National Potato Production, Survive With Innovation & Information

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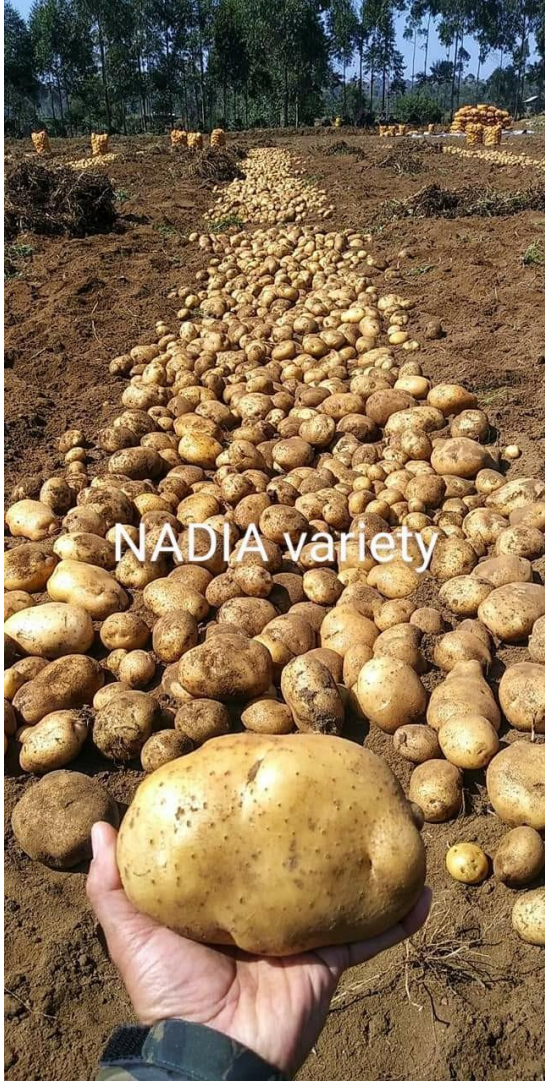

60 Years of hikmahfarm

Current Situation

1. Consumption 4-5 kg/capita
2. National Productivity < 20ton/hectare
3. Land Scarcity, Land Conversion → Deforestation → Erosion, Flood
4. Land Degradation & Soil Borne Pests and Diseases
5. Extreme Weather ; Drought, Heavy Rain, Pests & Diseases→ Crop Failure
6. Globalisation; Supply & Demands
7. Pandemic, Post Majore

The Future of National Potato Production

Sapta Usaha Tani, Smart Farming & Information

Sapta Usaha Tani :

1. Penggunaan bibit unggul
2. Teknik pengolahan lahan pertanian
3. Pengaturan irigasi
4. Pemupukan
5. Pengendalian HPT
6. Pasca Panen, Pengolahan (value chain)
7. Pemasaran hasil panen

Smart Farming:

1. Agricultural Drone
2. Surveillance Drone untuk pemetaan lahan dan kondisi tanaman
3. Soil, dan Weather Sensor (Sensor tanah dan cuaca)
4. Internet & MedSos

High Quality Certified Seed Production

Developments of National Seed Production

1. Sebelum 1990an selalu Import dari Belanda, Jerman…
2. Awal 1990an, BBI Kentang Pangalengan (BPBK)
   JICA, Deptan, BPSB, Balitsa, Dinas Pertanian, Univ. dll
1. Perbanyakan benih: BBI, BBU, Petani2 Penangkar
2. Varietas Nasional dari Balitsa, Balai Benih, dan Swasta
3. Granola L, Cipanas, Dayang Sumbi, Sangkuriang Ar08, Medians… Gran Kembang, Nadia, MZ, Gran Intan dll
4. Skema G0, G1, G2, G3, G4 kemudian berubah menjadi G0, G1, dan G2 dengan tujuan peningkatan qualitas
5. Penanaman G0 dan Stek Planlet ke Kebun untuk produksi benih G2.

Better Local Variety

1. Efficient Fertilizer Use, High Productivity, PCN Tolerant: GK, RGH01/Intan, Nadia
2. Responsive to Fertilizer, Granola L
3. Phytophthora infestans Tolerant : AR07, AR08, Sangkuriang, Dayang Sumbi, cont.


