

**State: Jammu and Kashmir**  
**Agriculture Contingency Plan for District: Doda**

<b>1.0 District Agriculture profile</b>		
<b>1.1</b>	<b>Agro-Climatic/Ecological Zone</b>	
	<b>Agro Ecological Sub Region (ICAR)</b>	Western Himalayas, Warm Subhumid (To Humid With Inclusion Of Perhumid) Eco-Region(14.1)
	<b>Agro-Climatic Zone (Planning Commission)</b>	Western Himalayan Region (I)
	<b>Agro Climatic Zone (NARP)</b>	Mid to High Altitude Intermediate Zone (JK-2) & Low Altitude Sub-Tropical Zone (JK-1)

**Annexure-I**

*JAMMU AND KASHMIR*





## 2.0 Strategies for weather related contingencies

### 2.1 Drought

#### 2.1.1 Rainfed situation (DODA)

Condition	Major Farming situation	Normal Crop / Cropping system	Suggested Contingency measures			
			Change in crop / cropping system including variety	Agronomic measures	Remarks on Implementation	
Early season drought (delayed onset)	<b>Temperate region</b>	<b>Maize</b> (Hybrid: Kanchan-517, Pro-agro 4794, Bio-seed, Plant gene-2320) + <b>Rajmash</b> (Local)	➤ <b>Maize</b> (Composite: C2, C6, Him-123) + <b>Rajmash</b> (Local)	<ul style="list-style-type: none"> <li>• Maize (8 lines) : Rajmash (1 line).</li> <li>• Sowing should be done across the contours to conserve moisture.</li> <li>• For maize + rajmash, fertilizer dose (N = 60, P<sub>2</sub>O<sub>5</sub> = 40, and K<sub>2</sub>O = 20 kg/ha) should be reduced by 25% (i.e. N = 45; P<sub>2</sub>O<sub>5</sub> = 30; and K<sub>2</sub>O = 15 kg/ha).</li> <li>• For maize + pulse, apart from reducing the dose of P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O by 25%, the dose of N should be reduced by 50%.</li> <li>• One row of pulse in between two rows of maize (i. e. 1 : 1 row ratio).</li> <li>• Maize + soybean = Seed rate (25 + 1.5) kg/ha.</li> </ul>		
➤ <b>Maize</b> (C-15, Local tall) + <b>Rajmash</b> (Local)						
➤ <b>Maize</b> (Local Tall) + <b>Moong</b> (Pusa Baisakhi)						
➤ <b>Maize</b> (local) + <b>Soybean</b> (PB-1)						
➤ <b>Maize</b> + <b>cucumber</b> (local trailing type)						
<b>Moong</b>			➤ <b>Moong</b> (Pusa Baishakhi)			• N : P <sub>2</sub> O <sub>5</sub> = 16 : 40 kg/ha
<b>Potato</b>			➤ <b>Potato</b> (Kufri Joyti, Kufri Badshah)			As per the 'Package of Practices, SKUAST-Jammu'.
<b>Capsicum</b>			➤ <b>Capsicum</b> (Bharat, California Wonder)			
<b>Knol-khol</b>			➤ <b>Knol-khol</b> (White Viena, Purple Viena, King of Market)			
<b>Beans</b>	➤ <b>Beans</b> (Contender, Arka Komal)					
<b>Radish</b>	➤ <b>Radish</b> (Japanese White, Pusa Reshmi)					
<b>Turnip</b>	➤ <b>Turnip</b> (PTWG, Snow Ball)					
<b>Peas</b>	➤ <b>Pea</b> (A4)					

