

Jaivik Krishi - NASC

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Vision & Mission of NHM

- “ To develop India as strong organic production hub for domestic and overseas market of selected horticultural commodities”

Mission

- To integrate few compatible techniques of various organic systems to meet the challenges of Agro-chemicals

JAIVIK KIRSHI

Number of organic farming systems are popular in India. These should address following issues

- Yield potential equal are better than with use of agro chemicals
- Continuous improvement in soil fertility
- Par excellence produce quality
- Input generation at farm/villages
- Eco-friendly and cost effective technology

ORGANIC PRODUCTION SYSTEMS

- Biodynamic farming
- Panchayagavya farming
- Rishi Krishi
- Homa Organic farming
- Nateuco farming
- Natural farming
- Jaivik Krishi (integration of selected techniques from above systems to address the issues)

AGRICULTURE CALENDER

FARMING CALENDAR-2007

Month	Moon Opp. to Saturn	Full Moon	New Moon	Ascending Period (Uttarayana)	Descending Period (Dakshinayana)	Nodes	MOON		Suggested dates for Sowing / Harvesting of crops			
							Apogee	Perigee	Seeds & Fruits	Roots	Flowers	Leaf
Jan	21 03:03	3 19:27	19 09:31	01 - 03 19 - 30	04 - 18 31	8 23:14 22 18:29	10 21:56	22 18:00	7, 17, 18, 25, 26	1, 9, 10, 11, 19 20, 27, 28	2, 3, 12, 13, 21, 30, 31	5, 6, 14, 15, 16, 23, 24
Feb	17 09:25	2 11:15	17 21:44	15 - 27	01 - 14 28	5 04:15 19 02:13	7 18:10	19 15:07	3, 4, 13, 14, 22, 23	6, 7, 15, 16, 24, 25	8, 9, 10, 18 26, 27	1, 2, 11, 12, 20, 28
Mar	16 17:01	4 4:47	19 08:13	14 - 26	01 - 13 27 - 31	4 11:02 18 13:09 31 17:11	7 09:08	20 00:09	3, 13, 14, 21, 22, 30,	5, 6, 15, 16, 23, 24	8, 9, 17, 25, 26	1, 10, 11, 19, 20, 27, 28, 29
Apr	13 00:58	2 22:45	17 17:06	11 - 22	01 - 10 23 - 30	14 23:04 27 20:58	3 14:08 30 16:26	17 11:28	9, 10, 18, 26,	1, 2, 3, 11, 12, 19, 20, 29	4, 5, 13, 22, 23	6, 7, 8, 16, 24, 25
May	10 08:47	2 15:39	17 00:57	08 - 20	01 - 07 21 - 31	12 04:37 24 22:26	28 03:33	15 20:37	6, 7, 15, 16, 23, 25	9, 10, 17, 18, 26, 27	1, 2, 11, 19, 20, 28, 29, 30	4, 5, 13, 14, 21, 22, 31
June	6 17:10	1 06:34 30 19:19	15 08:43	04 - 16	01 - 03 17 - 30	8 06:05 21 01:01	24 19:56	12 22:38	2, 3, 4, 11, 12 20, 30	5, 13, 14, 22, 23, 24	6, 7, 15, 16, 25, 26	1, 9, 10, 18, 19, 27, 28
July	4 03:21 31 15:55	30 06:18	14 17:34	01 - 13 29 - 31	14 - 28	5 07:09 18 05:48	22 14:13	10 03:14	1, 9, 10, 17, 27, 28	2, 3, 11, 12, 20 21, 29, 30	4, 13, 14, 22, 23	6, 7, 15, 16, 25, 26
Aug	28 06:53	28 16:05	13 04:33	01 - 10 25 - 31	11 - 24	1 10:32 14 12:55 28 19:58	19 08:58	4 05:20 31 05:43	5, 6, 15, 23, 24, 25	7, 8, 16, 17, 26, 27	9, 10, 18, 19, 20, 29	3, 4, 11, 12, 21, 22, 30, 31
Sep	24 22:55	27 01:15	11 18:14	01 - 06 22 - 30	07 - 21	10 20:19 25 06:10	16 02:37	28 07:55	1, 2, 11, 20, 21, 28, 29	3, 4, 12, 13, 14, 22, 23, 30	5, 6, 15, 16, 24	7, 8, 9, 17, 18, 19, 26, 27
Oct	22 14:12	26 10:22	11 10:31	01- 03 19 - 30	04 - 18 31	8 01:34 22 14:29	13 15:21	26 17:22	7, 17, 18, 26, 27	1, 9, 10, 11, 19, 20, 21, 28, 29	3, 4, 12, 13, 23, 30, 31	5, 6, 15, 16, 24, 25
Nov	19 02:27	24 20:00	10 04:33	15 - 27	01 - 14 28 - 30	4 03:40 18 18:15	9 18:01	24 05:44	3, 5, 13, 14, 15, 22, 23	6, 7, 16, 17, 24, 25	8, 9, 10, 19, 26, 27	1, 2, 11, 12, 20, 21, 28, 29
Dec	16 10:17	24 06:46	9 23:10	12 - 24	01 - 11 25 - 31	1 04:39 15 18:45 28 08:27	6 22:24	22 15:44	2, 11, 12, 20, 21, 29	3, 4, 13, 14, 22, 23, 24, 30, 31	5, 6, 7, 16, 24, 25	8, 9, 18, 19, 26, 27

