. *See* Roos, *supra* note 1, at A1.
66. *See id.*
67. *See Meth Labs*, *supra* note 1, at A9.
68. *See* Tom Alex, *Ammonia Stakeouts Aid Police*, DES MOINES REG., Oct. 27, 1998, at A1.
69. *Id.*

arrests in one month by keeping watch at night.[70] Thefts have risen consistently with the number of labs producing methamphetamine with the anhydrous recipe.[71]

As can be seen from the foregoing discussion, fertilizers are an appealing chemical to producers of methamphetamine and illegal explosives. In part this stems from the proficient results that ammonium nitrate and anhydrous ammonia provide to drug production and domestic terrorism.[72] This terroristic appeal also stems from the easily obtained and readily available supply of these important chemicals throughout the farming communities. The question must then be asked, why are these chemicals so easy to obtain? What are the current regulations regarding the sales and storage of ammonium nitrate and anhydrous ammonia?

III. FEDERAL AND IOWA LAW REGULATING THE SALES AND STORAGE OF AMMONIUM NITRATE AND ANHYDROUS AMMONIA

This section will discuss current federal and state regulations regarding the sale and storage of ammonium nitrate and anhydrous ammonia. It will begin with an analysis of federal and state explosives law and why ammonium nitrate is not covered by explosives law. It will then discuss regulations regarding fertilizer. The section will conclude with a discussion of the regulations pertaining to the sales and storage of anhydrous ammonia.

A. *Federal Explosives Law*

Although ammonium nitrate can be sold as an explosive or fertilizer, depending on the amount of purchase, either grade can be used as a component of an explosive.[73] Amazingly, even though ammonium nitrate can be utilized as an explosive, it is not covered by federal or state explosives statutes.[74] In 1970, Congress passed the Federal Explosives Law.[75] Section 841(d) defines the term "explosive" to mean: "any chemical compound mixture, or device, the primary or common purpose of which is to function by explosion; the term includes, but is not limited to, dynamite and other high explosives, black powder, pellet powder, initiating explosives, detonators, safety fuses, squibs, detonating cord, igniter cord, and igniters."[76] Discussions in Congress revealed that the definition of explosive was

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70. *See id.*

71. *See Meth Labs*, *supra* note 1 (discussing the beginning and rise of anhydrous ammonia theft with the increasing popularity of the quick cooking formula).

72. *See id.* (discussing the popularity of anhydrous ammonia with meth manufacturers). *See also* Leary, *supra* note 3 (discussing the accessibility of ammonium nitrate to terrorists).

73. *See* Hoover, *supra* note 18, at 38-39 (discussing the need for amendment to reflect the increased criminal use of explosives).

74. *See id.* at 38.

75. *See* Title XI of the Organized Crime Control Act of 1970, Pub. L. No. 91-452, 84 Stat. 952 (codified at 18 U.S.C. §§ 841-48 (1994)).

76. *Id.*

not intended to "include fertilizer and gasoline."[77] The House Report stated that Congress did not intend "to place any undue or unnecessary restrictions or burdens on law-abiding citizens with respect to the acquisition, possession, storage or use of explosives for legitimate industrial, mining or agricultural purposes."[78] The discussion was prompted by parties concerned with a possible stifling of legitimate uses of fertilizers and black powder.[79] Chief among the opposition were manufacturers of commercial fertilizer and the organizations concerned with firearm regulations, such as the NRA.[80] Although explicit language indicating that fertilizer is excluded from the definition of explosive is not included in the Act, courts have chosen this construction.[81]

A case particularly relevant to the Oklahoma City bombing held that ammonium nitrate fertilizer was not within the meaning of explosive as defined by the Federal Explosives Law.[82] In *Gaines-Tabb v. ICI Explosives USA Inc.*, survivors and relatives of victims of the Oklahoma City bombing brought a negligence action against the manufactures of the ammonium nitrate used in the bombing.[83]

Plaintiffs alleged that ICI should have known of the possible danger of ammonium nitrate being used for criminal enterprise.[84] Plaintiffs recounted the University of Wisconsin and World Trade Center bombings as evidence that ICI should have known about the danger and taken precautions to prevent further criminal use of fertilizer.[85] However, the District Court saw matters differently. In addition to finding Timothy McVeigh's and Terry Nichols' actions a supervening cause of the explosion,[86] the court also held that it was not reasonably foreseeable that the fertilizer would be used as a bomb because fertilizer is not listed as an explosive under the Federal Explosives Law.[87] The statute and case illustrate the first area of federal law that creates opportunities for fertilizer to be used in criminal activity.

