

ADVERSE AGRICULTURAL CONSEQUENCES OF WEATHER MODIFICATION

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ABSTRACT

For at least fifteen years, with ever increasing frequency and extent, weather modification and/or climate alteration investigations have been conducted without public disclosure to perfect a covert methodology for inhibiting rainfall to deliberately damage a sovereign nation's agricultural economy. This research discloses methodology for inhibiting rainfall, the evidence of coal combustion fly ash utilization, the adverse consequences on agriculture, and the adverse health implications on biota, including humans. The harm to agriculture comes primarily from aluminum addition to soil, changing soil pH and changing historic weather patterns. Aluminum in a chemically mobile form, not only harms plants, but is toxic to most biota, including humans. The micron and submicron particulates are used for weather modification contain heavy metals and radioactive elements which pose potentially grave human health threats including, but not limited to, cardiovascular disease, diabetes, respiratory diseases and reduced male fertility. Understanding that methodology and its adverse consequences by the agricultural community is crucial to identify and stop covert operations aimed at damaging the agricultural economy of a sovereign nation.

Keywords: climate change; coal fly ash; inhibiting rainfall; weather modification; weather warfare

INTRODUCTION

To many, weather modification brings to mind cloud-seeding with silver iodide or dry ice (solid carbon dioxide) to induce rainfall for agricultural purposes. But weather modification finds application for military purposes and has been developed toward those ends.

The U.S. military's Operation Popeye (March 1967-July 1972) seeded clouds with lead iodide or silver iodide during the Vietnam War to prolong the monsoon season over the Ho Chi Minh Trail to impede movement of troops and supplies (Fleming, 2010). Reportedly, the U.S. also seeded clouds to rob them of their rain before they reached Cuba in order to damage the Cuban sugar harvest (NYTNS, 1974). Since that time considerable experimental activity has been undertaken by the military to control the weather so as to make it a practical weapon of war. In that regard, technological development has progressed well beyond rain-inducing cloud-seeding to include techniques to delay, inhibit, and retard the fall of rain. Used as a weapon of war, that methodology can lead to drought, crop failures, human and livestock suffering, and even to starvation. It is a development which can also be used covertly to bring about regime change or to force compliance, which in either case is at the expense of the citizenry, their physical and economic well-being, and the target nation's sovereignty.

The purpose of this brief communication is to disclose the methodology for inhibiting rainfall, the evidence, the adverse consequences on agriculture, and the adverse health implications on biota, including humans. Understanding by the agricultural community is crucial to identify and stop covert operations aimed at damaging agriculture.

The idea behind cloud seeding to produce precipitation is to aid the nucleation of rain, ice or snow. The idea behind inhibiting rainfall is to interfere with the nucleation process.

The scientific basis for suppressing rainfall was published by Twardy *et al.* (2003). Normal rainfall droplet creation involves water vapor condensing on particles in clouds. The droplets eventually coalesce together to form drops large enough to fall to Earth. However, as more and

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more pollution particles (aerosols) enter a rain cloud, the same amount of water becomes spread out. These smaller water droplets float with the air and are prevented from coalescing and growing large enough for a raindrop. Thus, the cloud yields less rainfall over the course of its lifetime compared to a clean (non-polluted) cloud of the same size.

The military solution to inhibit the fall of rain is to deliberately add an aerosolized pollutant to the region where clouds form to interfere with raindrop nucleation. The intentional addition of particulate pollution not only inhibits the fall of rain but also warms the atmosphere and limits loss of heat from the Earth. Consequently, the particulate pollution creates an artificial increase in air pressure, which can block the movement of an oncoming weather front thus further keeping the sprayed area from experiencing rainfall. The harm to citizens, plants and other biota comes not only from deliberately decreased rainfall, but from the extremely toxic substance widely utilized by the military to retard the fall of rain.

MATERIALS AND METHODS

Identification of Aerosolized Pollutants

Weather modification experiments aimed at suppressing the fall of rain go back at least to the late 1990s when concerned citizens began to notice particulate trails sprayed by jet aircraft. The military's response was to claim that the observed particulate trails were simply contrails from normal jet traffic (USAF, 2013). Contrails are ice crystals formed from the water in aircraft exhaust under certain conditions, namely, under unique circumstances of sufficient water in the exhaust, high humidity, and low temperatures. Contrail ice crystals evaporate (sublimate) to gas and become invisible, usually in minutes, occasionally under rare circumstances in a few hours. The particulate trails that numerous individuals witnessed do not behave at all like contrails.

