Byodinamics experiences in north Italy (Verona): horticulture, fruit-growing and vine. *Agricultural and socials effects*
Historical and geographical contest

- Verona’s district: what about agriculture

- Long history about biological farmers (since '70)

- Big and historical organic cooperatives (Primavera, Ca magro etc)

- Big interests local industrial farming and industry food (Veronesi, Aia, big wine coop etc)
GAB: Gruppo Arena Biodinamica
(Biodynamic Verona Farmers group)

Farmers from organic to biodynamic

Focus group:
- Learning and formation action in BD
- Correct use and autoproductions BD preparations
- Increasing social dynamic

-Certifications Demeter
Gruppo Arena Biodinamica
What we produce on this group

The first bd’s practical actions in 2011: courses and first dynamisations

Actually, on the grup there, are 162 ha where we use bd preparation, compost and others bd’s actions

Horticultural crops screen house 22 ha
Horticultural crops on field 14 ha
Vines 40 ha
Apple and pears 27 ha
Cerry 2 ha
Peach 40 ha
Horticultural focus

The horticultural crops where we’re making more effort about bd’s preparation test are:

- Tomatos
- Pepper
- Salad
- Aspargus
- Strawberries
- Melon
- Broccoli
- Celery
Social aspects

Technical education itinerant on the different farm

Application BD’s preparation on group

Setting-up BD’s preparation (500, 500P, fladen and 501) on group

Reciprocal visits in the different farms any 1,5-2 months (!)

Many action about active perceptions, blind tasting products etc

Dinner at every meeting, discussion, study tours
Technical aspects: benefits

Buying common technical equipment (e.g., spry machine, composting machine)

Sharing info about: variety test, spry products, manuring etc.

Autoproduction BD’s prep. and sprying prep. by the group.

Economical benefit about: consultant, marketing actions, educational actions,

Sensory testing group, observations of the behavior of plants

Certification Demeter
Technical aspects: problems

The result doesn't come all the time (!)

The plant protections aspects some time are more important than BD's aspects

Forgetfulness and management of BD's test

The participation in the meetings of the group is difficult, by the crops and wife...(!)

There are not public research and neither other similar initiatives in order to compare.

Hi miss Demeter...can you here me...?!
Test 501 effects on Pepper (yellow and red): vegetative behaviour.

Farm: Azienda agricola Perina Daniele, Verona Summer 2011 and 2013
Daniele Perina’s farm

- Horticultural farm in organic agriculture since 2001
- Sendly soils, tipically from the Verona’s area plane.
- Surface: 7 ha vegetable production in greenhouses and 3 ha on the filed
- Main productions: salad, broccoli summer variety, kalhrabi, tomatoes, capicacum,
- Green manure regolary included on the estate’s rotations.
- Regolary use of green manure and biodynamic compost, composted in farm.
Daniele Perina’s Farm.
About BD’s prep. In pepper

- Meccanical dynamization (homemade), 240 lt; good well water, heating 37 °C, 4 gr/ha 501 (From Le Madri and GAB).

- Mechanical sprying of prep 501 in all surface, except the tunnels test

- 3 sprying 5001:
  1 when the first fruits are at least 5 cm
  1 4-6 weeks after
  1 4-6 weeks after

- Feedback: shape of the leaves, flower, fruits. Tasting fruits.
Time for the first's 501
Time for the third’s 501
Daniele Perina’s Farm: results and effects

- Arrangement in space of the plant so significantly different, modifications to the architecture of the plant.

- The apex of the leaves are turned upwards in the thesis 501.

- The leaves show a direction and a curvature substantially significant in the thesis with 501, the entire plant is greater astrality.

- 501 with the fruits have a stronger taste of green pepper, are more savory and less bitter aftertaste.
Test 501 effects on Tomato: vegetative behaviour and fruit taste.