		<b>Spinach, Spinach beet</b>	➤ <b>Spinach/Spinach beet</b>		
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Condition			Suggested Contingency measures		
Early season drought (delayed onset)	Major Farming situation	Normal Crop / Cropping system	Change in crop / cropping system including variety	Agronomic measures	Remarks on Implementation
<b><u>Delay by 2 weeks</u></b>  <b>Normal: 15 May</b> <b>Delay (2w):</b> <b>30<sup>th</sup> May</b>	<b>Intermediate region</b>	<b>Maize (Hybrid) + Rajmash (Local)</b>	➤ <b>Maize</b> (Composite: C-5, C-8) + <b>Rajmash</b> (Local)  ➤ <b>Maize</b> (GS-2) + <b>Cowpea</b> (C-152, PS-42, CH-86-1) ➤ <b>Maize</b> (GS-2) + <b>Mash</b> (Pant U-19, PU-30) ➤ <b>Maize</b> (GS-2) + <b>Moong</b> (R-288-8, ML-131, ML-326)	<ul style="list-style-type: none"> <li>• Maize (8 lines) : Rajmash (1 line)</li> <li>• For maize + rajmash, fertilizer dose (N = 60, P<sub>2</sub>O<sub>5</sub> = 40, and K<sub>2</sub>O = 20 kg/ha) should be reduced by 25% (i.e. N = 45; P<sub>2</sub>O<sub>5</sub> = 30; and K<sub>2</sub>O = 15 kg/ha).</li> <li>• For maize + pulse, apart from reducing the dose of P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O by 25%, the dose of N should be reduced by 50%.</li> <li>• One row of pulse in between two rows of maize.</li> </ul>	
		<b>Sesame</b>	➤ <b>Sesame</b> (Punjab Til-1)	<ul style="list-style-type: none"> <li>• Ridge and furrow method should be preferred.</li> </ul>	
		<b>Black gram</b>	➤ <b>Black gram</b> (Pant U-19, Uttara) ➤ <b>Black gram</b> (Pant U-19, Uttara) + <b>Sesame</b> (Punjab Til-1)	<ul style="list-style-type: none"> <li>• Ridge and furrow method should be preferred.</li> <li>• Inoculate the seed of black gram with <i>Rhizobium</i> culture.</li> </ul>	
		<b>Sunflower</b>	➤ <b>Sunflower</b> (Pedroic, Morden, MSFH-8)	<ul style="list-style-type: none"> <li>• Fertilizer as N, P<sub>2</sub>O<sub>5</sub>, K<sub>2</sub>O = 60 : 30 : 30 kg/ha.</li> </ul>	
		<b>Potato</b>	➤ <b>Potato</b> (Kufri joyti, Kufri badshah)	Package of Practices, SKUAST-Jammu	
		<b>Capsicum</b>	➤ <b>Capsicum</b> (Bharat, California wonder)		
		<b>Knol-khol</b>	➤ <b>Knol-khol</b> (White Viena, Purple Viena, King of Market)		
		<b>Beans</b>	➤ <b>Beans</b> (Contender, Arka Komal)		
		<b>Radish</b>	➤ <b>Radish</b> (Japanese White, Pusa Reshmi)		

		<b>Turnip</b>	➤ <b>Turnip</b> (PTWG, Snow Ball)	
		<b>Peas</b>	➤ <b>Pea</b> (A4)	
		<b>Spinach, Spinach beet</b>	➤ <b>Spinach/Spinach beet</b>	
		<b>Cauliflower</b>	➤ <b>Cauliflower</b> (PSBK-1)	
		<b>Cabbage</b>	➤ <b>Cabbage</b> (Golden Acre, Pride of India, Pusa Mukta)	

Condition	Major Farming situation <sup>a</sup>	Normal Crop / Cropping system <sup>b</sup>	Suggested Contingency measures		
Early season drought (delayed onset)			Change in crop / cropping system <sup>c</sup> including variety	Agronomic measures <sup>d</sup>	Remarks on Implementation
<b><u>Delay by 4 weeks</u></b>  Normal: 15 April  Delay (4w): 15 <sup>th</sup> May	<b>Temperate region</b>	<b>Maize</b> (Hybrid): + <b>Rajmash</b> (Local)	<ul style="list-style-type: none"> <li>➤ <b>Maize</b> (local) + <b>Rajmash</b> (local)</li> <li>➤ <b>Maize</b> (local) + <b>Moong</b> (Pusa Baisakhi)</li> <li>➤ <b>Maize</b> (local) + <b>Soybean</b> (PB-1)</li> <li>➤ <b>Maize</b> (local) + <b>Cucumber</b> (local trailing type)</li> <li>➤ <b>Millets</b> or <b>lesser millets</b> viz., Fagopyrum (Buck wheat), or Fox tail (Kangni) or Elusine corocana (Kodo millet).</li> </ul>	<ul style="list-style-type: none"> <li>• Maize + rajmash = Seed rate (25 + 2) kg/ha.</li> <li>• Fertilizer dose (N = 60, P<sub>2</sub>O<sub>5</sub> = 40, and K<sub>2</sub>O = 20 kg/ha) should be reduced by 25% (i.e. N = 45; P<sub>2</sub>O<sub>5</sub> = 30; and K<sub>2</sub>O = 15 kg/ha).</li> <li>• Maize + moong = Seed rate (25 + 1.5) kg/ha.</li> <li>• For maize + pulse, apart from reducing the dose of P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O by 25%, the dose of N should be reduced by 50%.</li> <li>• Maize + soybean = Seed rate (25 + 1.5) kg/ha.</li> </ul>	
		<b>Moong</b>	➤ <b>Moong</b> (Pusa Baishakhi)	• N : P <sub>2</sub> O <sub>5</sub> = 16 : 40 kg/ha	
		<b>Potato</b>	➤ <b>Knol-khol/Radish/Spinach</b>		
		<b>Capsicum</b>	➤ <b>Knol-khol/Radish/Spinach</b>		
		<b>Knol-khol</b>	➤ <b>Knol-khol</b> (White viena, Purple)		