B. *State Explosives Law*

The regulation of explosives does not rest solely with the federal government. The House report accompanying the Federal Explosives Law stated

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77. H.R. REP. No. 91-1549, at 64 (1970), *reprinted in* 1970 U.S.C.C.A.N. 4007, 4041.
78. H.R. REP. No. 91-1549, at 38 (1970), *reprinted in* 1970 U.S.C.C.A.N. 4007, 4013.
79. *See id.*
80. *See id.*
81. *See* Gaines-Tabb v. ICI Explosives USA, Inc., 995 F. Supp. 1304, 1320-21 (W.D. Okla. 1996).
82. *Id.* at 1320.
83. *See id.* at 1309.
84. *See id.*
85. *See id.* at 1311.
86. *See id.* at 1313.
87. *See id.* at 1325.

that the statute did not intend to preempt state statutes covering explosive materials.[88] State laws regulating explosive materials vary from state to state, however, none include fertilizer in their definition of explosives.[89] This section will examine Iowa's explosive law as an example of how fertilizer falls through legislative cracks.

Iowa's Explosive Law substantially follows the Federal Explosives Law.[90] A commercial license is required for the manufacturing, importation, distribution, sale, and commercial use of explosives.[91] Permits are also required to purchase, possess, transport, store, and detonate explosive materials.[92] Permits are granted to applicants who can show they possess good character and sound judgment, and have sufficient knowledge in the use and handling of explosive materials to protect the safety of the public.[93] The state fire marshal is saddled with the burdensome duty to prescribe "standards for the safe storage of explosive materials as may be necessary to prevent accidental fires and explosions and prevent thefts and unlawful or unauthorized possession of explosive materials."[94]

It would appear that Iowa law provides adequate regulation of explosive materials to protect against the theft or purchase of fertilizer for criminal activities. However, these rules suffer from the same limitation as the Federal Explosives Law.[95] For a manufacture, distributor, or purchaser to be required to obtain a license or permit, the materials they deal with *must qualify as an explosive under the rules*.[96] As discussed previously, fertilizer is not included in the definition of explosive, and therefore, it does not require an explosive license or permit to use it. Section 101A.1 of the Iowa Code defines explosive or explosives to mean:

> [A]ny chemical compound, mixture or device, the primary or common purpose of which is to function by explosion, i.e., with substantially instantaneous release of gas and heat, unless such compound, mixture, or device is otherwise specifically classified by the United States department of transportation. The term "*explosives*" includes all material which is classified as class A, class B, and class C explosives by the United States department of transportation . . . .[97]

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88. H.R. REP. NO. 91-1549, at 39 (1970), *reprinted in* 1970 U.S.C.C.A.N. 4007, 4048.

89. *See generally* Hoover, *supra* note 18, at 35 (discussing explosive laws now in place in all fifty states).

90. *See* Title XI of the Organized Crime Control Act of 1970, Pub. L. No. 91-452, 84 Stat. 952 (codified at 18 U.S.C. §§ 841-848 (1994)); IOWA CODE § 101A.5 (1999).

91. *See* IOWA CODE § 101A.5.

92. *See id.*

93. *See id.*

94. *Id.* § 101A.5(3).

95. *See* Title XI of the Organized Crime Control Act of 1970, Pub. L. No. 91-452, 84 Stat. 952 (codified at 18 U.S.C. §§ 841-848 (1994)); IOWA CODE § 101A.5.

96. *See* IOWA CODE § 101A.1 (emphasis added).

97. *Id.* § 101A.1(3).

As with the Federal Explosives Law, the operative words are "the primary or common purpose of which is to function by explosion."[98] Under this definition, fertilizer is excluded because its primary or common purpose is for agriculture, not to create an explosion.[99] Again fertilizer use in criminal activity finds a loophole in the laws regulating the use of explosive materials.

C. *Agricultural Laws Regulating the Sale and Storage of Fertilizer*

Even though fertilizer is not regulated as an explosive, it is regulated in its capacity as an agricultural tool.[100] In this capacity, fertilizer refers to not only ammonium nitrate, but also to anhydrous ammonia.[101] In this section, the regulation of fertilizer at both the state and federal level will be discussed.

What is remarkable about the regulation of the sale of fertilizer is the lack of any rules or regulations covering the sale of either anhydrous ammonia or ammonium nitrate. Most regulation appears to take place at the manufacturing and distributing phase of the equation, rather than regulating the purchaser, the person who ultimately misuses the chemical, often with malice.[102]

At the federal level, regulation is carried out by a number of departments and agencies. The Environmental Protection Agency generally regulates fertilizer through its function of ensuring safe water and conservation practices.[103] The Department of Transportation is typically concerned with the transportation of fertilizer as a hazardous material.[104] The Internal Revenue Service ("IRS") even has a hand in fertilizer regulation.[105] The IRS provides guidelines for tax credits and exemptions related to the agricultural use of fertilizer.[106] What is missing is any regulation from the Department of Agriculture concerning the purchase and safety from theft of either anhydrous ammonia or ammonium nitrate.

