

Mark Ritchie

TOXIC HAZARD PREVENTION IN AGRICULTURE

Strengthening FIFRA and Reforming Federal Farm Economic Policy

Toxic hazards associated with agriculture, including pesticides, herbicides, fertilizers and manure run-off from large-scale poultry and livestock confinement facilities, are perhaps the most widespread of all toxic hazards. Risks to human health occurs at numerous places in the food production chain, including:

Direct Exposure – At each stage of the production, transport, storage and application process there is significant danger. Pesticide exposure alone is responsible for poisoning 40,000 people alone in the U.S. each year, including 3,000 hospitalized and 200 deaths.

Poisoning of Water Supplies – Once applied to crops, toxic pollutants find their way to our nation’s rivers, lakes and underground water supplies. Already a significant portion of the wells and other water supplies in rural America are contaminated. At the same time, the drinking water of urban America is also becoming contaminated. For example, the stubbornly long-lasting herbicide Atrazine is now being found in the water supplies of major metropolitan centers.

Poison Residues On Our Food – The elevated levels of toxins carried by the foods we eat are also a serious threat. A recent National Academy of Sciences estimated that “pesticides contaminating the most common American foods may be responsible for as many as 20,000 cancer deaths a year,” over 100 times more than death caused each year by direct pesticide exposure.

Airborne Toxics – Even the air we breath is affected. For example, residents of Southern California are being threatened with both contaminated water supplies and deadly levels of the heavy metal selenium in the air they breathe. The source of this selenium poisoning is the agribusiness-dominated Central Valley where both water reservoirs and the soil have become contaminated with selenium and other toxic metals. Strong winds carry a portion of these toxic metals all the way down to Los Angeles.

Ozone Damage – The toxic hazards associated with agricultural production don’t just stop here on the Earth itself. The massive amounts of anhydrous ammonia fertilizer being spread over farmland is believed to be a significant factor in disrupting the ozone layer of our atmosphere.

REDUCING THE RISKS FROM AGRICULTURAL TOXIC HAZARDS

The threat to life from farm-related toxics is clear and present – hardly the subject of debate any longer. However, the methods and measures needed to reduce or eliminate these risks are being hotly contested. The central debate is over the emphasis that should be given to each of the two primary means we have to reduce the risk from these toxic hazards. On one side of the debate are the chemical manufacturers and some government officials who place an emphasis on the need for improved “control devices” to effectively trap and contain toxic chemicals before they “escape into the environment”. Challenging this priority, many farmers, environmentalists, and consumer groups contend that the emphasis must be placed on measures that effectively eliminate or significantly reduce the actual use of toxics in agriculture.

Clearly both measures are needed. Better “control devices” are a must, but they unfortunately cannot be considered a long-term solution. The elimination or reduction of the usage of toxic substances is the only way to reduce both the on-farm hazards and the dangers that accompany the manufacturing, storage, transport, application, and disposal of these toxics.

IMPROVED “CONTROL DEVICES” TO TRAP AND CONTAIN TOXICS

Both natural and “man-made” traps, filters, and other pollution control devices and procedures must be both encouraged and required whenever there is any risk of toxics entering the environment.

Natural traps and filters, such as wetlands, marches, and farm-ponds should be protected, and some of those which have already been drained or filled-in should be restored. These small bodies of water are able to capture and hold run-off long enough to allow some pollutants to break down or degrade before passing into groundwater or surface waterways.

In addition to natural methods of trapping or confining pollutants, there are a number of effective containment systems that need to be constructed and utilized. Iowa and Wisconsin have already passed tough laws requiring chemical and fertilizer dealers to build dykes and containment structures for product storage. Other states will soon be passing their own regulations, paving the way for federal action.

In addition to better containment, we must also support farming practices which can effectively reduce water run-offs. One example is the encouragement of cropping methods which boost the level of organic matter, (called “humus”). The richer the soil in humus, the slower the chemicals will flow downward into the water supplies. Another key natural method of pollution control is the terracing of hillsides which can sharply reduce water run-off and soil erosion, both crucial to controlling the spread of toxic hazards. Some of the reduced tillage practices can also help reduce run-off and erosions, however many farmers have been encouraged to use even more herbicides with some reduced tillage systems. No-till and reduced tillage systems which incorporate reduced herbicide and pesticide use must be developed and promoted.

Any and all measures that can contain or reduce the amount of toxics entering the environment should be encouraged through public education and economic incentives. Any disregard of standard environmental protection practices should be prohibited by law, with significant economic penalties. The liability for human or economic damage should rest squarely on those who allow toxics to leak into our environment, through faulty manufacture, storage, or transport methods. In addition, the costs of effective containment or trapping and the costs of cleaning up any spills or leakage must be factored into the cost of the toxic products.

