

REDUCED TILLAGE

Ronald Wagner
Wagner Farms
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Ronald Wagner started farming while in ninth grade as part of an FFA degree project. He started growing produce on a ½ acre of Rome Muck land and continued expanding up to 2 acres during high school. Ron graduated from Vernon-Verona-Sherrill Central Schools in 1997 with a major in Agriculture and a certificate in Heavy Equipment Operation from BOCES. In 1998 Ron filed a Dba with Oneida County, WAGNER ENTERPRISE was born. Ron continued to expand until he purchased his current farm land in 2000. Throughout the years he built the current greenhouses and produce stand along with improving the infrastructure; examples: drainage tile, ditches, ponds, swales, and field roads. He continued to expand until 2006. While operating 75 acres of produce including 21 acres of sweet corn and 15 acres of vine crops, he lost 1/3 of his acreage due to three floods and prevented planting. Despite the problems in 2006 he had one of the best years farming due to higher than usual wholesale prices but unfortunately it wasn't good enough and in 2007 filed for chapter 7 bankruptcy. He was able to save the farm and equipment. After going to work for the NYS Canal system Ron down sized to about 30 acres and operated the farm with a new name of WAGNER FARMS and had a profit for the first time in about 8 years. Ron now works full time for NYS Dept. of Corrections as an Assistant Engineer and is also Rome's largest operating produce grower with about 35 acres of crops. Wagner Farms is a well known name in Rome and Oneida County. They currently operate a Farm Stand, Pick your own Raspberries and participate in three local farmers markets including Rome, Hamilton, and Ace Hardware Market in Rome. Wagner farms has the largest set up at these three markets with a 20 x 30 tent 18 6' tables and up to 8 bins of bulk produce on display, a 26' cab over box truck with lift gate and pallet jack, Ron is always looking for new product lines and interesting ways to expand. Annual sales of over \$150,000 gross have enabled Ron to expand and enjoy farming, specializing in crops of sweet corn, potatoes, peppers, broccoli, cabbage and cauliflower.

Over the years Ron has worked the ground with every type of equipment possible. Conventional moldboard plows and disk were replaced with moldboard plows and a Perfecta II field cultivator, then he replaced the moldboards with chisel plows and Perfecta II on 50% of the land mostly on low residue ground. He has also used sub-soilers, tillers and disk types of tilling methods. This past year in 2010 Ron was able to use a Zone builder for the first time.

In 2010 Ron used a 3 pt 2 row zone builder with some of his sweet corn and cukes and colecrop ground. Results were questionable on the cukes due to a germination problem. Sweet corn didn't lodge during wet windy periods and was unaffected by a 4-6 week drought period. The biggest improvement was on the colecrop planted in late July.

The field used for the fall planting of broccoli, cauliflower, cabbage, napa, collards, kale and kollrabi is a troublesome one due to several factors. The field rolls a lot from side to side and top to bottom which make standard transplanters hard to use because they wander side to side making cultivation difficult. Another problem is the field soil condition change from clay/loam to gravel/ loam to all gravel soil with a shallow hardpan layer, so conventional moldboard plows have problems turning the soil especially in dry weather. Depth control is hard

on this soil thus making transplanting hard. By using the zone-builder working to a depth of 14" and only 15" wide Ron was able to till and work the soil to a perfect bed for transplanting easily in only one pass.

Ron also used the zone-builder on 12 acres of land in October to aid in water absorption during the winter, also early planting in the spring and also used it for sub-soiling and fracturing the hardpan layer.

