

The Pre-domestic Approach: Insights from *Capsicum pubescens* and *Gallus gallus* Essays

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Abstract

Essays for the Pre-domestic Approach defined as organic, free-range and producer-consumer fair trade production of domesticated animals in association with plants of commercial relevance where the maximum potential of animal survival instinct thus genomic potential is favored by the producer have been carried out for *Capsicum pubescens* and *Gallus gallus* and an account of early results is presented for the reader. Although much research is required and will be carried out *Capsicum pubescens* and *Gallus gallus* can be produced together with care on *Capsicum pubescens* phenology to introduce birds in the system. Venture producers are invited to the initiative which will theoretically displace the organic free-range fair-trade market. The concept of “Basement Genomes” is introduced to the scientific community of genetics and plant and animal breeders for genetic resources conservation of *Homo sapiens* domesticates and the genetic pool of our planet to be studied.

Keywords: Pre-domestic Approach, P-dA, *Capsicum pubescens*, *Gallus gallus*, “Basement Genomes”

INTRODUCTION

Recently, it was proposed the Pre-domestic Approach (P-dA) [1] as an alternative for a pollutant-free, efficient, and fair-to-the-consumer production of *Homo sapiens* domesticates, that is plants and animals with maximum stress-free expression of their genetic pools. Also, in the same manuscript [1], it was proposed a Pre-domestic Approach for the production of *Capsicum pubescens* “Rocoto”, a Peruvian cuisine delicacy and *Gallus gallus*, the domesticated taxon bird. Spanning over a year since idea conception/ communication to the scientific community, theory (1) has been congruent with practice, follows an account on early observations and results for *Gallus gallus* and *Capsicum pubescens* production under essays for a Pre-domestic Approach.

GALLUS GALLUS BEHAVIOUR

In the previous manuscript on the matter [1], by survival “instinct” that means the expression of the animal’s genotype, the expenditure of energy towards the biochemical needs of the genotype, behaviour at the macroscopic level. In Table 1, it is catalogued the behaviour for *Gallus gallus* observed in P-dA essays. Note in Table 1 that the complete array of behavioural traits directs towards nutrient acquisition and nutrient storage hence reproduction which should be considered standard and the only category of behaviour for a consciousnessless genotype such that of *Gallus gallus*.

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CAPSICUM PUBESCENS AGRONOMY

“Rocoto” agronomy lacks in the scientific literature in spite of its relevance and established

market in Peru and recently growing market around the world [2]. In Peru outstanding efforts towards phenology have been carried out [3] but such lacks time correlation, for Mexico there exists a document which summarizes phenology and agronomy at some extend and for greenhouse production [4]. “Rocoto” in Peru at least, seems to be grown on the basis of the experience and resources of the Agroproducer, they have chosen to extensively transplant a surface in a equally-distant fashion rendering a single axis of growth and fructification, irrigation usually is carried out by inundation. In this production system, irradiation is not totally absorbed and nutrient lixiviation because of the rain and irrigation render an inefficient cultivar production.

Table 1. *Gallus gallus* behaviour observed along essays for a Pre-domestic Approach.