Daniele Perina’s farm

- Horticultural farm in organic agriculture since 2001
- Sendly soils, tipically from the Verona’s area plane.
- Surface: 7 ha vegetable production in greenhouses and 3 ha on the filed
- Main productions: salad, broccoli summer variety, kolhrabi, tomatoes, capiscum,
- Green manure regolary included on the estate’s rotations.
- Regolary use of green manure and biodynamic compost, composted in farm.
Daniele Perina's farm

- Horticultural farm in organic agriculture since 2008, before was an organic fruit grower.

- SENDLY soils, typically from the Verona’s area plane.

- Surface: 4 ha vegetable production in greenhouses and 3 ha on the filed.

- Main productions: melon, tomato, salad, cucumbers, fenol, pepper.

- Green manure regularly included on the estate’s rotations.

- Regularly use of green manure and biodynamic compost, composted in farm.
Daniele Perina’s and Lorenzo Bonadiman’s Farms.
About BD’s prep. In pepper

- Meccanical dynamization (homemade and Ecodyin), 240 lt and 120 lt, good well water, heating 37 °C, 4 gr/ha 501 (From Le Madri and GAB).

- Mechanical sprying of prep 501 in all surface, except the tunnels test

- 3 sprying 501:
  1 when the first fruits are at list 5 cm
  1 4-6 weeks after
Different varieties: Cerry tomato
Different varieties: 
Cuor di bue
Different varieties: Tondo a Grappolo
Daniele Perina’s and Lorenzo Bonadiman Farms: results and effects

- The plants with the 501 are more ordered, with less voids and better distribution of leaf area

- The leaves and the apex of the test 501 have a marked assurgenza upwards, and a minor downward inclination. References to the tips of the leaves.

- The flowers have petals in 501test much more open and inclined towards the back showing a large tension and
Daniele Perina’s and Lorenzo Bonadiman Farms: results and effects

- In the case of the cherry tomato ripening of the fruit is advanced by about 7 days, no change in the other cases

- Bonadiman farm in the greenhouses of the 501 cherry tomato with the environment was less humid, more enjoyable and less odor of tomato in the air. Repeated experience with more people.

- In general in the various tests 501 the tomatoes are
Test S00P effects on salad’s development roots and salad’s taste.

Farm: Azienda agricola Paolo Fontanabona,
Verona marzo 2012
Paolo Fontanabona’s Farm

- Horto-frutticultural farm in organic agriculture since ’80 (Paolo’s Father)

- Sendly soils, tipically from the Verona’s area plane.

- Surface: 6 ha vegetable production in greenhouses, 4 ha kiwi

- Main productions: salad, celery, fennel, cabbage.

- Regolary use of green manure and biodunamic compost, composted in farm.

- BD’s prep since 2011 in all production on field and on pot.
Paolo Fontanabona’s Farm.
About BD’s prep. in the salad

- Meccanical dynamization (Ecodym), 60 lt, spring water, heating 37 °C, 100 gr500P/h (From Le Madri).

- Manual spraying of prep 500P in all surface, except the tunnels test

- 3 spraying 500P:
  1 the soil,
  1 one the small pot on the organic nursery
  1 on the small plants-pot on the days before transplanting

- Feedback: on the soil structure, root development, tasting...
Paolo Fontanabona Farm: results and effects.

- More roots are present in terms of vertical and horizontal development. Interesting development of secondary roots.

- The soil, on 500P test, are more structured and many fine particles are attached to the root exudates.

- The soil is more braun and dark, the organic substance is in different.

- Soil smell of well-decomposed organic matter (sentory forest).

- Salad taste pour salty, less green and on the 500K test, the...
Test SOOP effects on Broccoli summer variety’s development roots.

Farm: Azienda agricola Perina Daniele, Verona June 2012
Daniele Perina’s farm

- Horticultural farm in organic agriculture since 2001

- Sendly soils, tipically from the Verona’s area plane.

- Surface: 7 ha vegetable production in greenhouses and 3 ha on the filed

- Main productions: salad, broccoli summer variety, kolhrabi, tomatoes, capiscum,

- Green manure regolary included on the estate’s rotations.

