



CHALLENGES AND PREVENTION FROM CHEMICAL TERRORISM



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INTRODUCTION

Chemical terrorism is the form of terrorism that uses the toxic effects of chemicals to kill, injure or otherwise adversely affect the interests of its targets. While there may be controversy about the definition of the politically-charged word "terrorism," the tactics and technology of chemical terrorism are clearly distinguished from those of other forms of chemical warfare. Chemical terrorism is asymmetric warfare which was practiced by illegal forces using improvised weapons against combatant and noncombatant targets. It is therefore unlike the symmetric chemical warfare of the First World War, in which dug-in troops fired poison-filled artillery shells at each other across a wire-bounded no-man's-land. It is also distinct from asymmetric "terror from above" in which military forces use munitions with chemical payloads against civilian populations.

Methods used by terrorists include:

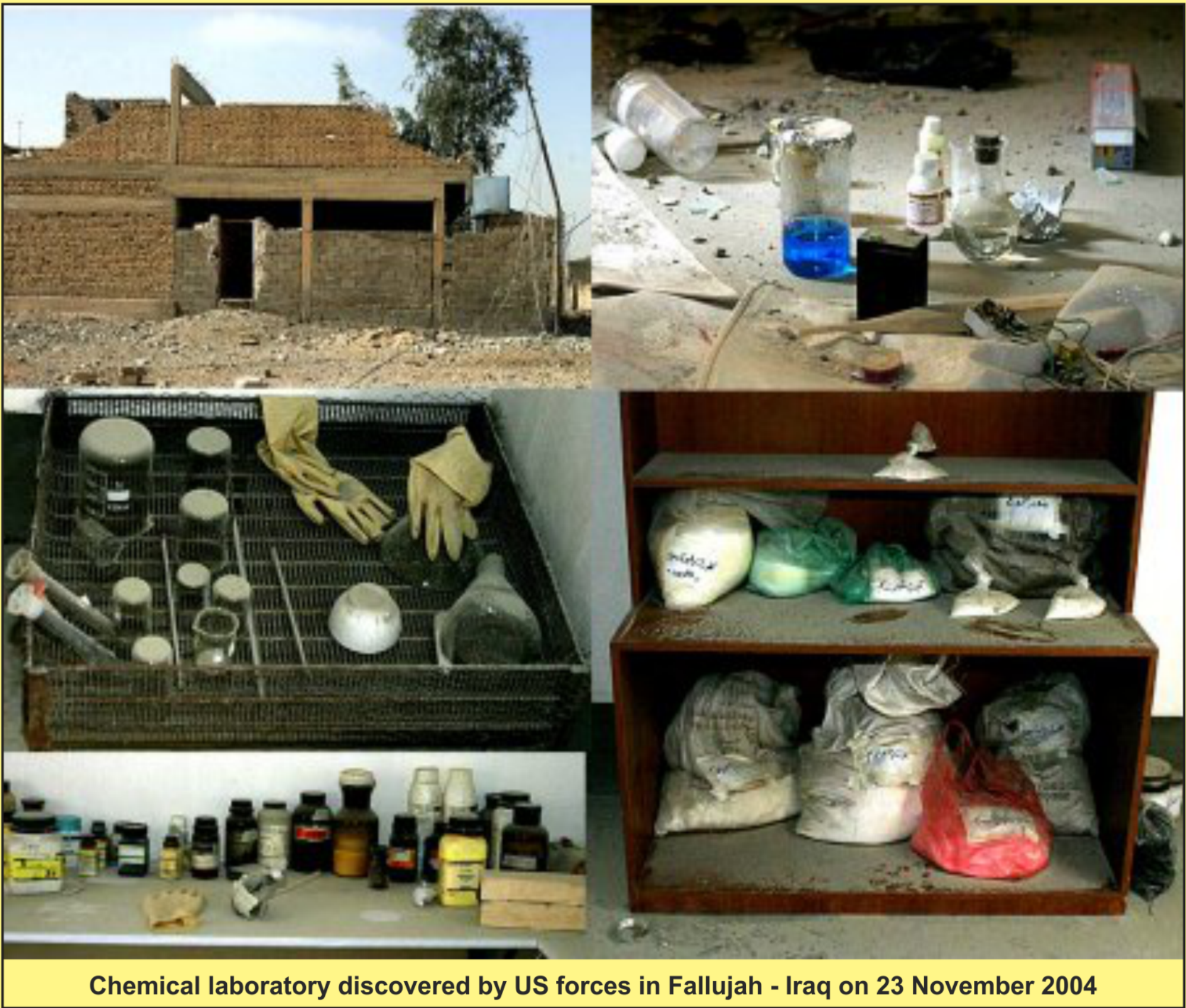