Adverse Consequences of Aerosolized Coal Fly Ash

The adverse consequences of drought, whether natural or artificially induced, are well known and will not be elaborated here. The adverse consequences of aerial spraying of coal fly ash, however, warrants attention due to the devastating effects on agriculture and, indeed, on most living creatures. In addition to the heavy metals and radioactive elements contained in coal fly ash and released by water, the least recognized, and perhaps the most devastating, is aluminum released in a chemically mobile form.

Aluminum, one of the most abundant elements in the Earth's continental crust, is tightly bound to other elements, such as oxygen, and does not generally occur in a chemically mobile form in nature. Consequently, Earth's biota never developed immunity or means for coping with chemically mobile aluminum. In the 1970s, before regulations required scrubbers to prevent gaseous SO₂ and NO_x emissions from coal-fired utilities, those gases dissolved in atmospheric moisture to produce acid rain (Likens *et al.*, 1972). Certain otherwise inert geological materials, e.g. mine tailings, when exposed to acid rain released aluminum in a water soluble form that created an environmental danger to plants and to various organisms (Cape, 1993; Singh and Agrawal, 2008).

RESULTS AND DISCUSSION

Identification of Aerosolized Pollutants

After the particulate trail emerges from the aircraft, it first resembles a jet contrail, but then the trail spreads out, sometimes forming artificial clouds, briefly resembling natural cirrus clouds, but then continues to spread out to produce a white haze in the sky. Extensive aerial spraying can make a naturally cloudless sky artificially overcast, sometimes with a brownish hue (Figure 1 and Figure 2).