- Regolary use of green manure and biodynamic compost, composted in farm.
Daniele Perina's Farm.
About BD’s prep. in the broccoli summer variety.

- Meccanical dynamization (homemade), 240 lt, good well water, heating 37 °C, 100 gr 500P/ha (From Le Madri).
- Manual sprying of prep 500P in all surface, except the tunnels test
- 3 sprying 500P:
  2 on the soil (1 month distance each others),
  1 on the small plants-pot on the days before transplanting
- Feedback: on the soil structure, root developpement, tasting
Tasting broccoli from members group and buyers!
Daniele Perina Farm: results and effects.

- On the 500P test the roots are more developed in all directions.

- The finest roots (and more interesting) are more developed on the 500P test. Same consideration for the soil: more fine structure.

- The roots present a characteristic smell of broccoli more intense on the 500P test.

- The broccoli on the 500P test result more salty, less bitter and more pleasant.
Test 501 effects on Asparagus: vegetative behavior

Farm: azienda agricola Marco Filippi, Oppeano (VR) aprile 2012
Marco Filippi’s farm

- Organic farm since 2002, spec. in horticultural productions

- 3 ha tot. Surface. 0,5 ha greenhouse 2,5 field.

- All vegetable production is finalized to direct sales and processing in the farm for the farm restaurant (agriturismo bio).

- 0,5 ha asparagus, many different vegetables are cultivated for the direct sell

- Green manure regularly included on the estate’s rotations.

- Regular use of green manure and biodynamic compost, composted in farm.
Marco Filippi’s Farm.
About BD’s prep. in the asparagus.

- Mechanical dynamization (Montanari), 30 lt and manual dynamization, good well water, 37 °C, 4 gr/ha 501 (From Le Madri)


- 1 Application 501 near too flowering asparagus

- Feedback: we observed the architecture’s plant
Group GAB at work: manual and mechanical dynamisation
Marco Filippi’s Farm: results and effects

- The 501 has generated a complete reorganization of the architecture of the plant

- All the apex of the test 501 are facing upwards. Increased tension of the plant to the element of air

- Have not been realized tests no differences about taste and smell
Example of the effect of 501 in vine plant

(2 applications on 2014’s spring, Ampelia’s estate, south of Tuscany)
### 500 and 501 in vegetables: look at the different experiences

<table>
<thead>
<tr>
<th>Vegetables</th>
<th>Repetitions</th>
<th>Repetitions</th>
<th>parts of the plant</th>
<th>type of effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tomato</td>
<td>(2)</td>
<td>3</td>
<td>Plant, Flowers, Fruits, leaves, hambient.</td>
<td>architecture, smell</td>
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<tr>
<td>Pepper</td>
<td>(2)</td>
<td>3</td>
<td>Fruits, plant leaves</td>
<td>architecture, smell</td>
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<tr>
<td>Celary</td>
<td>2</td>
<td>2</td>
<td>Found no effect</td>
<td>-</td>
</tr>
<tr>
<td>Broccoli</td>
<td>3</td>
<td>(1)</td>
<td>Roots, Fruits</td>
<td>Taste, soil</td>
</tr>
<tr>
<td>Apple</td>
<td>(2)</td>
<td>3</td>
<td>Fruits leaves</td>
<td>Color perfume</td>
</tr>
<tr>
<td>Melon</td>
<td>(2)</td>
<td>2</td>
<td>Fruits</td>
<td>Harvest index</td>
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<tr>
<td>Asparagus</td>
<td>(2)</td>
<td>1</td>
<td>Plant</td>
<td>architecture</td>
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<tr>
<td>Strawberry</td>
<td>(2)</td>
<td>3</td>
<td>Fruits, leaves flowers</td>
<td>Taste</td>
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<td>2–3</td>
<td>(1)</td>
<td>roots</td>
<td>Taste soil</td>
</tr>
</tbody>
</table>
Grazie mille!

For more info and contacts:

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