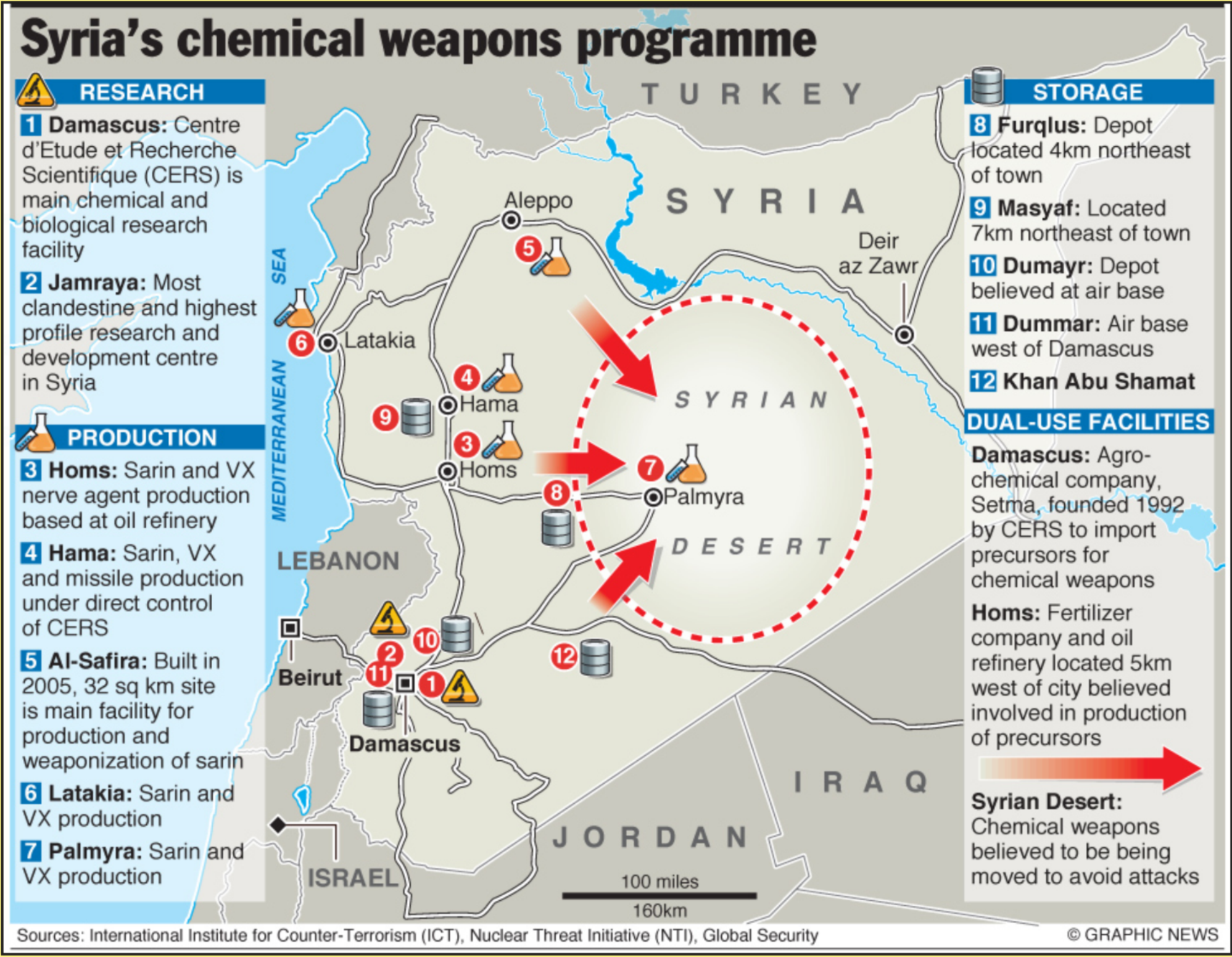
- Contamination of reservoirs and urban water supply systems.
- Contamination of food, beverages, drugs, or cosmetics in manufacturing or distribution processes.
- Contamination of food or beverages near the point of consumption.
- Miscellaneous product contaminations: stamps/envelopes, IV fluids, etc.
- Release of gases or aerosols into building HVAC systems.
- Release of gases or aerosols from aircraft.
- Dispersal in bombs or projectiles.
- Miscellaneous direct methods: hand sprayers, water guns, parcels.
- Release of industrial/agricultural chemicals via attacks on production or storage facilities.
- Release of industrial/agricultural chemicals via attacks on truck, rail, or barge shipping.
- Miscellaneous releases of industrial/agricultural chemicals, especially anhydrous ammonia, fumigants and pesticides, and disinfectant gases (e.g., chlorine, chlorine dioxide, ethylene oxide).



Attack of the activists Aum Shinrikyo cult with sarin nerve gas in Tokyo subway, 20 Mar 1995.