Nº	Behaviour	Description	Physiology Relation	Status
1	Scratching	The use of claws to reach palatable soil particles	Dietary, debris as source of protein and minerals and possible silicon (Si ⁴⁴)	No instrument-tested
2	Sunning	Pursue of sunlight and resting bellow the same without signs of fatigue	Vitamin D complementation	Lacks metabolic reconstruction
3	Dust showering	Caving in dry soil and subsequent body coverage with dust and shaking	Possible to remove ectoparasites and/or to sustain physiology in pressure receptors of the skin	Lacks behaviour experimentation
4	Ranging	Terrain exploration	Chemical guided (smell) exploration to feed	Lacks behaviour experimentation
5	Eating	Feed	Consumption of food and water	Confirmed
6	Shadow resting	Isolation and resting in shadowed areas with signs of fatigue	To sustain quietness for mitosis and growth, and to return to a normo physiology at the celular level	No instrument-tested
7	Sunlight resting	Isolation and resting in shadowed areas with signs of fatigue	To sustain quietness for mitosis and growth, and to return to a normo physiology at the celular level	No instrument-tested
8	Day sleeping	Sleeping state of animals during the day	To recover lost physiology at the celular level	Confirmed
9	Night sleeping	Sleeping state of animals during the night	To recover lost physiology at the celular level	Confirmed
10	Feather cleaning	Beak oiling and feather combing with the beak	To sustain physiology in pressure receptors of the skin	Confirmed
11	Defeathering	Separation of non-funtional feathers (uneven) from the bird skin	To sustain physiology in pressure receptors of the skin	Confirmed
12	Bird-beaking	Beaking of one bird to another	To signal pain in the brain of the beaked, establishment of sub-ordinated sub-ordinator in the folk	Confirmed
13	Mudding	Beak filtration of solids or supra-coloides from the mud	Dietary, carbohydrateless nutrient complementation	No instrument-tested
14	Claying	Clay eating, clay scrating and eating	Dietary, carbohydrateless nutrient complementation	No instrument-tested
15	Others	No determined to date	Unknown	No confirmed

Given the drawbacks of empirical agroproduction of “Rocoto” pepper, it was designed a Bush-like organization of branches and box-transplantation for “Rocoto” (Figure 1). This design renders a bush resistant to air currents, intense rain, favors irradiation absortion and reduces lixiviation of nutrients from the soil. Moreover, the Bush-like organization of the branches favors longer times for the species production which could span more than a year perhaps reaching 2-3 years with at least two harvest a month towards a height of two metters Bush, enough to favor harvesting with no added technology, with addes technology the harvest could be extended more years. Some plants can produce up to five years as reported by local growers but they use lines and sticks to avoid plant collapse, bushes in a year of gowth do not need such artifacts provided that branches are properly cultured.

In the logic proposed previously [5] for host-pathogen interaction, no agrochemicals were used and plants were in general left for free interaction with the environment mainly sunlight and drouht, plants

were properly cultured to sustain healthy physiology with chicken manure, a hydroponic formulation [6] in different quantities to dissolve with rain and single chemicals such Calcium Nitrate $((\text{NH}_3)_2\text{Ca})$ for branches to properly sustain a bushy structure of the cultivar. Such intensive fertilization was needed given that the initial soil was not agronomic, it was a construction site adapted to fulfill the P-dA requirements.

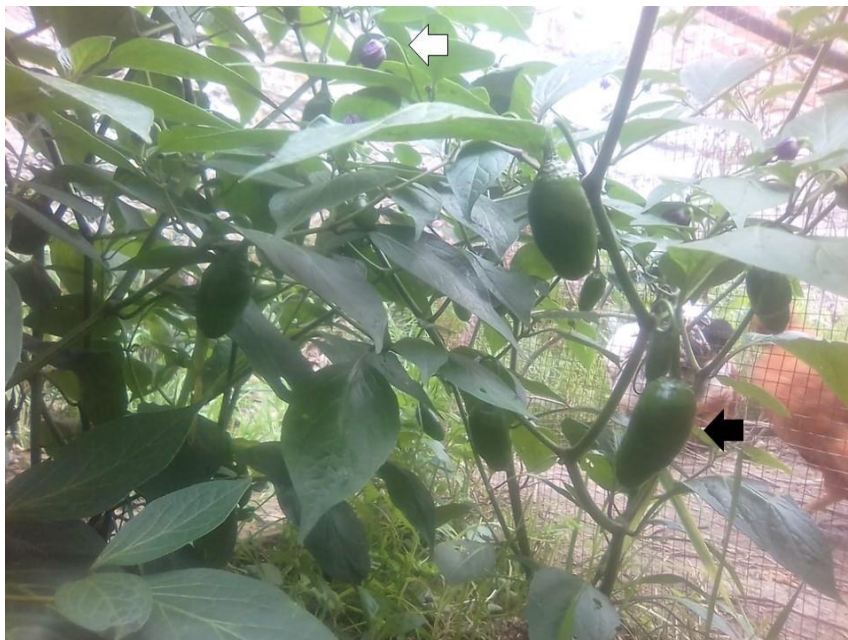


Figure 1. P-dA design for *Capsicum pubescens* growth and production. Arrows signal at least two harvests in the design, Chickens in a different design for nutrient intake in the P-dA rationale at the background.