Given the dangerous nature of anhydrous ammonia to any person who may come into contact with it, there are more regulations covering it than covering ammonium nitrate. The American National Standards Institute has published guidelines for the storage and handling of anhydrous ammonia.[107] These guidelines

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98. *Id.*
99. *See id.*
100. *See generally id.* § 200 (discussing the definition of "fertilizers," and the licensing, registering, and inspecting of fertilizers used in agriculture).
101. *See id.* § 200.14(1).
102. *See id.* §§ 200.4-.14.
103. *See* 40 C.F.R. § 418.70 (1998).
104. *See* 49 C.F.R. § 176.415 (1998).
105. *See* 26 C.F.R. § 1.175-2 (1998).
106. *See id.*
107. AMERICAN NATIONAL STANDARD SAFETY REQUIREMENT FOR THE STORAGE AND HANDLING OF ANHYDROUS AMMONIA, K61.1-1989 (Mar. 17, 1989).

have been endorsed by OSHA as meeting federal safety standards.[108] However, the safety standards which the American National Standards Institute and OSHA subscribe to are geared toward the safety of workers and the general public during normal operation of anhydrous ammonia storage and transport equipment.[109]

As to where storage containers can be located, federal regulations take into consideration the distance from adjacent fire hazards and from wells or other sources of potable water supply.[110] The regulations further provide that "[c]ontainers shall be located outside of buildings or in buildings or sections thereof especially provided for this purpose."[111] As discussed earlier, if you live in a rural area you have probably seen tanks of anhydrous sitting in the fields in the spring or fall. Despite this inviting target to thieves, there are no regulations prohibiting tanks from being left unattended in fields or by the roadside.

As for the containers themselves, hose specifications are the most illustrative for our purposes because that is the easy section for thieves to gain access to the ammonia by slicing into hoses on the tanks.[112] The regulations require the labeling of hoses as "Anhydrous Ammonia" with the manufacturer's name, year of manufacture, and maximum working pressure cast on the hose at five foot intervals.[113] Otherwise, the hose only needs to be made of rubber specified for the transfer of anhydrous ammonia.[114]

Regulation at the state level is not any more effective at prescribing a remedy to the theft of anhydrous ammonia than the few federal regulations. Purchase of anhydrous ammonia is not regulated at the state level, like the federal. However, also like the federal regulations, the state regulations concerning anhydrous ammonia do call for the licensing of manufacturers, sellers, or distributors of fertilizer or soil conditioner.[115] A seller "must first obtain a license from the secretary of agriculture and shall pay a ten-dollar license fee for each place of manufacture or distribution from which fertilizer or soil conditioner products are sold or distributed in Iowa."[116]

Beyond licensing requirements, state law also mirrors federal law in the scope of safety regulations. The current regulations are slanted toward public and employee health rather than protecting against theft.[117] Section 200.14 of the Iowa Code sets out the rules for the storage and handling of anhydrous ammonia:

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108. *See* 29 C.F.R. § 1910.111(b)(1)(i) (1999).
109. *See id.* §§ 1910.111(a)-(b).
110. *See id.* §§ 1910.111(b)(5)(i)-(ii).
111. *Id.* § 1910.111(b)(5)(i).
112. *See* Roos, *supra* note 1.
113. *See* 29 C.F.R. § 1910.111(b)(8)(v).
114. *See id.* § 1910.111(b)(8)(i).
115. *See* IOWA CODE § 200.4(1) (1999).
116. *Id.*
117. *See id.* § 200.14.

> The secretary is authorized, after public hearing, following due notice, to adopt rules setting forth minimum general safety standards for the design, construction, location, installation and operation of equipment for storage, handling, transportation by tank truck or tank trailer, and utilization of anhydrous ammonia. The rules shall be such as are reasonably necessary for the protection and safety of the public and persons using anhydrous ammonia, and shall be in substantial conformity with the generally accepted standards of safety.
>
> It is hereby declared that rules in substantial conformity with the published standards . . . for the storage and handling of anhydrous ammonia, shall be deemed to be in substantial conformity with the generally accepted standards of safety.[118]

The standards found acceptable by the Secretary of Agriculture for Iowa are essentially the same as the standards approved at the national level. Title 21, section 43.6 of the Iowa Administrative Code presents the standards for the storage and handling of anhydrous ammonia.[119] Except for a few minor grammatical changes, the Iowa regulation incorporates the American National Standard Institutes' guidelines for the storage and handling of anhydrous ammonia.[120]

It should be apparent from the regulations discussed that the opportunities for criminal use of fertilizer are wide open from theft to out-right purchase. So what are the problems presented by the easy access to fertilizer, and how might they be resolved in order to cut down on the illegal use of fertilizers for criminal activity?