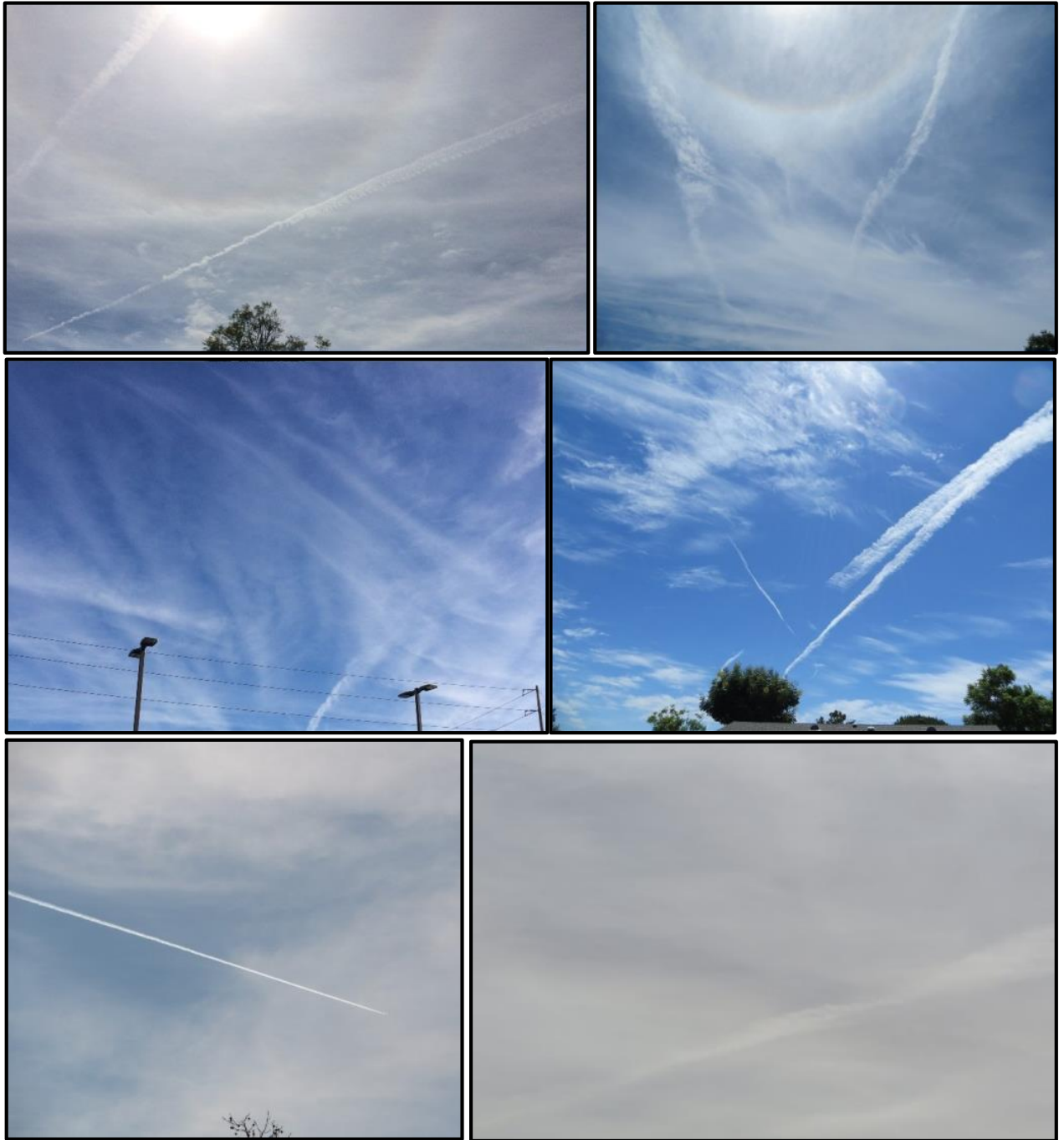


Figure 1. Particulate trails in the otherwise cloudless blue sky above San Diego (USA). The air above San Diego is too warm and dry for the formation of ice-crystal contrails. The abrupt cutoff of spray (middle right) and the white haze in the sky are wholly inconsistent with contrails, but are entirely consistent with deliberately sprayed fine particles. Note the brownish hue of the artificially overcast sky.

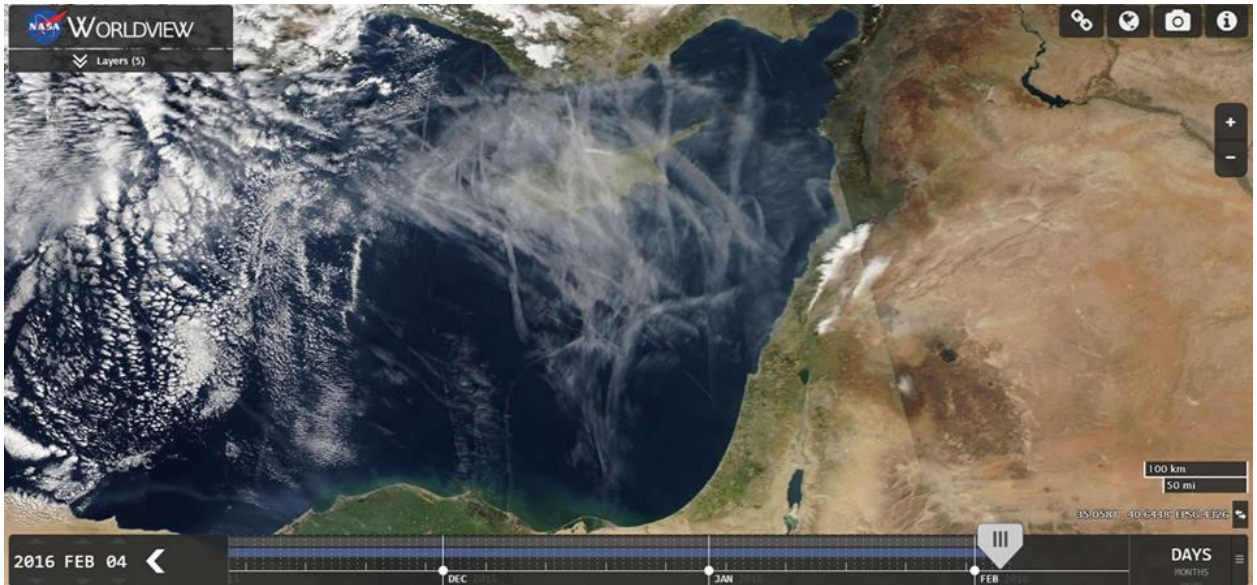


Figure 2. NASA Worldview satellite image from February 4, 2016 showing jet-laid trails blanketing the air above the Republic of Cyprus but nearly absent in surrounding regions.