		<b>Beans</b>	➤ <b>Knol-khol/Radish/Spinach</b>		
		<b>Radish</b>	➤ <b>Radish</b> (Japanese White, Pusa Reshmi)		
		<b>Turnip</b>	➤ <b>Knol-khol/Radish/Spinach</b>		
		<b>Peas</b>	➤ <b>Knol-khol/Radish/Spinach</b>		
		<b>Spinach, Spinach beet</b>	➤ <b>Spinach/Spinach beet</b>		

Condition	Major Farming situation	Normal Crop / Cropping system	Suggested Contingency measures		
Early season drought (delayed onset)			Change in crop / cropping system including variety	Agronomic measures	Remarks on Implementation
<b><u>Delay by 4 weeks</u></b> Normal: 15 May Delay (4w): 15 June	<b>Intermediate region</b>	<b>Maize (Hybrid) + Rajmash (Local)</b>	➤ <b>Maize</b> (local) + <b>Cowpea</b> (C-152, PS-42, CH-86-1) ➤ <b>Maize</b> (local) + <b>Mash</b> (Pant U-19, PU-30) ➤ <b>Maize</b> (local) + <b>Moong</b> (PDM-54, PS-16) ➤ <b>Maize</b> (local) + <b>Soybean</b> (Clark-63, Bragg) ➤ <b>Cheena</b> (Red Cheena)	<ul style="list-style-type: none"> <li>As above.</li> <li>One row of pulse in between two rows of maize.</li> <li>Maize + soybean = Seed rate (25 + 1.5) kg/ha.</li> <li>N : P<sub>2</sub>O<sub>5</sub> for cheena is 30 : 30 kg/ha, respectively.</li> </ul>	
		<b>Sesame</b>	➤ <b>Sesame</b> (Punjab Til-1)	<ul style="list-style-type: none"> <li>Ridge and furrow method is preferable.</li> </ul>	
		<b>Black gram</b>	➤ <b>Black gram</b> (Pant U-19, Uttara) ➤ <b>Black gram</b> (Pant U-19, Uttara) + <b>Sesame</b> (Punjab Til-1)	<ul style="list-style-type: none"> <li>Adopt ridge &amp; furrow method of sowing.</li> <li>Inoculate the pulse seed with '<i>Rhizobium</i>'.</li> </ul>	
		<b>Sunflower</b>	➤ <b>Sunflower</b> (Morden)	<ul style="list-style-type: none"> <li>Fertilizer dose in respect of N, P<sub>2</sub>O<sub>5</sub>, K<sub>2</sub>O is 60 : 30 : 30 kg/ha.</li> </ul>	
		<b>Potato</b>	➤ <b>Beans/Radish/Turnip/Spinach</b>	As per the 'Package of Practices, SKUAST-Jammu'.	
		<b>Capsicum</b>	➤ <b>Beans/Radish/Turnip/Spinach</b>	-	
		<b>Knol-khol</b>	➤ <b>Knol-khol</b> (White Viena, Purple Viena, King of Market)	-	
		<b>Beans</b>	➤ <b>Beans</b> (Contender, Arka Komal)	-	

		<b>Radish</b>	➤ <b>Radish</b> (Japanese White, Pusa Reshmi)	-	
		<b>Turnip</b>	➤ <b>Turnip</b> (PTWG, Snow Ball)	-	
		<b>Peas</b>	➤ <b>Beans/Radish/Turnip/Spinach</b>	-	
		<b>Spinach</b>	➤ <b>Spinach/Spinach beet</b>	-	
		<b>Cauliflower</b>	➤ <b>Beans/Radish/Turnip/Spinach</b>	-	
		<b>Cabbage</b>	➤ <b>Beans/Radish/Turnip/Spinach</b>	-	