Fall Colecrop

The following is the method used for the fall colecrop:

1. Allowed the weeds to grow to about 10" tall
2. Chisel plowed weeds in 10" deep
3. Disked twice {Alternative Round up and mow off}
4. Broadcast 600 Lbs 15-15-15 fertilizer on 1.5 acres
5. Perfecta II and roller combo along with an incorporated broadcast pre-emergence herbicide (treflan) Gives flat firm weed free soil to zone-build easy to follow tracks that allows herbicide to work well also. {Alternative spring plow, Perfect, round up, mow off and then side dress or band fertilizer @ time of zone-building cutting fertilizer rate 50%}
6. Zone-builder set @ 14" deep and hilling a bed 1.5" finished height set for 30" RC and also in furrow growers 10-20-10 and a nitrogen additive along with Ridomill-Gold systemic fungicide application, also flood jet nozzles applying Goal XL herbicide broadcasted pre-plant all in one pass.
7. Transplanting cole-crop with a Mechanical Transplanter 1000 with poly double disk shoe. No water applied. @ 26" spacing in row
8. Set sprinkler and applied .75" water over the field twice, Had several heavy rains including 4" one day never had water standing in the field {common problem old way}
9. Sprayed fungicide and insecticide every 14 days up till beginning of harvest along with a foliar fertilizer twice.
10. Only weed problem was wild mustard, rape.
11. Yield was greater than any other crop ever planted prior to this year.

Garlic crop 2011

Used the following method:

1. Used sweet corn field with no weeds in it
2. Mowed sweet corn down one month ahead of time
3. Chisel plowed 10" deep
4. Moldboard plowed field 8" deep
5. Disked field
6. Perfecta II (applied Vydate incorporated) {Alternative Round up and mow}
7. Waited one week then zone-built rows in field (this should allow better root growth due to compaction which also causes water problems in row, so far no water in row only in the tire tracks.)
8. Spread time release 13-13-13 fertilizer on strips along with blood meal, bone meals, cotton seed meal and other organic fertilizers. {Alternatives side dress at time of zone-builder pass}

9. Went over the field again with zone-builder with baskets floating free with no spring tension on last pass.
10. Hand set 55Lbs of garlic seed.
11. Applied prowl H2O and dual II magnum
12. In spring I will cultivate and hill garlic along with one application of the same herbicides again.

Equipment used @ Wagner Farms for Zone-Building 2010:

1. John Deere 2355 4x4 55hp, high traction radial tires, rear filled 75%, 9000#'s
2. Unverfurth Model 130 2 row zone-builder
3. Front mount sprayer tank and sprayer set up w/ electric controls
4. Front mount fertilizer tank w/ 12vt mini pump rated at 2.5 GPM @ 60psi
5. Liquid fertilizer manifold 2 rows set for 8 GPA @ 30psi
6. Broadcast flood jet nozzles for herbicide w/ diaphragm check valves

Equipment planned on purchasing for zone-building 2011-2012

1. Unverfurth model 130 zone-builder w/ chrome faced rock point, shank protectors (recommended), point wings, extra set zone culters, rolling baskets
2. ColePowel side dresser fertilizer applicator one per row hydraulic drive
3. Spray nozzles on each rear basket unit for herbicide
4. Liquid fertilizer manifold and drops behind each shank

Summary of this seasons test are that Zone-Building pays for its self very fast. Once the proper field conditions and weed controls are established the time spent preparing soil should be 25% of the old method of plowing and disking or perfecting the seedbed. The fact that you are placing the seeds or plants over a deeply tilled zone allows the plant to become more drought or wet tolerant while increasing yield potential. I figured that I zone-built 12 acres @ 5.5MPH in just under 6 hrs set for planting in the spring compared to the old method of plowing, disking and perfecting the seedbed 12 acres @ 5MPH would have taken 24 hrs of work. Another benefit is the tire tracks are never disturbed thus eliminating deep mud problems during planting, spraying and harvesting the crops. To solve the tire tracks from forming problems next year I will offset the zone-builder to till tire tracks next year.

Summary

1. Up to 75% saving in field prep
2. Eliminate hardpan layers
3. Deeper tilling = better drainage
4. Increase yield
5. Increase profit
6. Better fertilizer use, place it deeper for extended growth
7. Easier planting, harvesting,
8. Less mud problems

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