Since the late 1990s, the occurrence of jets spraying particulate matter into the troposphere, where most weather occurs, has progressively increased in frequency and intensity. By 2014 such particulate spraying had become a daily occurrence in San Diego (USA) where I live and reportedly throughout most of the United States, Canada, Australia, European nations, New Zealand and perhaps elsewhere. But there was no information available as to what was being sprayed. For particles to remain suspended for some period of time before settling, the particles must be micron (μm) or submicron in size. This deliberate particulate pollution caused much concern because, as known from epidemiological studies, pollution particles with diameters $\leq 2.5 \mu\text{m}$ have been found to be associated with increased hospital admissions (Bell *et al.*, 2014), morbidity and premature mortality (Dai *et al.*, 2014; Dockery *et al.*, 1993; Pope *et al.*, 2009), risk for cardiovascular disease (Haberzetti *et al.*, 2012), lung inflammation and diabetes (Potera, 2014), low birth weight (Ebisu and Bell, 2012), and reduced male fertility (Pires *et al.*, 2011). So that is why this researcher decided to investigate.

Since early observations of aerosolized particulate trails, concerned citizens have collected samples of post-spraying rainwater for chemical analysis. But without institutional support, usually they requested analysis from

commercial laboratories for only one element, aluminum. Occasionally, they added barium and, rarely, also added strontium to the analytical request. Presumably, the rationale for these analytical requests was U.S. Patent 5,003,186 that disclosed spraying certain chemical substances into the stratosphere for solar radiation management. That rationale did not seem plausible. The military operates in secrecy, so a publically available methodology seemed unlikely; moreover, the observed spraying was being done in the troposphere (lower atmosphere), where weather occurs, not in the stratosphere (upper atmosphere). Furthermore, the substances mentioned in the patent are not readily extractable or solubilized by rainwater.

Aluminum, barium and strontium, as well as many other elements, are readily leached with water from coal fly ash (Moreno *et al.*, 2005; Suloway *et al.*, 1983). When electric utilities burn coal, the heavy ash settles, while the fine particles, called coal fly ash, which formally went up the smokestack, are now in many countries trapped and sequestered because of the toxins they contain. Coal fly ash occurs in micron and submicron sizes, just the range of sizes needed for aerial spraying, and those can be readily separated into finer size fractions using cyclone classifiers (separators). Coal fly ash is a major global industrial waste product and thus might

seem the ideal particulate substance for aerial spraying for weather modification purposes: ideal, except for the fact that coal fly ash is loaded with toxic substances that can readily be released with water or body moisture. But as known from the atomic testing program history, public health concerns are of little interest to the military (Fradkin, 2004; Gallagher, 1993).

Despite the frequency and prominence of the aerial spraying, this research could find no mention in the scientific literature regarding identification of the particulates involved, the public health consequences, or the effects on the environment. Then it also decided to investigate by comparing water-leach characteristics of the aerosolized particulates, as measured in post-

spraying rainwater, with the water-leachate of laboratory coal fly ash leach tests (Figure 3). It also compared 14 elements analyzed in dust collected on air filters run outdoors for three months with corresponding elements analyzed in samples of coal fly ash (Figure 4). Even though there are natural variations observed, the substance being sprayed into the troposphere has the same water-leach characteristics as coal fly ash. Furthermore, dust collected outdoors with high-efficiency air filters has essentially the same ranges of compositions as coal fly ash. This is strong evidence that the aerosolized particulate matter is indeed coal combustion fly ash (Herndon, 2016; Herndon, 2015).