Summary of historical attacks using chemical or biological weapons						
Date	Location	Attacker	Agent	Affected pop	Casualties	Description
23 Jan 2015	between Mosul, Iraq, and Syrian border	Islamic State militants	chlorine	Kurdish soldiers	~30 injured	truck bomb with chlorine-filled tanks used against troops
Sep - Oct 2014	Duluiya and Balad, Iraq	Islamic State militants	chlorine, possibly mustard gas	Iraqi and Shiite soldiers	40 injured	bombs with chlorine-filled cylinders used against defending troops
27 Mar - 22 Apr 2014	Syria–Damascus, Kafr Zita in Hama, and Talmenes in Idlib	Syrian military suspected	chlorine, others	civilians	104 killed, 200 injured	chlorine bombs used on civilians in two towns
21 Aug 2013	Damascus suburbs, Syria	Syrian military	sarin nerve gas?	civilian urban areas	1,429 killed (including 426 children), 2,200 injured	rockets with chemical agents fired at about 12 areas in suburbs south and east of Damascus, targeting rebel-held areas
19 Mar - 13 Apr 2013	Syria–Damascus, Al-Otaybeh, Khan al-Assal, Adra, Aleppo, Sheikh Magsoud, and Saraqeb	Syrian military?	multiple chemical agents?	rebel soldiers and civilians	at least 44 killed, 76 injured	multiple attacks, mostly blamed on Syrian government; Syrian government accuses rebels of the attacks
Apr 2012 - Jun 2013	Afghanistan–Takhar province (9), Sar-e-Pul province (4), others	Islamist terrorists	pesticides?	schoolchildren	1,952 injured (including 1,924 children)	23 poison attacks on girls' schools, some cases of water poisoning
Mar 2012 - Apr 2013	Afghanistan	Islamist terrorists	rat poison?	police, other civilians	53 killed, 40 injured	9 attacks involving poisoning of food at police stations/academies
Apr - Aug 2010	Afghanistan–Kabul (6), Kunduz (4), others	Islamist terrorists	pesticides?	schoolchildren	672 injured (including 636 children)	20 gas attacks on girls' schools
Oct 2006 - Jun 2007	Iraq cities–Ramadi (6), Baghdad (3), Falluja (3), others	Islamist terrorists	chlorine	civilian targets	115 killed*, 854 injured (including 85 children)	15 car/truck bombings with chlorine tanks used; most fatalities were from the explosions, most injuries from the chemical releases
8 Oct 2006	Numaniyah, Iraq	Islamist terrorists	poison	policemen	7 killed, 700 injured	poisoning of food at meal on police base; unconfirmed
11 Nov 2002	Changde, PR China	criminal	poison	schoolchildren	193 injured (mostly children)	poisoning of food at high school
26 Oct 2002	Moscow, Russia	Russian soldiers	fentanyl incapacitating agent	terrorists and civilian hostages	124 killed, 501 injured	Chechen terrorists took 800 hostages at Moscow theater, 23 Oct; Russian forces used fentanyl when storming the theater and killing all the terrorists on 26 Oct, but many hostages were killed or injured by the gas
18 Sep - 9 Oct 2001	United States–Washington, DC, New York City, NY, others	Bruce Ivins?	anthrax	government and civilian media individuals; postal employees and customer	5 killed, 17 injured	anthrax-laced letters mailed to federal officials in Washington DC and new media offices in multiple locations; many casualties among postal workers
20 Mar 1995	Tokyo	Aum Shinrikyo cult	sarin nerve gas	Tokyo subway	12 killed, 5,511 injured	nerve gas releases in subway; many permanent injuries
28 Jun 1994	Matsumoto, Japan	Aum Shinrikyo cult	sarin nerve gas	civilians	7 killed, 270 injured	overnight release of nerve gas in city
21 Jan 1994	Ormancik, Turkey	terrorists	chemical agent	civilians	16 killed	attack on village using chemical grenades

Source: Wm. Robert Johnston , last updated 15 March 2015



Chemical laboratory discovered by US forces in Fallujah - Iraq on 23 November 2004

CONCLUSION

Modern threats and use of chemical agents against civilians have exposed vulnerability to enhance the countries capacity to detect and control terrorist acts. The world countries must be protected from an extensive range of critical chemical agents, including some that have been developed and stockpiled for military use. Even without threat of war, investment in national defense ensures preparedness and acts as a deterrent against hostile acts. Similarly, investment in the public health system provides the best civil defense against bioterrorism and chemical terrorism. Tools developed in response to terrorist threats serve a dual purpose. They help detect rare or unusual disease outbreaks and respond to health emergencies, including naturally occurring outbreaks or industrial injuries that might resemble terrorist events in their unpredictability and ability to cause mass casualties (e.g., a pandemic influenza outbreak or a large-scale chemical spill). Terrorism-preparedness activities includes the development of a public health communication infrastructure, a multilevel network of diagnostic laboratories and an integrated disease surveillance system, will improve our ability to investigate rapidly and control public health threats that emerge in the twenty first century.