REDUCING THE USE OF TOXICS IN AGRICULTURE

Although better control and containment is vital, the only real improvement in toxic hazard prevention will be achieved when we reduce the use of toxic products. There are three major areas where immediate progress can be made in this regard.

First, some toxics must simply be banned outright, as was DDT, and less toxic substitutes must be found for the most dangerous pesticides, herbicides, and fertilizers now in use. Current efforts to strengthen the Federal Insecticide, Fungicide and Rodenticide Act must receive highest priority in this effort. The FIFRA amendments sponsored by Congressman Oberstar (D. MN) incorporate many of the most important changes needed.

Second, a wide range of farming practices must be reduced to reduce the need for toxics. For example, a simple rotation of corn one year and then soybeans the next on the same field, instead of year after year of corn, can greatly reduce the need for some of the most dangerous insecticides.

Changing farm practices will require both expanded research into alternative methods of pest and weed control, and direct assistance to farmers to help them make the shift to lower levels of toxic usage. For many farmers, incorporating these new practices will require measures to ensure financial security during this transition phase and expert technical assistance to plan and carry out these changes in production techniques.

CHANGING FEDERAL FARM POLICY

Third, and by far the most important, we must change current federal farm policies which are dramatically increasing the use of toxic chemicals and the dangerous impact of these toxics on our society.

The sharp lowering of on-farm prices has forced farmers to dramatically increase their use of chemicals in hopes of boosting production enough to make up in volume what they're losing in ever lower prices. And for the farmers who can't increase yields enough to survive, their farms are being taken over or repossessed by corporations, insurance companies, or speculators who are turning these family farms into environmental disasters.

HOW DO THE CURRENT FEDERAL FARM POLICIES WORK

One vivid example of how current farm policies are creating more toxic hazards is the system of target prices and deficiency payment subsidies used for most of our major crops, including corn, wheat, cotton, rice, barley, oats, and sorghum.

Congress sets a "floor price" for most crops at roughly 50% - 60% of the farmer's cost of production. At the same time, they set a "target price" at roughly 70% - 80% of the cost of production. The difference between the "target price" and the "floor price" is made up by a direct subsidy called a "deficiency payment," paid to the farmer for each bushel produced. For example, corn that costs the average Minnesota farmer between \$3.00 and \$3.25 per bushel to grow has a floor price between \$1.60 and \$1.80, depending on the location. The target price for corn is roughly \$2.80 to \$2.90, resulting in an average subsidy payment of around \$1.20 and a loss to the average farmer of 20 cents to 40 cents per bushel.

Only the farmers who can absolutely maximize their yields through intensive chemical use can

hope to survive this system

This policy makes it possible for corporate cattle feeders to “out-compete” by allowing them to buy corn for feed for only a \$1.60 that costs a diversified family cattle producer over \$3.00.

Family livestock producers are being wiped out by the thousands by this unfair competition, with tremendous environmental impact on the hillsides that were once covered with grazing cattle.

Without cows, these hillsides must often be plowed and planted to corn or soybeans for the owners to receive some economic return. Without grass cover on these hillsides they quickly erode. Enormous amounts of both irreplaceable topsoil and chemically contaminated water run off these hillsides and into our streams, rivers, and lakes.

VICIOUS CIRCLE

For both the farmers and the environment, increasing chemical use is a downward spiral. As increasing amounts of chemical fertilizers are applied to boost yields, the organic matter in the soil becomes dramatically reduced. Without living matter, the soil becomes even more prone to erosion. Heavy erosion changes the actual properties of the soil, cutting fertility by washing away the nutrients and exposing subsoil that is less fertile, further increasing the need for artificial fertilizers. The loss of the organic matter also means that the crops are more likely to be damaged by herbicides, since organic matter often absorbs or inactivates excess herbicides.

At the same time, the heavy application of herbicides has bred resistance into more and more pests, requiring stronger, more poisonous and even more expensive chemical doses to achieve less and less control. As a result, the economic productivity of agricultural chemicals (the crops produced per unit of chemical used) has fallen in half since the early 1960’s, and is continuing to fall.

The end result is that toxics now being applied will be needed in ever higher dosages, and the soil will become less and less able to protect the water beneath it from leaching and run-off.

Not only have these federal farm policies led to more chemical-intensive methods of production, the overall economic crisis they have created are having other dangerous environmental effects. For example, most farmers have not been able to earn enough from their crops to maintain other necessary soil and water conservation practices, like windbreaks and safe manure disposal. Nor are they likely to have kept their chemical application machinery as finely-tuned as required to minimize chemical drift and mis-application.