Condition	Major Farming situation	Normal Crop / Cropping system	Suggested Contingency measures		
			Change in crop / cropping system including variety	Agonomic measures	Remarks on Implementation
Early season drought (delayed onset)					
<b><u>Delay by 6 weeks</u></b>  Normal: 15 April Delay (6w): 30 May	<b>Temperate region</b>	<b>Maize</b> (Hybrid): + <b>Rajmash</b> (Local)	<ul style="list-style-type: none"> <li>➤ Fodder purpose:</li> <li>➤ <b>Maize</b> (African Tall) + <b>cowpea</b> (EC-4216, HF-642-1, Type-2)</li> <li>➤ <b>Jowar</b> (M P Charri) + <b>cowpea</b> (as above)</li> </ul>	<ul style="list-style-type: none"> <li>• Unlike grain purpose maize, seed rate for fodder maize would be 50 kg/ha.</li> <li>• Seed rate of fodder jowar would be 50 kg/ha.</li> </ul>	
		<b>Moong</b>	<ul style="list-style-type: none"> <li>➤ Fodder purpose:</li> <li>➤ <b>Moong</b> (Pusa Baishakhi/Local)</li> </ul>	<ul style="list-style-type: none"> <li>• N : P<sub>2</sub>O<sub>5</sub> = 16 : 40 kg/ha</li> </ul>	
		<b>Potato</b>	➤ <b>Knol-khol/Radish/Spinach</b>	-	
		<b>Capsicum</b>	➤ <b>Knol-khol/Radish/Spinach</b>	-	
		<b>Knol-khol</b>	➤ <b>Knol-khol</b> (White Viena, Purple Viena)	-	
		<b>Beans</b>	➤ <b>Knol-khol/Radish/Spinach</b>	-	
		<b>Radish</b>	➤ <b>Radish</b> (Japanese White, Pusa Reshmi)	-	
		<b>Turnip</b>	➤ <b>Knol-khol/Radish/Spinach</b>	-	
		<b>Peas</b>	➤ <b>Knol-khol/Radish/Spinach</b>	-	
		<b>Spinach</b>	➤ <b>Spinach/Spinach beet</b>	-	

Condition			Suggested Contingency measures		
Early season drought (delayed onset)	Major Farming situation	Normal Crop / Cropping system	Change in crop / cropping system including variety	Agronomic measures	Remarks on Implementation
<b><u>Delay by 6 weeks</u></b>  <b>Normal: 15 May</b> <b>Delay (6w):</b> <b>30 June</b>	<b>Intermediate region</b>	<b>Maize (Hybrid) + Rajmash (Local)</b>	➤ Fodder purpose: ➤ <b>Maize</b> (Africal tall) + <b>cowpea</b> (as above) ➤ <b>Jowar</b> (Type-4, MP Charri) + <b>cowpea</b> (as above) ➤ <b>Cheena</b> (Red Cheena)	<ul style="list-style-type: none"> <li>Seed rate for fodder maize would be 50 kg/ha.</li> <li>Seed rate of fodder jowar would be 50 kg/ha.</li> <li>N : P<sub>2</sub>O<sub>5</sub> for cheena is 30 : 30 kg/ha, respectively.</li> </ul>	
		<b>Sesame</b>	➤ <b>Sesame</b> (Punjab Til-1)	<ul style="list-style-type: none"> <li>Ridge and furrow method is preferable.</li> </ul>	
		<b>Black gram</b>	➤ Fodder purpose: ➤ <b>Black gram</b> (Pant U-19, Uttara/Local )	<ul style="list-style-type: none"> <li>Inoculate the black gram seed with 'Rhizobium' culture.</li> </ul>	
		<b>Sunflower</b>	➤ <b>Sunflower</b> (Morden)	<ul style="list-style-type: none"> <li>Fertilizer N, P<sub>2</sub>O<sub>5</sub>, K<sub>2</sub>O = 60 : 30 : 30 kg/ha</li> </ul>	
		<b>Potato</b>	➤ <b>Knol-khol/Radish/Spinach</b>	Follow the 'Package of Practices, SKUAST-Jammu'.	
		<b>Capsicum</b>	➤ <b>Knol-khol/Radish/Spinach</b>	-	
		<b>Knol-khol</b>	➤ <b>Knol-khol</b> (White Viena, Purple Viena, King of Market)	-	
		<b>Beans</b>	➤ <b>Knol-khol/Radish/Spinach</b>	-	
		<b>Radish</b>	➤ <b>Radish</b> (Japanese White, Pusa Reshmi)	-	
		<b>Turnip</b>	➤ <b>Knol-khol/Radish/Spinach</b>	-	
		<b>Peas</b>	➤ <b>Knol-khol/Radish/Spinach</b>	-	
		<b>Spinach, Spinach beet</b>	➤ <b>Spinach/Spinach beet</b>	-	
		<b>Cauliflower</b>	➤ <b>Knol-khol/Radish/Spinach</b>	-	
		<b>Cabbage</b>	➤ <b>Knol-khol/Radish/Spinach</b>	-	