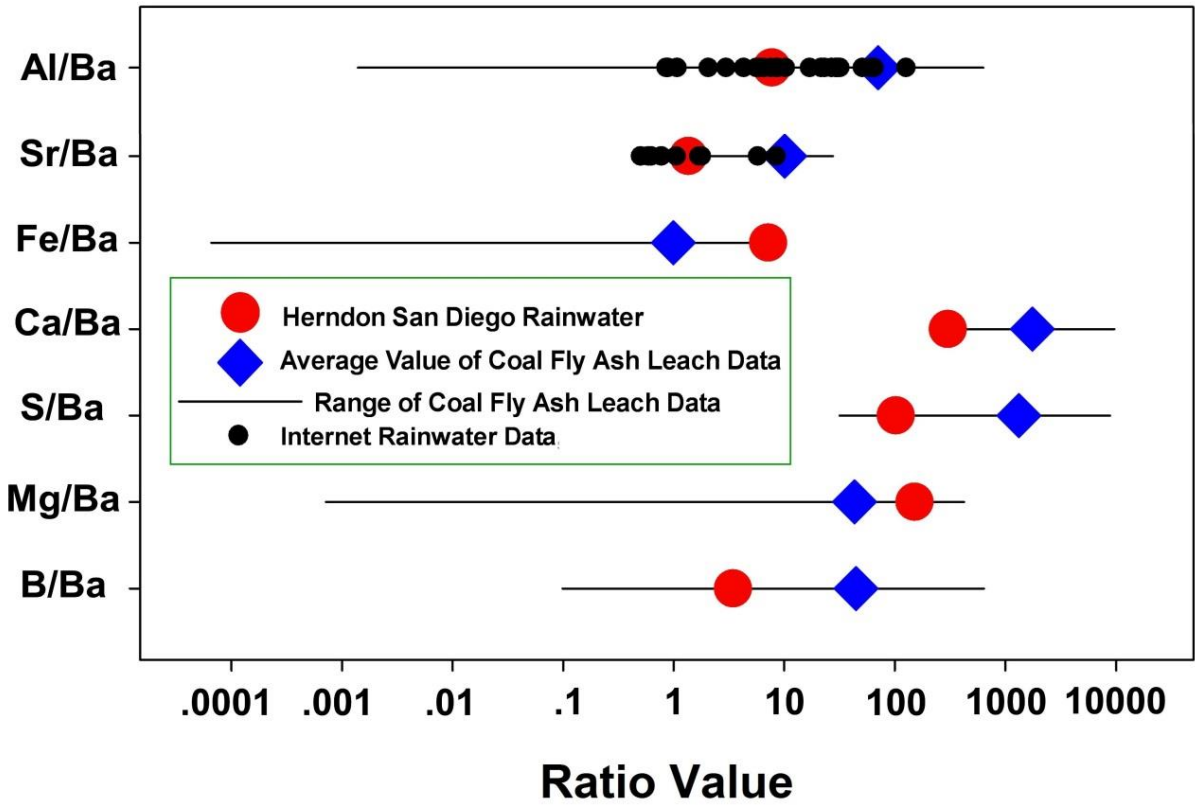


Figure 3. Elemental compositions measured in rainwater, normalized to barium, compared to the ranges and average values of comparable element ratios in the water-leachate of coal fly ash water leach laboratory experiments (Moreno *et al.*, 2005).