LIQUIDATION OF FAMILY FARMERS

For many farmers, their hopes of maximizing production in order to survive has failed. The increases in production achieved by all the farmers have simply flooded an already glutted market, pushing farm prices down ever further. In addition, the skyrocketing costs of the fertilizers and chemicals applied – not including the long-term social, health and environmental

costs – have meant that farmers have had to borrow even more money to put in their crops, making them even more vulnerable to foreclosure or bankruptcy.

In fact, one-third of America's small and medium-sized family farms will be wiped out between 1981 and 1988. Many of these farms have already been taken over by insurance companies, speculators, corporations, or wealthy landowners. This massive liquidation has been devastating for the displaced families, the rural communities who depend on these farms, and for the environment. In one infamous case, John Hancock Insurance foreclosed on a medium sized organic-method farm in Southeast Minnesota, a farm with one of the most sophisticated soil and water conservation programs of any farm in the entire state. The first day after repossession, in front of a delegation of local clergy and a video film crew, John Hancock's bulldozers ripped up hand-crafted hillside terraces that had effectively prevented soil erosion and water run-off from this hilly terrain. They planted corn and soybeans on those fragile hillsides, demanding large doses of both fertilizer and chemicals.

TOWARDS A FEDERAL FARM POLICY TO DE-INTENSIFY FARMING PRACTICES

U.S. farm policy must be changed to allow efficient family farmers to de-intensify their farming practices while earning enough money to pay their bills, to maintain proper soil and water protection measures, with enough left over to earn a decent family income.

THREE POLICY CHANGES ARE NEEDED TO ACCOMPLISH THESE GOALS

At the federal policy level, three major changes are needed to de-intensify U.S. agricultural production techniques. First, family farmers must receive a fair price for the crops and livestock in the market, not from expensive and insecure subsidies to ensure that they can hold onto their land. Second, all fragile land currently being cropped must be taken out of production and placed into a long-term reserve to make sure it will still be productive in future generations.

Third, we must have effective supply management programs for all major commodities in order to eliminate the pressure on farmers to maximize their per acre yields. For example, an effective supply management program would limit the total amount each farmer could market, thereby reducing or eliminating all incentives to further intensify production. The existence of decades of production records on most farms gives us an effective guide for determining historically established environmental safe levels of production, which can then be reduced equally.

There have been a few federal farm programs in recent years that have included relatively weak voluntary supply management provisions. However, most of these programs have attempted to reduce production by forcing farmers to plant fewer acres. In most instances, the least productive land was "set aside," while there was an increase in the amount of fertilizer and chemicals applied to the rest of the land. The end results were fairly predictable, with nearly the same or even higher total yields thanks to intensive agri-chemical applications. The end result is that even more toxics are being manufactured, transported, stored, handled, sprayed, and ultimately cleaned-up after. The solution to this problem is ultimately to simply reduce the

amount of production per farm that is needed to fulfill market demands. With a supply system, management farmers will be able to till all or part of their land with the most cost effective and least chemical-intensive methods possible.

RURAL CITIZENS LEADING THE WAY

On the frontlines of the fight to change both toxic hazard and farming economic policies are the rural citizens, both farmers and small town residents.

In the Des Moines Register poll of Iowa farm households in September 1986, 54% identified farm chemicals as the leading threat to water quality, and more than half favored placing limits on farm chemical use. The most intense concern appeared to be among those who live in small towns where 64% identified farm chemicals as the chief hazard, and 84% wanted limits on farm chemicals.

Probably the most comprehensive statement by farmers themselves came out the historic United Farmers and Ranchers Congress held in St. Luis in the early fall of 1986. Roughly 20,000 farmers, ranchers and rural residents met together in local caucuses in nearly 40 states selecting delegates and passing resolutions for consideration at this National Congress. The following resolutions on toxic hazards were part of the "Conservation and Protection of the Environment" platform hammered out and adopted by the Congress.

WHEREAS, Low farm prices set by federal farm legislation have forced many producers to attempt to maximize yields in order to maintain adequate cashflow to pay their bills;

WHEREAS, This system of deficiency payment subsidies has been based on the number of bushels produced, thereby encouraging producers to maximize yields to receive the largest subsidy possible;

WHEREAS, This intensification of production has included the plowing and planting of unsuitable land, including wetlands, fragile prairies and other highly erodible land causing severe soil erosion problems;

WHEREAS, This intensification of production has included the overuse of fertilizers and chemicals, often resulting in contamination of our water;

BE IT RESOLVED, That set-aside acres once designated cannot be used as such again until all other cropable acres of that farm have been set aside, without the permission of the county committee;

BE IT FURTHER RESOLVED, Farm commodity programs which force farmers to intensify their production, including the setting of low prices and payment of subsidies based on quantity produced, must be abolished;