FARMING CALENDAR IS BASED ON THE INDIAN EPHEMERIS OF PLANETS POSITIONS-LAHARI 2007 & KALDARSHAK PANCHANG-2007

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NATURA AGROCONSULTANTS PVT. LTD.

ORGANIC & BIODYNAMIC FARMING, VEDIC AGRICULTURE AND SOLID WASTE MANAGEMENT

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Guidelines :

Moon opposite to Saturn : Seed sowing, transplanting, grafting, pruning, layering and spraying liquid manures. **Full moon** : 2 days prior sow seeds, apply liquid manures, spray bio-pesticides to control pest and disease. **New moon** : Avoid sowing seeds, ideal for cutting timber. **Ascending periods** : Sowing of crops and spray liquid manures **Descending periods** : Transplanting of seedlings, preparing compost, pruning trees and all land preparation activities. **Nodes**: Avoid all agricultural activities. **Apogee**: Planting potatoes and irrigational activities. **Perigee**: Spray bio-pesticides to manage pest and disease.

Seed/ seedling treatment- BIJAMRITA

INGREDIENTS:-

Cow dung	5 kg
Cow urine	5 liters
Virgin soil	50 g
Slaked lime	50 g
Water	20 liters

TREATMENT WITH BIJAMRITA

- Sprinkle Bijamrita on the seeds of any crop, rinse seeds well by hand, dry in shade before sowing
- Treat vegetative part viz. Cuttings, Tuber, Rhizome, Corms/Bulbs etc by dipping
- Dip the roots of seedlings for few minute before transplanting
- Leguminous seeds viz. Cow pea, Beans, Pea etc. should be soaked for few second

IMPACT

- It protects the seed/vegetative parts from pathogen infection
- Effective for soil borne diseases
- Improves germination
- Enhances seedling growth

Preparation of bio-enhancer



ZIWAMRITA

INGREDIENTS

1. Cow dung 10 kg
2. Cow urine 5-10 liters
3. Jaggery 2 kg/ 4 liters sugar cane Juice
4. Vergin soil 1kg
5. Pulse flour 2 kg (As per availability)
6. Water 200 liters
7. Container plastic/earthen/cement

Analysis of Zeevamrita 5th day sample

Tested Organism	Media used	Viable Cells	Colony Morphology	Pigmentation	Staining
Azospirillum	Bromothymol Blue	2×10^6	Regular, entire	Blue	Gram-ve
PSM	Pikovisky's	2×10^6	raised irregular smooth	Cream	Gram+ve
Pseudomonas	Cetrimide Agar Base	2×10^2	Raised entire	Cream	Gram-ve
Trichoderma	Potato Dextrose agar	2×10^6	smooth Rhizoidal Filamentous	Green	-
Yeasts and Moulds	Rose bengal Agar	2×10^7	Filamentous	White	-