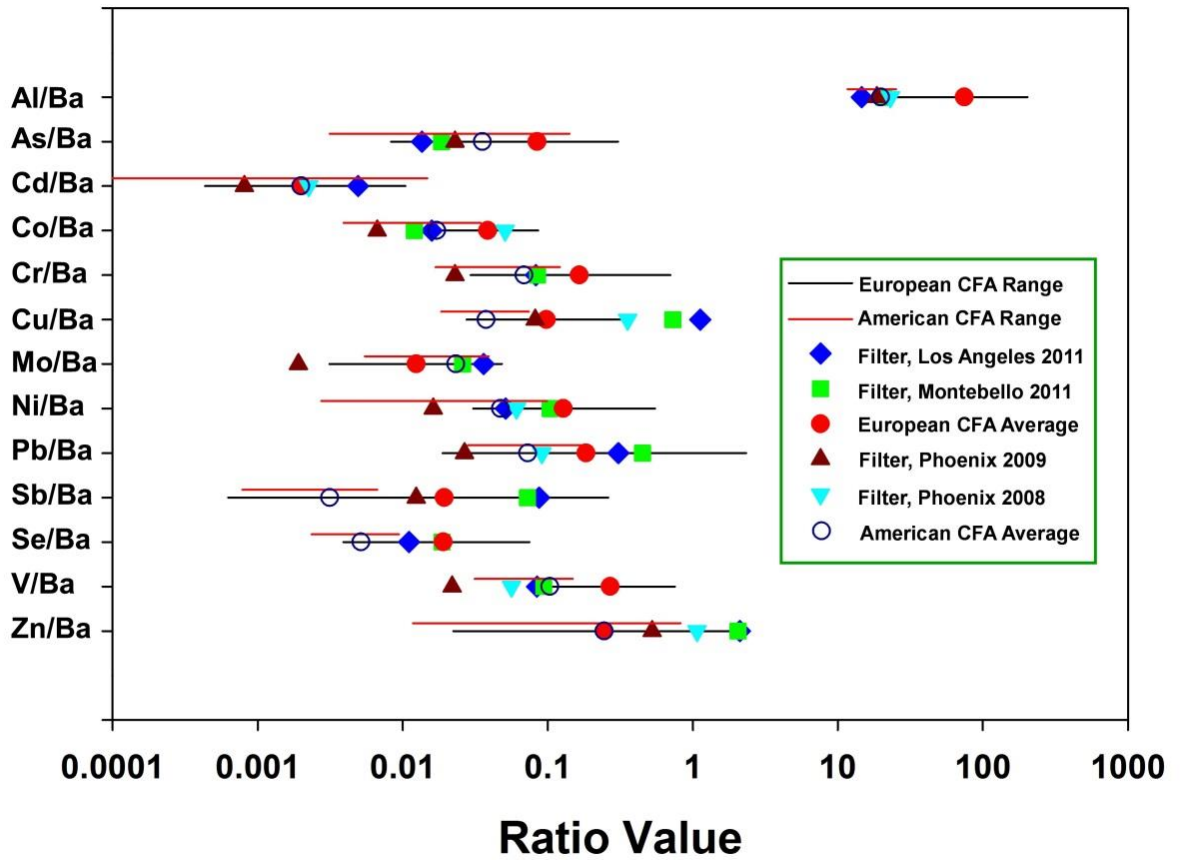


Figure 4. Elemental compositions measured and normalized to barium of dust, trapped with a high-efficiency air filter operated outdoors for three months, compared to the ranges and average values of comparable element ratios measured in coal fly ash (Moreno *et al.*, 2005; Suloway *et al.*, 1983).

Adverse Consequences of Aerosolized Coal Fly Ash

Apoplasmic residence is considered the primary mechanism for aluminum toxicity in plants. Aluminum is thought to bind to the cell wall preventing loosening as required for root elongation (Kopittke *et al.*, 2015). Plant debilitation may also be affected by changes in pH due to the coal fly ash. In leaching experiments made on 23 European coal fly ash samples, the pH of the leachate changed from 7.00 to a low of 6.40 and a high of 12.54 (Moreno *et al.*, 2005).

In addition to forest die-offs, the following were directly connected to aluminum toxicity: Reduced survival or impaired reproduction of aquatic invertebrates, amphibians and fish. Birds and mammals were identified as suffering indirect

effects (Sparling and Lowe, 1996). Without necessarily requiring an acid environment, tropospheric aerosolized coal fly ash poses a similar environmental health danger. Moreover, aluminum is associated with human neurological diseases, e.g. Alzheimer’s, Autism, Attention Deficit Disorder, and Parkinson’s (Bondy, 2014). Aluminum is also thought to reduce fertility in men (Klein *et al.*, 2014) and is implicated in neurological disorders of other species, such as bees (Kowall *et al.*, 1989; Exley *et al.*, 2015; Yellamma *et al.*, 2010).

Weather Modification Shrouded in Secrecy

For decades the United States Government has been engaged in spraying toxic coal fly ash into the air Americans breathe, and denying they

are doing so (USAF, 2013). Moreover, there is an aggressive CIA-like disinformation campaign to label concerned citizens as “conspiracy theorists,” a pejorative misnomer; websites purporting to “debunk” instead mislead and deceive; efforts to warn the American public of the health dangers of the daily tropospheric spraying are met with aggressive efforts aimed at suppression. Agencies of government, such as NASA, have even been co-opted to participate in the deception. Somehow, the U.S. Government, presumably through NATO, has managed to internationalize their covert system of aerosolizing toxic coal fly ash to change the weather. One must wonder what untruthful excuses were given, or what information was not revealed, to prompt supposedly humane institutions of government to become complicit in an activity that many consider to be crimes against humanity. But misrepresentation by these organizations is a matter of historical documentation (Cole, 1988; Fradkin, 2004; Blum, 2003).

CONCLUSION AND SUGGESTION

Conclusion

The development of a methodology for inhibiting rainfall by spraying pollution particulates into the troposphere has now progressed to an operational level (Figure 2). The potential use of that may constitute threats to the agriculture for any nation so targeted. There may be excuses given for the spraying, for example, to oppose anthropogenic global warming, but do not believe them. There is no legitimate reason for the tropospheric particulate spraying except to inhibit rainfall. Bear in mind that any nation that would intentionally damage another's agriculture production will not hesitate to lie.

Suggestion

The best way to combat that aerial malice of intentionally emplacing coal combustion fly ash into the troposphere for weather modification is to expose the operation to public scrutiny, in this instance by publicizing knowledge of the covert methodology developed to damage agriculture; that is the purpose of this brief communication.

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