WHEREAS, Increased pollution of water and soil from pesticides, herbicides, and fertilizers poses a threat to society;

BE IT RESOLVED, That stricter standards for testing and licensing of all these products be established and all entities, including government agencies, be required to meet the same standards and be accountable for the testing and licensing of these products;

WHEREAS, Disposal of toxic and hazardous materials is damaging human health and the environment;

BE IT RESOLVED. That all waste shall be disposed of responsibly, or not produced at all;

WHEREAS. Many traditional pesticides, herbicides and fertilizers are proving to have damaging environmental and health effects;

*WHEREAS, Farmers seek alternatives to these products;

BE IT REOLVED, That increased research and education be undertaken in USDA, Land Grant colleges, and other educational facilities in biological farming, appropriate small farm technology, traditional and non-chemical practices;

WHEREAS, Any repository for nuclear or other waste could place farmland and water resources in jeopardy;

BE IT RESOLVED, No repository can be located in any area where aquifers or surface water supplies or productive farmland can be contaminated. A safe aboveground site shall be determined;

WHEREAS. Below cost of production feedgrain prices have resulted in the elimination of many family beef and dairy operations and the replacement of their grazing cattle with crop production of corn, soybeans, or wheat;

WHEREAS, These crops are often environmentally inappropriate for the hillsides and prairie where cattle once grazed, resulting in immediate and significant soil erosion and water contamination problems;

BE IT RESOLVED, Cheap grain policies must be eliminated, and policies to encourage the re-introduction of cattle in place of crops where environmentally appropriate must be implemented;

CHANGING FEDERAL FARM ECONOMIC POLICY

The most comprehensive legislative proposal which incorporates the farm policy changes needed to begin de-intensifying agriculture is the Family Farm Act, authored by Senator Tom Harkin and Congressman Richard Gephardt, and co-sponsored by over 50 urban and rural congressional representatives, The Family Farm Act is designed specifically to reduce the intensity of farm production by instituting supply management on the basis of quantity reductions – not acreage reductions. Each farmer would receive an allocation or quota. They can decide to produce this quantity in the best way possible, which could include both using

less fertilizer or chemicals, and the placement of fragile or marginal lands in a long-term set-aside. The Family Farm Act also includes special provisions for farmers to develop individually designed conservation plans with the local Soil Conservation Service in order to maximize environmental protection and to minimize toxic hazards.

In addition to the supply management provisions, The Family Farm Act ensures that farmers would receive a fair price for the commodities they produce.

These two factors, supply management and fair prices, are the basic building blocks needed to change agricultural production techniques in order to reduce and ultimately eliminate the creation of toxic hazards in agriculture.

Passing this kind of farm policy reform in Congress will be difficult, but not impossible if the organizations fighting to prevent toxic hazards and those fighting to save rural America can join together to form a powerful new coalition.

Unfortunately, some farm commodity organizations have opposed toxic hazard prevention legislation. At the same time, many traditional environmental groups have ignored or even opposed the policy reform efforts of family farmers. For example, some of these groups have long been strong supporters of the current target/deficiency payment subsidy system, seeing the subsidy payments as a “club to hold over farmers” in the words of one of their Washington, D.C. lobbyists. This desire to control or punish farmers has blinded many from seeing the real problems – and real solutions.

CHALLENGES AHEAD

It is absolutely crucial for the toxic hazards prevention movement and the family farm movement to join forces in this critical work. This is even more important as we look into the near future. The rapidly growing bio-technological revolution threatens to add new toxic hazards – including genetically-altered microbes, artificial growth hormones, and new plants bred to be even more tolerant of ever stronger toxic pesticides.

If effective supply management and fair prices can be won, then the economic forces that are driving genetically-engineered production expansion will be greatly reduced. Perhaps the research dollars now devoted to creating more surpluses could be better utilized to clean-up the poisons already released, or to develop less chemical and energy intensive methods of production in order to reduce and eventually eliminate the actual use of toxics.

Perhaps some of the scientists now devoted to expanding production could re-focus on finding new uses for our agricultural abundance, especially new uses that could replace non-renewable and high polluting raw materials like petroleum and coal. Carbohydrate-based raw materials, produced by our farmers, can provide a more renewable and less polluting basis for our industrial economy. For example, using ethanol as an octane-enhancer in gasoline to replace toxic lead additives is one possibility. This will become even more important as we

enter the 21st century where our whole economy will be based on biology. Raw materials for this new economy will be largely produced by agriculture. Perhaps the most important environmental question of the next few decades will be whether these raw materials will be produced by agribusiness corporation using ever more toxic methods, or whether they will be grown by family farmers under a system of sustainable, non-toxic agricultural production based on fair prices and effective supply management.

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