Condition			Suggested Contingency measures		
Early season drought (delayed onset)	Major Farming situation	Normal Crop / Cropping system	Change in crop / cropping system including variety	Agronomic measures	Remarks on Implementation



<u><b>Delay by 8 weeks</b></u> Normal: 15 April Delay (8w): 15 June	<b>Temperate region</b>	<b>Maize</b> (Hybrid): + <b>Rajmash</b> (Local)	➤ Fodder purpose: ➤ <b>Maize</b> (African Tall) + <b>cowpea</b> (EC-4216, HF-642-1, Type-2) ➤ <b>Jowar</b> (M P Charri) + <b>cowpea</b> (as above)	<ul style="list-style-type: none"> <li>• Unlike grain purpose maize, seed rate for fodder maize would be 50 kg/ha.</li> <li>• Seed rate of fodder jowar would be 50 kg/ha.</li> </ul>
		<b>Moong</b>	➤ Fodder purpose: ➤ <b>Moong</b> (Pusa Baishakhi/Local)	<ul style="list-style-type: none"> <li>• N : P<sub>2</sub>O<sub>5</sub> = 16 : 40 kg/ha</li> </ul>
		<b>Potato</b>	➤ <b>Knol-khol/Radish/Spinach</b>	-
		<b>Capsicum</b>	➤ <b>Knol-khol/Radish/Spinach</b>	-
		<b>Knol-khol</b>	➤ <b>Knol-khol</b> (White Viena, Purple Viena)	-
		<b>Beans</b>	➤ <b>Knol-khol/Radish/Spinach</b>	-
		<b>Radish</b>	➤ <b>Radish</b> (Japanese White, Pusa Reshmi)	-
		<b>Turnip</b>	➤ <b>Knol-khol/Radish/Spinach</b>	-
		<b>Peas</b>	➤ <b>Knol-khol/Radish/Spinach</b>	-
		<b>Spinach</b>	➤ <b>Spinach/Spinach beet</b>	-

Condition	Major Farming situation	Normal Crop / Cropping system	Suggested Contingency measures		
			Change in crop / cropping system including variety	Agronomic measures	Remarks on Implementation
<u><b>Delay by 8 weeks</b></u> Normal: 15 May Delay (8w): 15 July	<b>Intermediate region</b>	<b>Maize</b> (Hybrid) + <b>Rajmash</b> (Local)	➤ Fodder purpose: ➤ <b>Maize</b> (African tall) + <b>cowpea</b> (as above) ➤ <b>Jowar</b> (Type-4, MP Charri) + <b>cowpea</b> (as above)	<ul style="list-style-type: none"> <li>• Seed rate for fodder maize would be 50 kg/ha.</li> <li>• Seed rate of fodder jowar would be 50 kg/ha.</li> </ul>	
<b>Sesame</b>		➤ <b>Sesame</b> (Punjab Til-1)	<ul style="list-style-type: none"> <li>• Ridge and furrow method is preferable.</li> </ul>		

		<b>Black gram</b>	➤ Fodder purpose: ➤ <b>Black gram</b> (Pant U-19, Uttara / Local )	• Inoculate the black gram seed with ' <i>Rhizobium</i> ' culture.
		<b>Sunflower</b>	➤ <b>Sunflower</b> (Morden)	• Fertilizer N, P <sub>2</sub> O <sub>5</sub> , K <sub>2</sub> O = 60 : 30 : 30 kg/ha.
		<b>Potato</b>	➤ <b>Knol-khol/Radish/Spinach</b>	Follow the 'Package of Practices, SKUAST-Jammu'.
		<b>Capsicum</b>	➤ <b>Knol-khol/Radish/Spinach</b>	-
		<b>Knol-khol</b>	➤ <b>Knol-khol</b> (White Viena, Purple Viena, King of Market)	-
		<b>Beans</b>	➤ <b>Knol-khol/Radish/Spinach</b>	-
		<b>Radish</b>	➤ <b>Radish</b> (Japanese White, Pusa Reshmi)	-
		<b>Turnip</b>	➤ <b>Knol-khol/Radish/Spinach</b>	-
		<b>Peas</b>	➤ <b>Knol-khol/Radish/Spinach</b>	-
		<b>Spinach, Spinach beet</b>	➤ <b>Spinach/Spinach beet</b>	-
		<b>Cauliflower</b>	➤ <b>Knol-khol/Radish/Spinach</b>	-
		<b>Cabbage</b>	➤ <b>Knol-khol/Radish/Spinach</b>	-

**\* Part-1 and Livestock part (2.5) under preparation and it will resubmit after completion**