

Agriculture Development Group, Inc.

Agricultural Research and Consulting



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Agriculture Development Group, Inc. (ADG) was founded in 1998 to conduct independent research and provide consulting services to the agriculture industry. The research farm is located 15 miles north of Pasco on 115 acres of highly productive farmland in the Columbia Basin of Washington State. With sandy loam soils and a hot dry climate, this area provides ideal growing conditions for over 100 different crops.

WHAT ADG CAN DO FOR YOU

Grower Education. We have a long list of influential growers that have expressed interest in trying new products. If you have a product that you want “center of influence” growers to experience, we can make this happen. Each year, we operate a number of split or paired field comparisons for various products.

Research: ADG has conducted research trials on nearly every major and minor crop grown in Washington. About 70% of ADG research trials in 2012 focused on pest management of insects, nematodes, weeds, or diseases, 20% of research trials were focused on fertility research, and 10% of trials involved varietal evaluations. Research can be conducted using center pivot, drip, rill, or solid set irrigation.

Consulting. Dr. Schreiber has extensive experience in state and federal pesticide registration, including Section 18 emergency exemptions, Section 3 and Section 24c registrations. Each year ADG handles multiple Section 24c and Section 18 registrations, and collaborates extensively with the USDA’s IR-4 Project. Dr. Schreiber is a member of the IR-4 Commodity Liaison Committee, and ADG works with most of the commodity groups in

Washington and many of Idaho and Oregon’s agricultural associations.

ADG has nineteen acres of organic land, certified with the Washington State Department of Agriculture and has developed the largest private organic research program in the Pacific Northwest

Facilities and equipment:

- Pesticide application methods include airblast, seed treatments, in-furrow treatments, boom sprayer, backpack sprayer, and chemigation.
- In 2013, we will carry out RCBD, replicated aerial and chemigation efficacy trials
- Temperature controlled chambers for post-harvest studies.
- Insect cages for indoor and field use.
- Potter spray tower for laboratory assays.
- Year-round greenhouse space.
- Multi-crop trial site: apple, pear, peach, raspberry, cherry, grape, hazelnut, in a replicated design, for phytotoxicity or yield studies.
- Commercial scale potato sorting line to conduct yield and grade analyses.
- 28 varieties of grapes replicated 5 times; perfect for phytotoxicity studies.

CROPS

ADG is capable of conducting research on virtually any crop grown in the Northwest; if we cannot grow a crop, offsite locations for more than 200 crops are within a 100 mile radius.

Crops grown on-farm include:

Vegetables: Asparagus, Beet, Carrot, Dry Bean, Green Bean, Eggplant, Sweet Corn, Lettuce,

Onion, Leek, Peas, Bell Pepper, Hot Pepper, Potato, Pumpkin, Squash, Sugar Beet, Tomato.

Fruit: Apple, Blackberry, Blueberry, Cherry, Grape (Juice and Wine), Melon, Peach, Raspberry, Strawberry.

Other crops: Alfalfa, Barley, Field Corn, Sweet Corn, Hops, Lavender, Mint, Oats, Popcorn, Wheat.

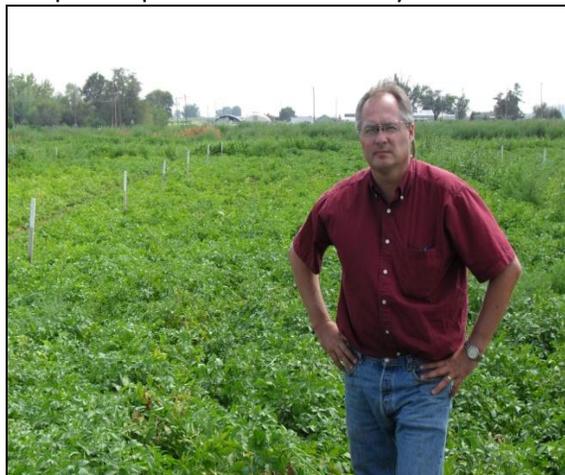
RESEARCH EXPERTISE

Insects: ADG has conducted studies on green peach aphid, European asparagus aphid, European red mite, asparagus beetle, beet leafhopper, grape leafhopper, cabbage looper, diamondback moth, codling moth, Colorado potato beetle, corn earworm, peach twig borer, potato tuber worm, potato psyllid, onion thrips, rosy apple aphid, San Jose Scale, seed corn maggot, western flower thrips, two-spotted spider mite, woolly apple aphid, wireworm and symphylans, and others. ADG also can monitor for beneficial organisms including ladybugs, big-eyed bugs, spiders, parasitic wasps, and lacewings.

Weed Control: ADG has conducted studies with most of the pre-emergence and post-emergence herbicides used in the Columbia Basin, as well as with cultural controls and herbicides approved for organic production. We have access to a wide array of weed species.

Diseases and Nematodes: The farm has two acres with developed infestations of *Sclerotinia*, which enables us to conduct studies on white mold of potatoes, alfalfa, canola, peas and beans. Potato diseases studied include early blight, *Rhizoctonia* and *Verticillium*. ADG has also conducted studies on corn smut, hop downy mildew, grape, apple, cherry, and peach

powdery mildew, grape bunch rot and other diseases. We can inoculate plants or infest soil to ensure sufficient incidence and severity of fungal diseases such as onion botrytis. ADG has conducted studies on the nematodes *Meloidogyne hapla*, *M. chitwoodi*, and *Pratylenchus penetrans* on resident populations at the research station. Specific areas of the farm have been identified where these nematodes are widespread which ensures that the pest is present when efficacy tests are run.



Alan Schreiber, PhD, President, has more than twenty five years expertise in entomology, pesticide toxicology, pesticide resistance, pesticide registration and consulting. Dr. Schreiber has extensive contacts with agrichemical companies and agricultural commodity groups. He has significant experience and expertise in obtaining Section 18 and 24c registrations.

Trials that Agriculture Development Group, Inc. has existing plans to be conducting in 2013:

1. Potato aphid efficacy trials applied by air and chemigation

2. Potato psyllid trials at plant, chemigation, foliar in field, by life stages
3. Potato Colorado potato beetle
4. Potato white mold (inoculated)
5. Potato mites
6. Potato herbicides
7. Spotted wing drosophila on blueberry and blackberries
8. Grape leafhopper on grape
9. Botrytis on grapes (inoculated)
10. Powdery mildew on grapes, apples, peaches, cherries
11. Black cherry aphid on cherry
12. Woolly apple aphids on apples
13. Asparagus aphids and weeds
14. Blueberry herbicide
15. Sweet corn corn earworm
16. Onion thrips and botrytis
17. Fertility trials on several crops
18. Raspberry, blackberry and/or strawberry herbicide
19. Potter spray tower efficacy studies.
20. Organic products testing



All projects are conducted under confidentiality agreements as requested by clients.