Source: Biocentre, Bangalore

Use of Ziwamrita

- Through flow of irrigation water
- Maintain flow in such a way that 200 L is sufficient to irrigate 1 acre of land
- In fruit plant, Jiwamrita can be placed in a ring where feeder roots are concentrated
- Dug out a trench 50-60 cm wide and 25-30 cm depth at outer periphery of tree canopy
- Fill it with locally available organic waste (monocot+dicot 50:50)
- Drench the mixture with Jivamrita

MULCHING

Mother earth always prefers to be covered with some vegetation. Role-

- Mulching is an integral component of OF
- It consist of spreading of dry organic (mono & dicot) wastes locally available
- A thick mulch around basin, drench with Zivamrtita
- The vacant spaces in fruit orchard need to be covered all round the year
- It can be a covered through green plants of mono cot and die cot

Cont.

- It protects moisture conservation
- Effective weed management
- Provide congenial conditions for affectivity of macro and micro fauna
- Reduces fruit drop
- Improves fruit quality
- Improves soil fertility
- Well suited for tropical climate

Mulching



NUTRIENT MANAGEMENT

- Grow legumes as cover/inter/ green manure
- Apply 3-5 T/ha for close spaced and 20-25 kg/tree enriched compost
- Mulch the interspaces
- Drench with bio enhancers viz: Amrit Pani, CPP + BD-500/Vermiwash
- Spray bio enhancers viz; Zeevamrita/ Panchagavya/Vermiwash



Even from Long-lived Trees like mangoes and coconuts, one can get calculated production with proper water & nutrition management.

Recycling of its own leaves, branches, seeds etc. is mostly enough to supply the inorganic nutrients

Pest & Disease Management

A wide range of options are available

- Encourage proper habitat management
- Adopt appropriate crop rotation including trap crops
- Prefer local seeds and regionally adopted conventional varieties
- Cow urine and butter milk are potent source for protection
- Local herbs viz: Neem, Castor, Pongamia, Lantana, Caliotropis, Neetle, kalmegh, chilies, garlic drumstick, bael etc after proper decomposition are quite effective in management
- Initial experience will be required for different crops and pests

Some examples of Organic pesticides

- Take earthen pot
- Fill 15 liters of cow butter milk
- Incorporate a small piece of copper
- Bury the pot for 21 days in ground by covering neck
- Take 10 l slurry-dilute to 200 liters
- Spray on 1 acre
- Effective for control of sucking pests & viruses

Chewing pests

- Take earthen pot
- Fill 15 liters of cow urine
- Incorporate 1 kg chopped leaves of Neem, caliotropis, Ipomea,
- Burry the pot for 7 days in ground by closing neck
- Take 10 liters slurry-dilute to 200 liters
 - Spray on one acre area

Hard Pests

- Take an earthen Pots
- Fill with 15 liters of cow urine
- Incorporate the following after chopping
 - One kg each of Caliotropis, Pongamia, Bael, Ipomea leaves, Green chilies, 1/2 Kg of garlic and Neem seed kernel
- Burry the pot for 7-10 days by closing its mouth
- Take 10 liters slurry-dilute to 200 liters and spray on a acre
- Very effective for control of hard pests- like hopper, mealy bug and mites etc

Strategy

- As far as possible, use calendar for various activities
- Always treat the seeds/ seedlings and plant parts before sowing/transplanting
- Always keep field covered either with live plants or mulch: combination of mono and di-cot plants
- Regularly use ziwamrita through irrigation water or drenching the mulch Cont.

Cont.

- If possible field spray of BD-500 & foliar spray of BD-501 can also be associated.
- Try to adhere with the principles of crop rotation
- Try to encourage a farming system approach
- Cow and legumes are important component of JK, this need to promoted

Cont.

- In wider spaced plant-regular decomposition of organic waste as mulch with Ziwanrita/ biosol/ BD-500 + CPP can meet the nutrient requirement
- For close space plants regular use of 3-5t/ha of enriched compost will be required

Conclusion

My association and close observation over decade, provides me enough confidence that, if under taken with organic mind set “Jaivik Krishi” is a ray of hope to sustain soil fertility and quality of life on this planet

Thanks