Kentang NADIA
hikmahfarm


hikmahfarm


Late Blight Tolerance
hikmahfarm


Dayang Sumbi


Medians
Kentang Keripik
hikmahfarm


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Penanaman G0
ke Lahan, Produksi G2
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Penanaman
Stek Planlet Ke Lahan


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Machinery & Land Cultivation

Land Inundation and Land Sterilization

Overhead Springklers Irrigation

Land Recondition & Balanced Fertilization

1. Dolomite & Zeolite to raise soil pH & CEC Level
2. Composted Manure/Organic Matter. Microbial Inoculats: Azotobacter Sp, Rhizobium Sp, Azospirilium Sp, Lactobacillus Sp, Trichodema Sp, Gliocladium Sp.
3. Fertilizer Composition is Dependent to Soil Fertility, Season, Variety, Potato Use/Allocation (seed/ware potato, early/late)
   - ¤ NPK 8-10qintal,
   - ¤ TSP 3-4qintal,
   - ¤ KCL 1.5-2.5qintal
   - ¤ KarateBoroni/Canibor/NitraBor/Tropicote 2-3qintal
   - ¤ Kieserit/Vita4/TrioKali/Kamas/KieserMag 2-3qintal
   - ¤ Humic Acid (optional)


Dolomit & Zeolit


Seed Treatments


Microbial Inoculation
hikmah farm,Pangalengan / PD Hikmah


Nematicide


Anfush
Pengendali Hayati Patogen Tanah
Pengendali Hayati Patogen Tanah
CV. Arena Tigade
Anfush


WP
SACO-P
FUNGISIDA BIOLOGI UNTUK MENGENDALIKAN
PENYAKIT LAYU Fusarium sp. PADA TANAMAN CABAI
WP
SACO-P
FUNGISIDA BIOLOGI UNTUK MENGENDALIKAN
PENYAKIT LAYU Fusarium sp. PADA TANAMAN CABAI
12 x 1 kg


MG1
MAXI GROW
MG1
PUPUK HAYATI LENGKAP
Kithokin


Acele
Isi Bersih : 20 x 1 L


EM4
WP
SACO-P
FUNGISIDA BIOLOGI
Bahan aktif : Trichoderma koningii
(minimal 5 x 10⁸ spora/g)
Nomor Pendaftaran : RI.1106/7-2009/T
PT. TANI MAS SUBUR
1 kg
hikmah farm Pangalengan / kelompok tani mitra hikmah


HIPHASE

Fertilizer Dependent : ...

Pests & Diseases + Canopy Closure

Pests & Diseases Management
Phytophthora infestans vs Extreme Weather

Phytophthora Management & Fungicides Combination


Late Blight
Fungicides +
Growth Hormones

Product (Dose rate [litre or kg/ha])	Leaf blight	Tuber blight	New growth	Stem blight	Protec-tant	Curative	Anti sporulant	Rain-fastness	Mobility	Year
copper				●	◖●	0	0	●	C	1900
dithiocarbamates (2.0)[1]	2.0	0.0		●	●●	0	0	◖●	C	1961
chlorothalonil				◖	●●	0	0	●●◖	C	1964
cyazofamid (0.5)	3.8	3.8	●●	●	●●●	0	0	●●●	C	2001
fluazinam (0.4)	2.9			●	●●●	0	0	●●◖	C	1992
zoxamide + mancozeb (1.8)	2.8			●[5]	●●●	0	0	●●◖	C + C	2001
amisulbrom + mancozeb (0.5+2.0)	4.5	3.7		●	●●◖	0	?	●●●	C + C	2007
ametoctradin + mancozeb (2.5)	3.7		?[8]	?[8]	●●◖	0	0	●●●	C + C	2011
fluazinam + azoxystrobin (0.5)	3.6								C + C	2016
famoxadone + cymoxanil				●◖	●●	●●	●	●●◖	C + T	1996
(zoxamide + mancozeb) + cymoxanil (1.8+0.2)	3.4								C + T	2001
mandipropamid (0.6)	4.0		●●	●◖	●●●	●[6]	●◖	●●●	C/T	2005
mandipropamid + difenoconazole (0.6)	4.0		●●	●◖	●●●	●[6]	●◖	●●●	C/T + C	2005
benthiavalicarb (0.5)	4.2								T	2018
benthiavalicarb + mancozeb (2.0)	3.7			●◖ [5]	●●●	●◖	●	●●◖	T + C	2003
cymoxanil + metiram				●◖	●●	●●	●	●●	T + C	1976
cymoxanil + copper				●◖	●●	●●	●	●●	T + C	1976
cymoxanil + mancozeb				●◖	●●	●●	●	●●	T + C	1976
dimethomorph + mancozeb (2.4)	3.0			●◖	●●◖	●	●●	●●◖	T + C	1988
dimethomorph + fluazinam (1.0)	3.7	3.3	●	●	●●◖	●	●●	●●◖	T + C	2012
fenamidone + mancozeb (1.5)	2.6			●◖ [5]	●●◖	0	●◖ [5]	●●	T + C	1998

