



What is Your Weed Management Plan?

// What is a weed management plan (WMP)?

A WMP is a strategy to control weeds based on Integrated Pest Management (IPM) techniques, which can include economic weed thresholds, weed identification and populations, mapping, biological controls, crop rotation, tillage, in-crop cultivation, cover crops, herbicide applications, timing of those applications (fall, spring, PRE, POST), and location of the field to be treated in regard to neighboring fields, homes, schools, etc.

// Why is it important to have a WMP?

With a WMP in hand, farmers can be mindful of budgetary constraints and be proactive in their approach to controlling weeds.

// What is a weed?

An undesired plant that can outgrow and choke out desired field crop plants or a plant that is out of place that can have detrimental effects on crop yield or quality such as volunteer corn in a soybean field.

// Why is weed control important?

Weeds 1) compete with crops for the building blocks of yield - water, nutrients, and light, 2) produce seeds that can germinate the following year or years, 3) can inhibit or slow down harvest, 4) can reduce grain quality when weed seeds contaminate the grain, 5) can be a host for crop diseases (Johnsongrass and Maize Dwarf Mosaic Virus), 6) can be a host for insects that can be detrimental to crops (chickweed and black cutworm), 7) produce pollen that can cause hay fever (ragweed), 8) can be poisonous to humans and/or livestock (black nightshade).

// What is a starting point for developing a WMP?

Knowledge of historical and current weed populations can provide a basis for developing a WMP. Historical weed growth is important because the seeds of many weeds can be viable for many years in the soil without germinating until conditions are favorable. Perennial weeds can grow year after year. Current weed growth, population, and size is important to solidify a control strategy.

// What is the difference between an inventory of weeds, a weed survey, a weed map, and weed monitoring?

A weed inventory is a record of the weeds in an entire management area. A survey is a record of the weeds in a representative portion of the management area. Weed mapping is a recording of the location of the weeds within the management area or the portion surveyed. Monitoring is the repeated evaluation of identified weed populations.

// What information should be collected during monitoring?

Weed identification, density, height, biomass, canopy cover of weeds, and pictures.

// Why is weed identification important?

The type of control can be greatly influenced by the biological characteristics of the weeds growing or expected to grow. Perennials with rhizomes or deep tap roots require a different method of control than annuals germinating from seed. Weed growth rate can dictate how quickly controls need to be applied or utilized. Knowledge of species with herbicide resistance is important for helping to determine a successful weed management control program. Waxy coatings that naturally occur on the leaves of some weed species can reduce or prevent the absorption of herbicides.

// Why is it important to include neighboring homes, schools, etc. in the WMP?

Herbicide applicators must be aware of field surroundings because herbicide misapplications (drift or direct) can be potentially detrimental to humans, livestock, pets, and sensitive plants.

// What are biological controls?

Biological agents, a complex of agents, or biological processes that provide weed control or suppression. Examples can include insects, mites, fungi, bacteria, viruses, nematodes, birds, and animals. Biological controls may be an alternative where cultural, chemical, and mechanical controls are not viable options such as pastures, rangelands, and waterways.

What is Your Weed Management Plan?

// Should there be multiple WMPs for each field?

Weather or other situations may prevent the use of the first WMP for weed control within an acceptable time frame; therefore, one or more alternative WMPs should be determined in advance.

// What should the basic weed controls be in a WMP plan?

Considerations should be given to a fall weed control program (herbicides, cover crops, tillage), starting clean in the spring (residual herbicides or tillage), and in-crop weed management (timely applied residual and/or foliar systemic or contact herbicides). All herbicide labels should be read and followed regarding potential grazing of cover crops or restrictions regarding future crops.

// Should multiple sites of action (SOA) be included in the WMP?

Yes. The use of different SOA herbicides can help reduce the potential for the development of herbicide resistance. Different herbicides may be combined during one application or used separately at different times, such as one applied as a PRE and another applied POST.

// Can a WMP contain a combination of strategies?

Yes. Cultural (tillage) strategies may be the first practice utilized in the spring to kill winter annuals and early germinating weeds. The implemented second strategy may be a Preplant incorporated or Preemergence surface-applied residual herbicide followed by a timely in-crop application.

// Why is weed height important?

Weeds less than 4 inches in height tend to be more susceptible to herbicides and easier for tillage operations to remove. Large leaves can prevent contact herbicides from covering the plant's growing points, which need to be covered to optimize control. Tillage operations may cut portions of large plants off but fail to remove the root mass, which can then support regrowth.

// Should herbicide application rates be on the low or high side of labeled rates?

Herbicide applications should be based on the recommendations provided on the herbicide label. The potential for herbicide resistance to develop increases when weeds are not completely killed when lower application rates are used. Using rates higher than labeled recommendations has the potential to a) cause crop injury, b) influence replant or succeeding crop options, and c) increase environmental concerns.

// Is there a global positioning program available to help record and map weed populations?

During harvest, combine operators can use the Climate FieldView™ platform to "pin" the location of weeds within a field. Notes can be made to help identify the different weeds to help develop control measures. An alternative method is the pocket notebook, which can be used to record weed identities, populations, and locations.

// How can a WMP be of benefit during the growing season?

Having a WMP in place prior to the growing season can save valuable labor and time searching for available controls during the growing season for known weed infestations. The plan can be quickly put in play by the farmer or presented to a retail applicator for activation. Pre-researched precautions regarding surrounding fields, schools, subdivisions, sensitive plants, etc. can be quickly refreshed to help avoid the potential for misapplication.

Sources:

Weed management strategies & Systems. Weed Management. Agronomy 317: Intro to Weeds. Iowa State University. <http://agron-www.agron.iastate.edu/~weeds/Ag317/manage/system.html>

Mangold, J. 2009. Developing an effective weed management plan: The importance of mapping. Montana State University. <https://www.montana.edu/>

WSSA position statement on biological control of weeds. Biological Control. Weed Society of America. <http://wssa.net/>

Web sources verified 9/24/19.

Legal Statements

ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. Performance may vary, from location to location and from year to year, as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible and should consider the impacts of these conditions on the grower's fields. Climate FieldView™ services provide estimates or recommendations based on models. These do not guarantee results. Consult your agronomist, commodities broker and other service professionals before making financial, risk management, and farming decisions. More information at <http://www.climate.com/disclaimers>. FieldView™ is a trademark of The Climate Corporation. ©2019 Bayer Group. All rights reserved. 1016_Q1