IV. PROBLEMS CREATED BY CURRENT REGULATIONS AND SOME POSSIBLE SOLUTIONS

The two major ways of acquiring fertilizer for illegal purposes are through theft and out-right purchase.[121] The major problem in regulating fertilizer is in striking a balance between curbing thefts and purchases of this agricultural product for illegal activity and not, by the same token, overburden legitimate manufacturing and agricultural use. This Part will discuss the existing problems with current fertilizer regulation and possible solutions that may curb fertilizer's illegal use.

Ammonium nitrate regulation is faced with both the problems of theft and purchase for illegal activity. Because ammonium nitrate is not defined as an

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118. *Id.* § 200.14(1).

119. *See* IOWA ADMIN. CODE r. 21-43.6 (1998).

120. *See id.*; AMERICAN NATIONAL STANDARD SAFETY REQUIREMENT FOR THE STORAGE AND HANDLING OF ANHYDROUS AMMONIA, K61.1-1989 (Mar. 17, 1989).

121. *See* Leary, *supra* note 3; *Alarms Over Chemical Thefts*, DES MOINES REG., Nov. 8, 1997, at A1; *Meth Labs*, *supra* note 1; *Manufacturing Methamphetamine* (visited on Oct. 13, 1999) <http://www.overthrow.com/crystal.html> (on file with author).

explosive, it is not subject to the more stringent regulations imposed by the Federal Explosives Law.[122] By adding ammonium nitrate to the definition of explosives, it could be subjected to the more stringent regulations.[123] If ammonium nitrate was classified as an explosive, its purchase could be conditioned on the permit and licensing scheme for explosive.[124] There have been suggestions for improving the permit scheme which could work nicely with ammonium nitrate if it was included as an explosive.[125] One such suggestion is to model the federal permit system on the one currently in force in California.[126] California requires a one week delay in the issuance of a permit in order to adequately check the qualification of the applicant.[127]

Another suggestion, and one that might be less burdensome on purchasers, is to render ammonium nitrate non-detonable by chemical process.[128] The feasibility of this option was discussed in *Gaines-Tabb*.[129] *Gaines-Tabb* discussed a patent that was issued in 1968, to Samuel Porter, for the process to make ammonium nitrate non-detonable.[130]

Anhydrous ammonia presents a different problem because it is mainly acquired through theft.[131] To curtail thefts of anhydrous ammonia, it would probably be necessary to amend the regulations concerning its storage. It would likely place too much of a burden on agricultural users if farmers were required to take tanks out of the field. However, even if farmers were not required to store tanks out of the field, regulating storage at distribution sites could still curb the rash of thefts. Storage regulations could be changed to require co-ops and other distributors to increase security against theft. Any portable tanks should be required to be stored inside a secure building or have the contents transferred back to main holding tanks in off-hours. Additionally, permanent storage tanks could be required to have anti-theft devices that would flush anhydrous in hoses back into the tanks were it could be securely shut-off from tampering.

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122. Title XI of the Organized Crime Control Act of 1970, Pub. L. No. 91-452, 84 Stat. 952 (1970) (codified at 18 U.S.C. §§ 841-848 (1995)).

123. *See id.*

124. *See id.*

125. *See generally* Hoover, *supra* note 18, at 47-48 (discussing the need for state law reform concerning explosives, which serves as the basis for author's suggestion that improvements to state laws would work well if ammonium nitrate were to be included as an explosive).

126. *See id.* at 41.

127. *See id.*

128. *See* Gaines-Tabb v. ICI Explosives USA, Inc., 995 F. Supp. 1304, 1310-11 & n.6 (W.D. Okla. 1996).

129. *See id.* at 1311.

130. *See id.*

131. *See Meth Labs*, *supra* note 1.

V. CONCLUSION

With the increase in the use of agricultural fertilizer for the production of methamphetamine and domestic terrorism, it has become imperative to examine why fertilizer has become so popular in the carrying out of illegal activities. It has been suggested in this Note that fertilizer has become a growing ingredient in illegal activity because of its accessibility to criminals through theft or purchase. In turn, this accessibility is facilitated by the lack of regulation concerning the sale and storage of fertilizer, at both the federal and state level.

Although this problem has only recently come to light, the rapid increase in the illegal use of fertilizer should raise a concern for anyone interested in the health and safety of the society in which we live. Although the feasibility of further regulation to curb the increase is speculative at this point, action must be taken soon before the illegal use of fertilizer becomes a problem which necessitates action that will place a burdensome weight on all concerned parties.