Product (Dose rate [litre or kg/ha])	Leaf blight	Tuber blight	New growth	Stem blight	Protec-tant	Curative	Anti sporulant	Rain-fastness	Mobility	Year
(zoxamide + cymoxanil) + fluazinam (0.45+0.4)	4.0								C/T + C	2013
(zoxamide + dimethomorph) + fluazinam (1.0+0.4)	4.2								C/T + C	2015
mandipropamid + cymoxanil (0.6)	4.4		●●	●◀	●●●	●●	●◀	●●●	C/T + T	2013
(pyraclostrobin + dimethomorph) + adjuvant (2.5+1.0)	4.0[7]								C/T + T	2012
benalaxyl-M + mancozeb[2]	3.0		●●	●●	●●◀	●●◀	●●◀	●●●	S + C	1981
metalaxyl-M + mancozeb[2]			●●	●●	●●◀	●●◀	●●◀	●●●	S + C	1977
metalaxyl-M + fluazinam[2]			●●	●●	●●◀	●●◀	●●◀	●●●	S + C	
propamocarb + cymoxanil + cyazofamid ((2.0)+0.5)		4.6							S + T + C	2012
propamocarb + cymoxanil (2.0)					●◀	●●◀ [9]	●●◀		S + T	2011
propamocarb-HCl + fenamidone (2.0)	2.5		●◀	●●	●●◀	●●	●●	●●●	S + T	1998
propamocarb-HCl + fluopicolide (1.6)	3.8	3.9	●●	●●	●●●	●●	●●◀	●●◀	S + C/T	2006
oxathiapiprolin (0.15)			●●◀	●●◀	●●●	●●	●●◀	●●●	S	2017
oxathiapiprolin + famoxadone (0.5)	4.9	4.1	●●◀	●●◀	●●●	●●	●●◀	●●●	S + C	2018
oxathiapiprolin + amisulbrom (0.15+0.3)	4.9								S + C	2018
oxathiapiprolin + benthiavalicarb (0.4)	4.9[7]	3.4	●●◀	●●◀	●●●	●●	●●◀	●●●	S + T	2019

[1] *Includes maneb, mancozeb, propineb and metiram.* [2] *See proceedings for comments on phenylamide resistance.* [3] *Based on EuroBlight field test in 2006-2015.* [4] *Based on EuroBlight field trials 2009-2012.* [5] *Based on limited data.* [6] *In some trials there were indications that the rating was 1½.* [7] *A provisional rating based on 5 EuroBlight experiments.* [8] *Observations from several trials indicated that both New growth and Stem blight were ++.* [9] *In some trials the curative activity was +++.*

EuroBlight
A potato late blight network for Europe

Post Harvest & Direct Marketing


PUTRA



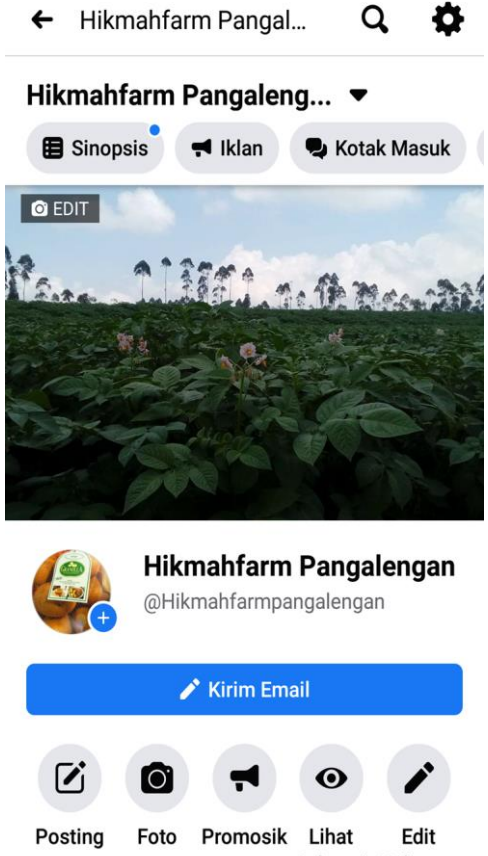


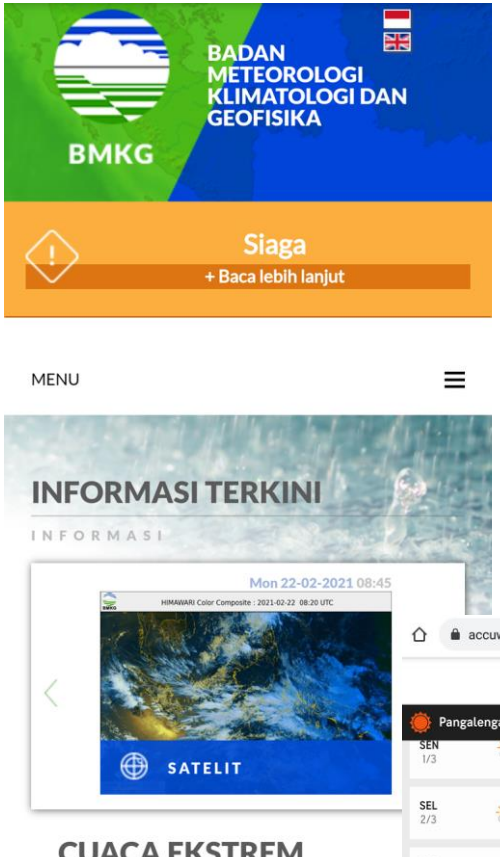



CHEV MOTOR

Smart Farming : Agricultural Drone

Social Media, Internet & Information





Dank u wel, haturnuhun