EARLY RESULTS

A complete essay start to finish has not been feasible because of space, time and resources. Instead separate essays for meat and egg production under the system was carried out. Figure 2 presents slaughtered chicken of a laying and meat breeds, in Figure 3 can be observed “Rocoto” specimens sampled on the criteria of market-readiness.



Figure 2. Laying (Left) and Meat(Right) breeds tested for P-dA. In arrows, metabolite accumulation from plants and feed associated to flavor in chicken.



Figure 3. *Capsicum pubescens* grown in the Pd-A and bushy design. Arrows indicate a single different phenotype at seeding and transplanting, the remaining phenotypes were also a single seeding and transplanting phenotype, both seeding phenotypes were red.

Birds in general were left to range among *Capsicum pubescens* of different phenology, birds do not display affinity for “Rocoto” leaves flavor and in the absence of other plants as nutrient source birds taste and ingest dying leaves at the base of the branches. Birds are omnivorous and display preference over plants and soil particles rather than to a dietary mixture such that of [1]. When diet is complemented with hydroponic fodder in the presence of plant sources, birds prefer the plant source. At least 20 plant species are the preference of birds before redirecting efforts to *Capsicum pubescens*. Poaceae are preferred over other taxa of plants presumably because of taste and beak-leave congruent structures.

No sintomatology of endo-ecto parasitism was observed in spite of literature for free-ranging systems where such is suspected and has been studied [7–9]; care and observation should also be considered regarding Dioxins [10] which given their structure could favor supra-low K_m values and/or covalent bonding interfering non-specifically with the general enzymatic pool probably rendering short pants and shorts animals risking free-range production and posing a challenge for the Pre-domestic Approach.

Figure 3 requires further analysis. “Rocoto” plants were subjected to environmental conditions for their selection and to validate seed generation for *Capsicum sp.* in short time, for *Zea mays* results had been obtained and left for further confirmation. “Rocoto” seeds were of the phenotype MV4 [11] which were studied and resulted in [5]. In Figure 3, arrows indicates a different phenotype also selected for P-dA essays, arrowless are fruits of the MV4 phenotype at transplanting. The environmental stress to which plants were left to grow during the reproductive phase has left in accordance with [11] the confirmed MV1, MV5, MV8 phenotypes which have departure from MV4, a single growing phase was enough as to generate and observe such mutations here reported, modifications in agronomic traits such color and shape, other plants were at least 3 km far from the site. Further research is needed which should include genome sequencing.

For *Capsicum sp.* and perhaps for plant and animal domesticates in general phenotypes could be obtained from a basement genome under single selection stages. This early result (Figure 3) present a suitable path towards genome conservation for *Homo sapiens* domesticates. Furthermore and to introduced non-urgent basic research which would only satisfy curiosity, nowadays sequencing technologies could lead to establish the LUCA for planet Earth if basement genomes are compared

downwards the evolutionary chain finally reaching the last basement genome for the planet.

The molecular mechanism for basement genomes mutations to occur for new phenotypes to emerge at sunlight and drought exposure in domesticates will be revisited in further communications.

CONCLUSION

Gallus gallus and *Capsicum pubescens* can be produced together in the Pre-domestic Approach. Entrepreneurs are invited to venture towards this approach since it will find a niche and replace organic free-range production. Care should be taken at the moment of allowing *Gallus gallus* range in and among *Capsicum pubescens* plants even though birds do not display affinity for flavor, exploration nevertheless directs them towards beaking of leaves and early flowers.

Basement genomes emerge as a new subject of study for plant and animal genetists and breeders around the world.

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